EVALUATION OF A CONTINUOUS IMPROVEMENT INITIATIVE FOR THE WESTERN REGION OF BLUE CROSS AND BLUE SHIELD UNITED OF WISCONSIN

By

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A Research Paper

Submitted in partial Fulfillment of the
Requirements for the Master of Science Degree
With a Major in
Training and Development

Approved for Completion of 4 Semester Credits
198-750 Field Problem in Training and Development

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The Graduate College
University of Wisconsin-Stout
December 17, 1999

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ABSTRACT

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Evaluation of a Continuous Improvement Initiative for the Western Region of Blue Cross and Blue Shield United of Wisconsin

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American Psychological Association

The Western Region of Blue Cross and Blue Shield United of Wisconsin implemented the principles of continuous improvement to improve processes two years ago. The continuous improvement initiative would change the office culture and how work processes were developed.

This study conducted research to evaluate the impact of the continuous improvement initiative at the Western Region of Blue Cross and Blue Shield United of Wisconsin for the past two years. The purpose of the study was to determine if the continuous improvement initiative was having a positive impact on the organization to meet desired outcomes. The significance of the study was to determine if the continuous improvement initiative was making a change in the office culture and the way work was accomplished.

A survey instrument was used to collect the data. Surveys were given to employees working in the Western Region of Blue Cross and Blue Shield United of Wisconsin. All participants had completed the introduction to continuous improvement training. Survey statements focused on gathering data about customer importance, project team

effectiveness, system/process thinking, data based decision making, unintended variation, employee involvement in continuous improvement, and implementation of continuous improvement. Survey return rate was eighty-five percent.

Data collected was recorded and analyzed by utilizing the program MiniTab. The mean and standard deviation was calculated for each statement. Surveys were then sorted by department and by length of time with Blue Cross and Blue Shield United of Wisconsin. The mean and standard deviation was calculated for each department and length of time category. Survey statements with a standard deviation of greater than 1.1 in the length of time categories were compared to the departments. Departments were identified within categories of length of time with a standard deviation greater than 1.1 for a specific statement.

Overall, fifteen survey statements out of the twenty-four statements had a standard deviation of less than 1.1. The data indicated that there was agreement on over half of the survey statements. Customer Service, Claims, Sales, and Other were departments with specific statements having a standard deviation of greater than 1.1. The rational for the standard deviation being greater than 1.1 in length of time categories was because of the recent system conversion glitches and the interpretation of the statements as it applied to a specific job. Two of the same statements had a standard deviation for both categories of two to five years and six to ten years of time with Blue Cross and Blue Shield United of Wisconsin. Both categories were in disagreement about project teams communicating information about new work flows and employees quickly adapting to change.

The continuous improvement initiative has had a positive impact on the Western Region of Blue Cross and Blue Shield United of Wisconsin. It has changed the way employees think and go about doing the work. Employees are involved in the continuous improvement process and have made contributions to improving processes. Further development is needed in creating the environment that encourages employees to be leaders and to take risks to improve processes.

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ACKNOWLEDGEMENTS

Blue Cross and Blue Shield United of Wisconsin is to be acknowledged for participating in the study. Regional Vice President, Norm Keller, and Regional Director, Cheryl Keegan for cooperation in helping to make the study possible. The employees of the Western Region of Blue Cross and Blue Shield United of Wisconsin for participating in the study.

Chapter 1

INTRODUCTION

Introduction and Background of the Problem

The problem of this study exists at Blue Cross and Blue Shield, the state's largest health insurance company. It was two and one half years ago when the first plans for a continuous improvement initiative had its beginning. Prior to this point other attempts were made to improve processes through the use of issues committees and work flow analysis groups. Both attempts failed to produce the process improvements needed to effect desired outcomes. The desired outcomes were to improve timeliness and accuracy of claims processing, and to improve timeliness and accuracy of resolving customer inquiries. Both of the outcomes would inevitably increase customer satisfaction ratings, a key factor in driving profits and profit sharing distribution. A decision was made by top management to implement the principles of continuous improvement to improve work processes that would produce the desired outcomes. The continuous improvement initiative has been in place for two years. It has become part of the office culture to suggest continuous improvement ideas to improve processes.

This chapter will present the statement of the problem, purpose of the study, significance of the study and definitions of terms.

Statement of the Problem

The problem of this study was to evaluate the impact of a continuous improvement initiative at the Western Region of Blue Cross and Blue Shield United of Wisconsin for the past two years.

Purpose of the Study

The purpose of the study was to evaluate the continuous improvement initiative that was implemented two years ago in the Western Region of Blue Cross and Blue Shield United of Wisconsin. There was a need to research the impact the continuous improvement initiative was having on the Western Region of Blue Cross and Blue Shield Untied of Wisconsin and to find out if changes of operating the initiative were necessary to achieve desired outcomes.

This research project attained the following objectives:

1. Determined if the continuous improvement initiative has improved the Western Region's ability to meet/exceed current customer needs.
2. Determined how effective project teams operate to resolve problems.
3. Identified employees' perception and understanding of system/process thinking.
4. Determined how employees use data-based decision making to improve processes.
5. Determined if unintended variation has been reduced.
6. Identified the degree of employee involvement in the continuous improvement initiative.
7. Determined to what degree the continuous improvement initiative was implemented.

Significance of the Study

A business must make improvements in its ability to remain competitive because costs go up every year (salary increases, inflation in operating expenses, market changes, health care increases). In order to make significant improvements each year, each department must focus on improving the critical measures that demonstrate how the department contributes to making money for the organization. Three critical measures are throughput, reducing operational expense, and managing assets. Every manager must select the critical areas of improvement that will enable a department to significantly increase its ability to remain competitive and make money.

The issues and realities affecting the need to improve the effectiveness of the Western Region were:

- Poor ratings for the Western Region based on National Information Management System standards set by the Blue Cross and Blue Shield Association
- Requests from customers to meet/exceed their expectations
- High operational costs
- Other health insurance companies (competitors)

Given these forces, it was apparent that the organization needed to become more fit in order to meet the oncoming challenges. There was a need to change the system to obtain desired outcomes more effectively. The answer was to implement a continuous improvement program. Continuous improvement is a philosophy and a set of principles that uses leadership by everyone, data-based decision making, systems/process thinking and employee involvement to continuously improve an organization's ability to meet/exceed current and future customer needs.

The continuous improvement initiative started two years ago in the Western Region of Blue Cross and Blue Shield United of Wisconsin. Since this initiative involved a change in the philosophy and culture, measuring the results of the initiative could not be accomplished until the initiative had been implemented for at least two years.

There was a need for the research to be conducted at this point to evaluate the impact the continuous improvement initiative has had on the systems of the Western Region of Blue Cross and Blue Shield United of Wisconsin. The evaluation of the impact will help management make a decision to keep going forward with the initiative as it is or to make changes to it in order to reach the desired outcomes.

Limitations

The limitations of this study were:

1. The results of this study were limited to the Western Region of Blue Cross and Blue Shield United of Wisconsin.
2. Data was collected only from employees who have completed the introduction training to continuous improvement Principles.

Assumptions

The assumptions of this study were:

1. Blue Cross and Blue Shield United of Wisconsin will not make significant changes in the current business philosophy.
2. All Western Region employees asked to participate in the survey will provide honest opinions of the continuous improvement initiative.

Definition of Terms

For the purpose of this study the following definitions were used:

Profound knowledge – “Appreciation for a system” (Deming, 1994).

Quality – “Low variability outputs improved by lowering variation in the process” (Gelina, 1994).

System – “A network of interdependent components that work together to try to accomplish the aim of the system” (Deming, 1994).

Chapter 2

REVIEW OF LITERATURE

Chapter Overview

The purpose of this study was to evaluate a continuous improvement initiative within an organization to measure the impact it is having. This review of literature will focus on the definition of continuous improvement, historical background of continuous improvement, and the theory and methodology of continuous improvement.

Definition of Continuous Improvement

Continuous improvement is a philosophy and a set of principles by which to operate an organization. The philosophy and principles uses leadership by everyone, data-based decision making, systems/process thinking, and employee involvement to continuously improve an organization's ability to meet/exceed current and future customer needs (Hochberg, 1996).

Each expert may describe a slightly different approach to continuous improvement. The Continuous Improvement Planning Committee at the University of Maryland cites several basic principles that characterize continuous improvement strategies (University of Maryland at College Park, 1991).

The customer is always the focus with products and services being delivered to cater to what is expected and requested. To find out what the expectations and requests are, customer input is acquired through surveys and interviews. Improvement results are then measured from the responses rather than on the expectations of the supplier (University of Maryland,1991).

A proactive approach is utilized to do things right the first time around instead of correcting mistakes. As W. Edwards Deming put it, "If we continue to do things the way

we have always done them, we will continue to get the results we have always had". (Remus, 1996, p. 1) Processes need to be analyzed to eliminate defects in the delivery system (Remus, 1996).

Statistical facts are used to make decisions rather than what one thinks. Customer survey data is important to establish baseline measures. There is data tracking of improvements in processes and outcomes. Decisions to make changes in the process are made based upon the data collected.

Employees at all levels are respected and expected to be leaders. It is believed that employees on the front line doing the work are the experts. The experts are the most qualified individuals to make suggestions on how processes can be improved. Experts are empowered to analyze customer requirements, systematically identify areas for improvement, implement changes, and track the impact of the changes. There is a minimum of inspection and approval. There is an attitude of respect for employees' skills and knowledge. Employees are trusted to make decisions. These components create a culture that supports continuous improvement.

Employees are committed to continually improving processes to best meet and exceed the expectations of the customer. Once a process is established it is used until another process would prove to be more efficient. There is no end point like with a project, but an ongoing commitment to look for customer driven opportunities to deliver a better product and service.

Problem solving is the responsibility of all employees. Since departments are interdependent, problems many times spread cross departmentally. Employees need to develop ways of working together to improve products and services. This is

accomplished through forming new forms of organizational structures that represent many functions at the same time. The structure allows employees to work together in a way that a continuous effort is made to improve products and service to the customer.

A commitment to continuously improve becomes a part of the company culture. Leaders within the company must be committed to making continuous improvement a way of life and orchestrate change carefully. Company values support employee development and empowerment (University of Maryland, 1991).

Dan Marohl, a quality consultant with Clifton Gunderson L.L.C., a Milwaukee-based CPA firm summarizes continuous improvement when he says,

> Continuous improvement is the process between supplier and customer, both internal and external. The key is training the management while you're training the staff all as part of the same team. The cornerstone of most quality improvement programs is a focus on improving processes. All business activity, whether it involves producing durable goods, processing insurance claims or performing medical examinations, revolves around processes that, over time, tend to fill the space allowed. (Muckian, 1996, p. 6)

Continuous improvement has been described as improving a process and its ability to perform within customer's specifications. A company that implements a quality program must work to improve processes for better efficiency. The key is discovering process deficiencies and the effects on customer perceptions. This is accomplished with ongoing research within the operations (Westbrook, and Pedrick, 1996,).

Historical Background

Leaders in the United States have focused on quality to restore the country's competitive edge. There has been a realization that an emphasis on quality improves productivity and reduces costs. This way of thinking was not always the case. It was after World War II when everything the United States produced, good or bad, had a market. In the 1980's the situation in the world marketplace had changed. Japan had recovered from the aftermath of the war. Japan was now a contender in the marketplace and able to produce high quality products at a low cost. Japan's recovery and success was mainly due to the teachings of W. Edwards Deming, an American statistician and quality expert. It was during the 1950's that Deming taught the Japanese about continuous improvement. In recognition of Deming's work, the Japanese Union of Scientists and Engineers established the Deming Prize, given to organizations that make major contributions to improving the quality of products or services (Suarez, 1992).

At the same time Deming was teaching quality, other consultants during this time were Philip B. Crosby, and Joseph M. Juran. The three quality consultants devoted their lives to helping organizations improve the quality of products and services. As Suarez stated in the article, Three Experts on Quality Management, "Their influence is now worldwide and their accomplishments legendary" (Suarez, 1992, p. 3). Each of the three quality consultants was noted for a specific contribution in the theory and methodology of continuous quality improvement.

Crosby's main point was that quality was achieved by preventing defects and conforming to requirements. Requirements must be agreed upon and employees must know how to achieve them. The focus was on measurement to determine the cost of

quality. Crosby developed a formula to help managers track the cost of quality. The formula provided a tool for continuously measuring the cost of waste as compared to the lower cost of doing things right the first time. Crosby is best known for the zero defects concept (Suarez, 1992).

Juran's philosophy was the project-by-project approach. It was believed managers were able to identify and improve specific areas by utilizing the spiral of progress and breakthrough sequence. The spiral of progress was defined as an organization producing products through a series of specialized activities carried out by specialized areas. The activities were pictured by a spiral, which showed actions necessary before a product could be introduced to the market. Each area in the spiral had a responsibility to carry out the assigned special function. Juran believed quality resulted from the interrelationship of all areas within the spiral. Breakthrough was defined as a unique, decisive movement to new, higher levels of performance by using activities that would result in improvements in quality and performance. The approach focused on quality planning, quality control, and quality improvement processes (Suarez, 1992).

Probably the best known and most utilized teachings of quality were those of Deming. Deming studied the theories of Shewhart while working for the United States Department of Agriculture. The theories of Shewhart later became the basis for Deming's work. Deming defined quality in terms of current and future needs of the customer. The emphasis was on statistical thinking and methods. It was management's responsibility to adopt the fourteen points but not a step-by-step approach on how to implement the roles and responsibilities. Deming viewed the organization as a system and taught using a scientific method to get the system operating at the optimum potential (Walton, 1986).

In the 1980's, American companies were ready to listen to the teachings of Deming. On an NBC documentary, the message was heard, "If Japan can, why can't we?" (Suarez, 1992, p. 1) This message changed the way organizations in the United States viewed themselves in the world marketplace. Even though there was evidence of a nation losing economic strength, there was hope in what Deming had taught the Japanese in the 1950's. The new methods seemed revolutionary, but it was apparent that quality paid. A number of United States organizations solicited the advice of Deming. Some major companies were Hewlett-Packard, Xerox, and Motorola. These companies demonstrated that a focus on quality reduced costs because money was not spent on waste and rework. The money was spent on technology and reducing the cost to the customer. The Federal Government embraced the quality movement with the Department of Defense and the Department of the Navy (Suarez, 1992).

There was a sense of urgency to improve the quality of products and services while at the same time reducing costs. It was understood that there needed to be a change to quality-focused management and streamlining of processes to achieve the desired outcomes. The teachings and methods of W. Edward Deming seemed to be the answer.

Theory

Deming's teachings promoted better quality was the way to better business. According to the Deming theory, quality could be improved in three ways: (Deming, 1988)

1. Through innovation in design of a product or service.
2. Through innovation in processes.
3. Through improvement of existing processes.

Other beliefs taught by Deming were hard work will not ensure quality, best efforts will not produce quality, and neither will high tech machinery. A corner stone of what would improve quality was profound knowledge. He was quoted as saying, "There is no substitute for knowledge. Knowledge we have in abundance. We must learn to use it" (Deming, 1988, p. 1).

Deming believed management styles needed to experience a transformation, there must be a view from the outside to understand the system. The view from the outside would transform management from the present style of Western management to optimization. Deming's system of profound knowledge provided a road map to understand the organization from an outside view. The system of profound knowledge is understood once the individual is transformed. Once transformed, the individual will look at life, events, numbers and interactions with others with a new meaning. Expected behaviors of a transformed individual will include being a good listener, setting an example, teaching other people, and helping people to move into new philosophies. Profound knowledge is outlined in four parts:

1. Appreciation for a system
2. Knowledge about variation
3. Theory of knowledge
4. Psychology

The four parts of profound knowledge can not be separated. All four parts are inter-dependent, with one working with the other. A manager within an organization must understand that the performance of employees is directed by the system that the employee works in (Deming, 1986).

A system is a series of functions in an organization that work together for the good of the organization. Without this focus, there is no system. Parts of the system include management style, employees, and customers all interrelating to each other. When there is not appreciation of an organizations system, there are broken pieces, people going in all different directions. There is no awareness of how the internal and external factors affect the work. Knowledge of statistical control is necessary for profound knowledge. Managers must be able to understand variation. When there is no appreciation of a stable system, and the concepts of special and common causes of variation, there will be disappointment, and more money spent on fixing problems without knowing the cause. When a cause is common, it belongs to the system. A common cause is normal or expected and reflects the limitations of people, machines, and other inputs. When a cause is special, it is unusual or unexpected, and occurs when one of the inputs changes for some reason. To determine which type of cause it is, managers must collect data and analyze it using basic math tools. This is a means for predicting the way a system will work. The understanding of knowledge teaches how knowledge is acquired. This process is usually a slow process of testing and experimenting. Deming taught the idea that managers needed to reach goals like a scientist, explain, predict, and control. The approach would employ the collection, analysis, and interpretation of data. The next step would be to apply the results of the experimentation. This approach would help managers obtain more knowledge about the systems in the organization. The last part of profound knowledge is psychology. This part involves people in the organization. It is important for management to have knowledge of how people interact, individual learning styles, and how people are different (Deming, 1986).

According to Deming, the quality of any product or service was defined by the customer. This definition can change depending on the customer's needs. In order to meet or exceed the customer's needs, management needs to understand the importance of consumer research, statistical theory, statistical thinking, and the application of statistical methods to processes (Deming 1988).

Deming (1988) describes management's role in improving quality in these five principles:

1. The central problem in lack of quality is the failure of management to understand variation. Everything varies, statistics help to predict how much it is going to vary.
2. It is management's responsibility to know whether the problems are in the system or in the behavior of the people.
3. Teamwork should be based on knowledge, design, redesign, and redesign. Constant improvement is management's responsibility. Most causes of low quality and productivity belong to the system.
4. Train people until they are in statistical control so they are achieving as much as they can within the limits of the system being used.
5. It is management' responsibility to give detailed specifications.

The heart of Deming's philosophy that revolutionized Japan was the Fourteen Points and the Seven Deadly Diseases. Not all of the fourteen points were present with the Japanese, the others became apparent in the United States. The Japanese did not need advice on how to drive out fear. The Japanese were eager to work together and looked at the employer as a benefactor. The relationship between employer and worker was like

one big family. It was not necessary for the Japanese to learn how to remove barriers to pride of workmanship. If there was an idea for improvement, there was nothing standing in the way of implementing the idea. Deming was quoted as saying, "What management can accomplish using the Fourteen Points is so enormous compared to what you get otherwise". (Walton, 1986, p. 34)

Walton (1986) cites the Fourteen Points:

1. Create constancy of purpose for improvement of product and service. There is a new definition of a company's role. It is to stay in business and provide jobs through innovation, research, constant improvement, and maintenance. Innovation is having a plan that answers what and how statements of producing a new product. Research will provide preparation for the long-term. Innovation and research are inter-dependent, one can not exist without the other. Continuous improvement provides continuous process improvement in product design and in employee performance. It is not enough to be efficient at producing a product or service, it is necessary to offer the right product and service. Investing in the maintenance of equipment is important for planning for the future.
2. Adopt the new philosophy. Defective workmanship, materials, and delays should not be tolerated. It is important to set new standards for operations in a business. Mistakes and reworks cost money. Dependable services and product reduces costs. A new philosophy means a transformation of management. Managers can no longer focus on results.

3. Cease dependence on mass inspection. Require statistical evidence that quality exists. This will eliminate the need for inspection and rework. Quality comes from improved processes, not from inspection. Some inspection is needed, but only to find out what is being done.
4. End the practice of awarding business on a price tag. A purchasing department many times operates on orders to seek the lowest priced vendor, which leads to low quality of supplies because of variation. The best quality should be acquired and purchasing departments should work to achieve the best quality with a single supplier to develop a long-term relationship. One way to recognize a good supplier would be a business that operates with the Fourteen Points.
5. Improve constantly and forever the system of production and service. It is management's job to continually look for better ways to reduce waste and improve quality. Management needs to find the root cause of problems in the systems, not just implement a quick fix. It is best to spend the most time on quality at the design phase.
6. Institute training and retraining. Most of the time employees are trained by other employees, which in many cases were not trained properly in the beginning. This causes employees to follow the wrong instructions. Employees are unable to do the job because no one has provided the proper training. If performance is not in statistical control and there is something to be gained, more training is needed. When other employees train other employees, there is a lot of room for variation. Employees need to be trained

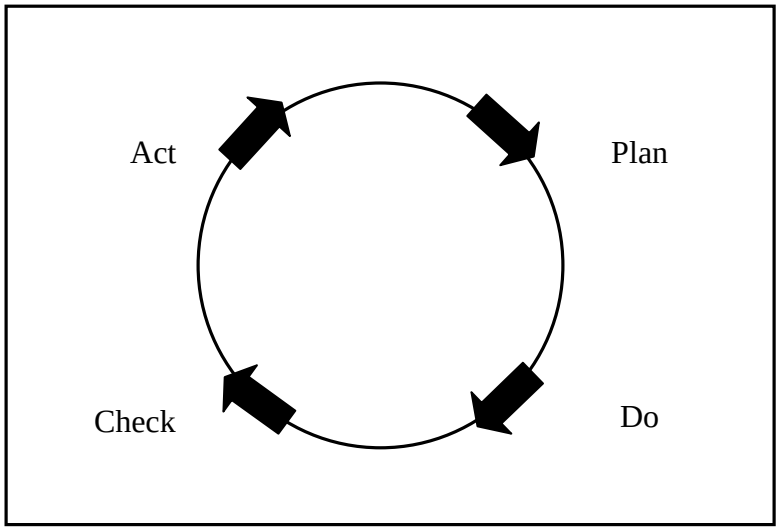
about variation and how to use statistics. Retraining is needed when there is new equipment or processes.

7. Adopt and institute leadership. The supervisor's job is to lead employees, not tell employees what to do or to punish employees. Leading means helping employees to do a better job, learning by objective methods and identifying employees needing individual help. Improvement of quality will automatically improve productivity.
8. Drive out fear so everyone may work effectively for the company. Employees are afraid to ask questions or to take a stand for fear of losing jobs or experiencing retaliation from a supervisor. It is safer for employees to maintain the status quo. Employees will continue to do things wrong rather than ask. Employees need to feel fearless to express ideas and make suggestions without being threatened. When employees feel secure, quality and productivity will improve. Fear will diminish as management improves and employees increase confidence in management.
9. Break down barriers between departments. Departments must work inter-dependently. Many times one department's goal is competing with another department's goal. Departments must work as a team so problems can be identified. Working as a team will enable departments to have input in developing the process and embrace the process. When departments are in statistical control, just-in-time production is effective because each department knows what the other is doing.

10. Eliminate numerical goals, posters and slogans for the workplace that ask for a new level of production. Employees should develop the goals and management needs to provide methods to achieve the goals. Management's job is to work on the system to make it stable and employees need to work in the system.
11. Eliminate numerical quotas. Quotas are guarantees of inefficiency and high cost. Employees are paid for the amount that is produced even though some items may be defective. An employee will meet quotas at any cost just to hold a job. It is better to promote an environment where ideas are recognized rather than meeting quotas. Improving the system will increase productivity and quality.
12. Remove barriers that stand in the way of pride of workmanship. Employees want to do a good job. Poor supervision, equipment, and materials many times stand in the way. Management needs to be tuned into the reports of trouble with equipment and machinery that employees use to do the job. There needs to be a system to provide quick attention to equipment problems, resolve the problems so employees can take pride in workmanship.
13. Promote education and self-improvement for everyone. Continuous learning is necessary to learn new methods. Long-term planning involves an investment in people. As jobs change within an organization, employees need to fit into different jobs. Education and training prepares employees.
14. Take action to accomplish the transformation. Top management and employees must work together to create a plan of action to carry out the

quality mission. One group can not accomplish the task without the other. Deming suggests using the Shewhart Cycle to accomplish this task. It is referred to as the PDCA Cycle, for "Plan, Do, Check, Act" (Walton, 1986).

The first phase is to study a process. The purpose in studying is to decide what change could help improve the process. The most effective participants at this stage are individuals involved directly with the process. Data is gathered, old and new. The process may be tested at this point. A plan is developed. The change is made and the test conducted on a small scale. The effects are observed and lastly there is a study of what was learned. Phases five and six of the process may involve repeat phase one with the new knowledge and repeat phase two, three, and four again. By using the Shewhart Cycle, there will be a continual improvement in processes. The Shewhart model: (Gelina, 1994).



Another philosophy was the Seven Deadly Diseases (Walton, 1986). The Seven Deadly Diseases are the inhibitors to implementing the transformation. The cure to the

Seven Deadly Diseases requires a complete change of management style. These diseases are management practices that are harmful, but can be cured.

1. Lack of constancy of purpose. Companies must have a constancy of purpose to stay in business. Without it management and employees are insecure.
2. Emphasis on short-term profits. Increase in quarterly profits takes away from quality and productivity.
3. Evaluation by performance, merit rating, or annual review of performance. This practice destroys teamwork and promotes rivalry. These types of ratings create fear and leave employees bitter and beaten.
4. Mobility of management. In order to follow through on long-term changes that are necessary for quality and productivity, managers need to understand the company. When managers move from company to company, this is not possible.
5. Running a company on visible figures alone. The multiplier effect of a happy customer is an example of the most important figures. These figures are usually unknown.
6. Excessive medical costs.
7. Excessive costs of warranty, fueled by lawyers that work on contingency fee.

Besides the Fourteen Points and the Seven Deadly Diseases, Walton (1986) discusses the obstacles that hinder productivity.

a. Neglect of long-range planning and transformation. There are always emergencies to deal with even though there may be long-range goals in place. Attendance and promptness policies can use a amount of management's time.

When there is good management, issues of attendance and promptness do not exist.

b. The supposition that solving problems, automation, gadgets, and new machinery will transform industry. New technological items are not the answers to quality and productivity issues.

c. Search for examples. It is common for organizations to copy other organization's solutions to problems. This practice is not good. It is important to know why a process or technique does or does not work.

d. This problem is different. A comment like this is only an excuse.

e. Obsolescence in business schools. There is a belief that management skill can be learned in a classroom, not in the actual work setting.

f. Reliance on quality control departments. Too many times quality is the responsibility of quality departments. Quality departments study what has happened in the past, not what will happen in the future. Management needs to take responsibility for quality.

g. Blaming the workforce for problems. Fifteen percent of the problems are the responsibility of the workers. Eighty percent of the problems are the responsibility of the system. The system is the responsibility of management.

h. Quality by inspection. Quality will never be improved by depending on inspection. Inspection happens at the end, the improvement needs to be implemented at the process stage.

i. False starts. The use of Quality Circles to improve quality without a change in company philosophy is a false start. This type of situation only makes it

appear as though something is being done. Deming calls this approach "instant pudding" (Walton, 1986, p.95).

j. The unmanned computer. A computer many times serves the purpose of storing unused data. Many time workers are not trained to use the computer properly.

k. Meeting specifications. This is the school of thought within an organization, but it is not enough to improve quality and productivity.

l. Inadequate testing of prototypes. Prototypes appear to work well in a demonstration, but fail to operate properly in production.

m. The consultant that tries to help, must understand the business. Acquiring help to improve the business can only come from some other kind of knowledge.

Methodology

According to Deming's teachings, applying statistical knowledge is the key to identifying what needs to be improved and where the change needs to take place. There are several tools employed when analyzing data statistically. Several commonly used charts used in the statistical analysis of data are: (Walton, 1986)

a. Cause and Effect Diagrams (Fishbone)

b. Flow Charts

c. Pareto Charts

d. Run (Trend) Chart

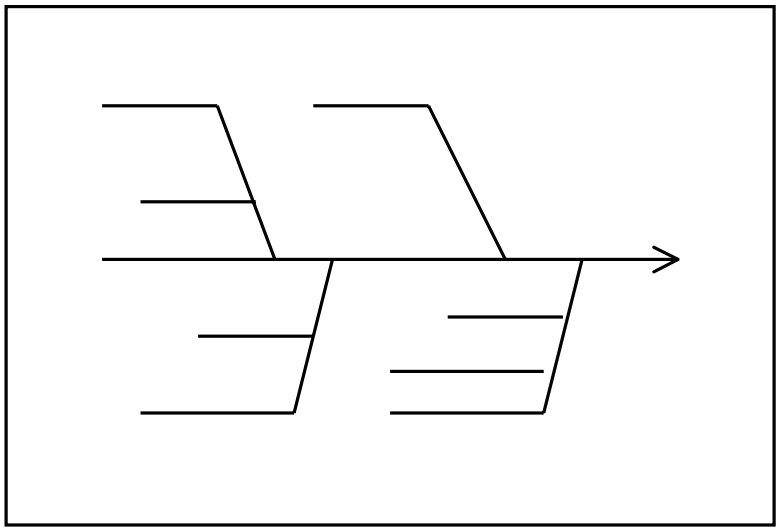
e. Histograms

f. Control Charts

g. Scatter Diagrams

Cause and Effect Diagrams are used to sort and segregate the possible causes of a problem into a logical order. It identifies areas for data gathering activity, educates participants in problem solving process, serves as a guide for discussions and serves to keep meetings on target, and be developed into a complete project management tool that displays actions taken and results achieved. A Cause and Effect Diagram can be constructed by first defining the characteristic to improve and control. The characteristic to improve and control should be able to be quantified and measured. The quality characteristic is placed on the right side of the diagram as shown below. An arrow is drawn pointing at the characteristic from the left side of the diagram.

Cause and Effect Diagram

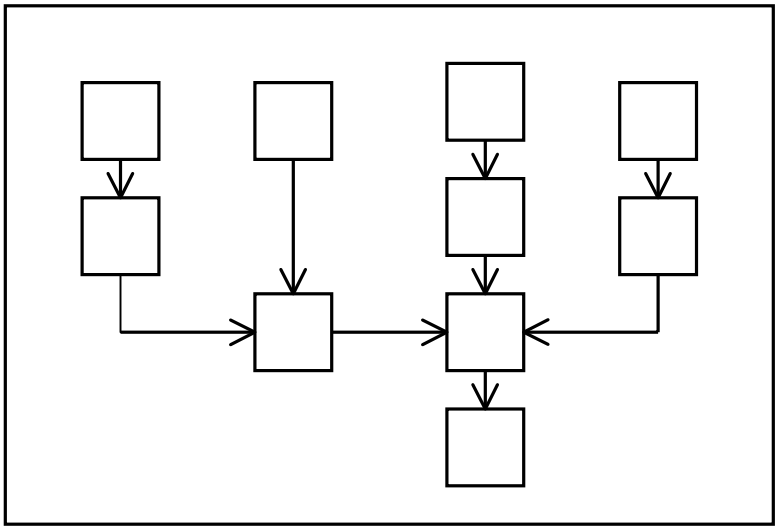


Flow Charts depict the main steps, branches, and eventual outputs of a process. There are several symbols used in the construction of a flow chart. The symbols are used for specific functions in the process.

a. Rectangle – an operation is performed whenever some change is an item happens. The change is a result from a process activity.
b. Diamond – a decision is made which leads to different processing steps.
c. Parallelogram – a concrete output is apparent.
d. Arrow – indicates the direction and order of the process steps.
e. Connector – a circle with a number or a letter in it that continues the flow to another line or page.
f. Oval – an indicator of where the process begins or ends.

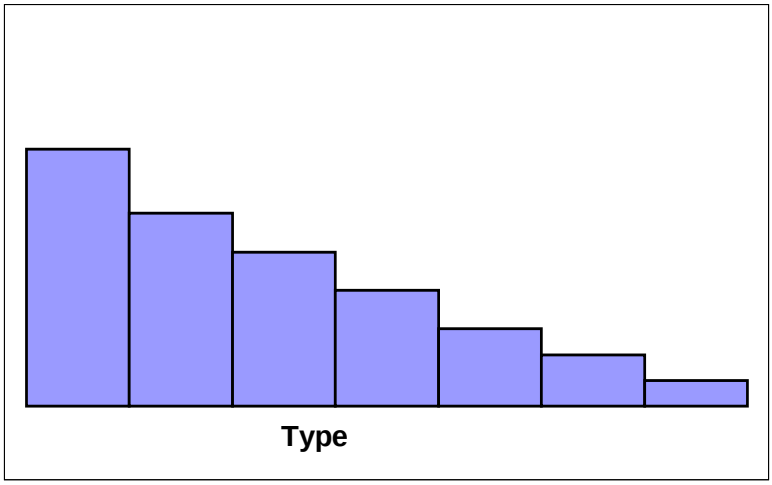
It is important to remember when developing flow charts not to be concerned about defining the process specifically and completely in the first draft. Solicit information from individuals familiar with the process, look for steps that are not necessary, and refrain from trying to change a part of the process until the process is completely charted and analyzed.

Flow Chart



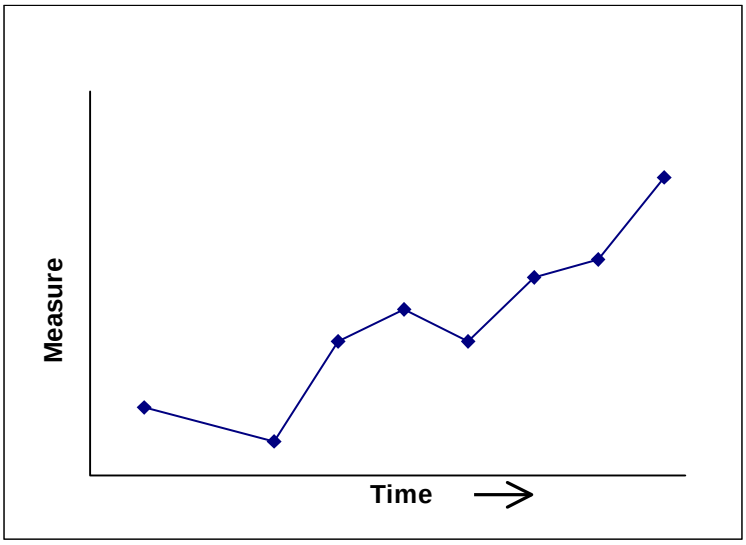
A Pareto Chart provides a graphical representation of numerical data. It identifies groups within the data, which are most important to the subject of the data, and emphasizes the results of improvement projects when multiple diagrams are compared in before and after analysis.

Pareto Chart



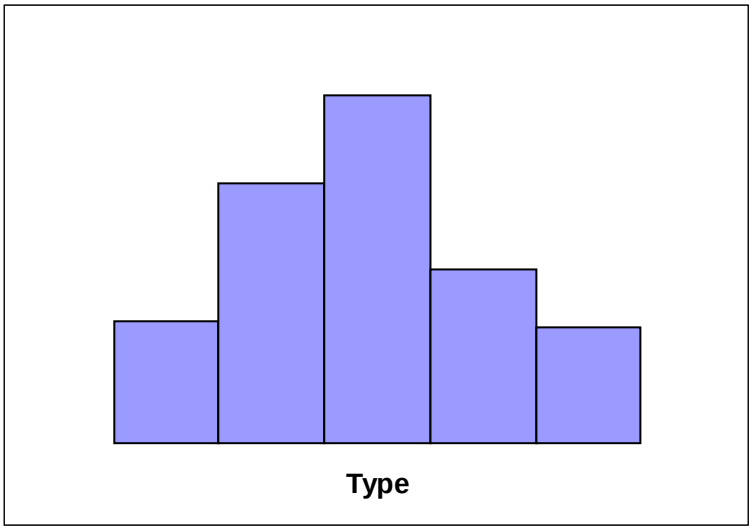
Run (Trend) Charts display trends over time. The data is plotted over time on the bottom line and the unit of measure running up and down. A Run Chart can help to understand basic characteristics of a process.

Run (Trend) Chart



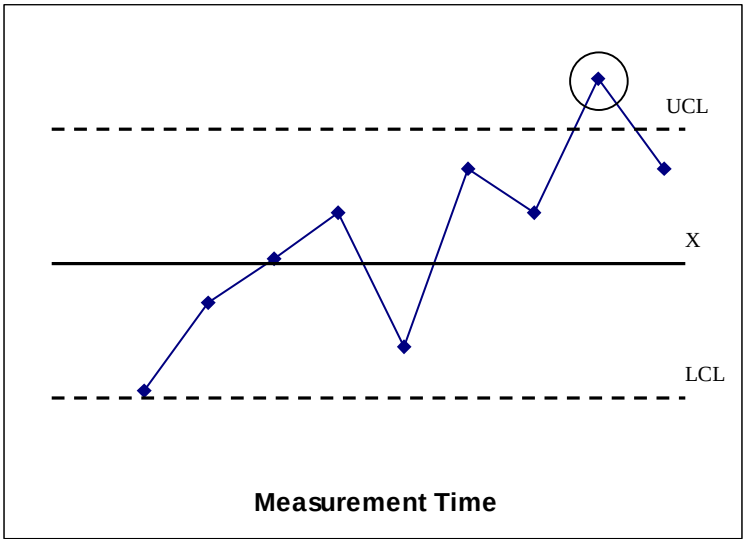
Histograms are used to display the shape of distribution of a variable. It shows the amount of variation in a variable and summarizes the data. The vertical line is labeled as frequency and the variable being tested is then plotted along the horizontal line.

Histogram



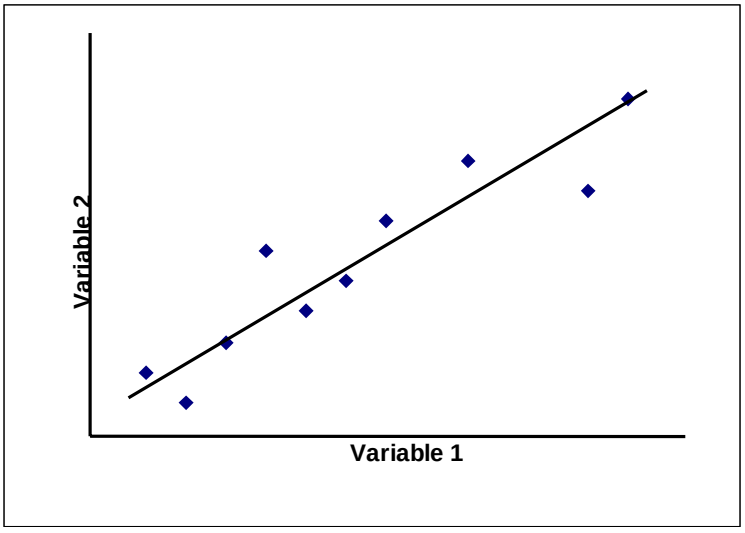
Control Charts display the expected range of variation in a stable process. It can indicate when special causes occur and can help assess effects of process control and process improvement. To construct, time is plotted on the horizontal line, the measurement values are placed on the vertical line. An upper and lower control limit can be seen after all plots have been placed on the graph.

Control Chart



A Scatter Diagram is a visual plotting technique for showing the relationship between two variables. It shows if there is a relationship between the two variables. The Scatter Diagram is constructed by indicating a variable on the vertical line and horizontal line.

Scatter Diagram



Another technique used in analysis is the Focus Group. A Focus Group consists of five to eight individuals and a moderator. The purpose of calling the group together is to focus on gathering qualitative data regarding insights into attitudes, perceptions, beliefs and feelings of participants. Statements are predetermined, sequenced, and open-ended. Conducting a Focus Group requires effective interview techniques in four areas. The four areas are listening, paraphrasing, probing, and note taking. The interview should be accomplished with two individuals. The process involves one person asking statements and other focused on taking accurate notes of the interview.

Quality Activity Trends in U.S. Companies

Dr. Noraike Kano, a researcher and teacher in the field of quality management and engineering, recorded trends in U.S. companies over the last two decades. During the latter half of the 1970's and early 1980's Kano observed the following:

- Top management education had less focus on quality
- Quality circles could solve all the quality problems of an organization, which caused management to have less commitment to quality
- Cross-departmental communication was weak making it difficult to solve quality problems
- The cost of quality was blown out of context
- Even though quality improvement activities were effective in solving problems, there was resistance because the activities were invented within the organization
- An acceptable quality level while achieving lowest cost became obstacles to improving quality (Kano, 1993)

During the latter 1980's things had begun to change. Organizations were beginning to display quality slogans and visual interpretations of quality levels. The driving forces in the trends can be analyzed by using the categories of motivation, concepts, techniques, and promotion. There was motivation for organizations because of the economic recession during early 1980 and increasing trade and financial deficits. Top management began to view the quality movement as important. The concepts of customer satisfaction, process production, the use of data for decision-making, and employee commitment contributed to the move toward quality activities. Techniques or tools used for analysis became a standard procedure for solving problems. Organizations were utilizing cause and effect diagrams, Pareto charts, and histograms to solve quality problems. Lastly, promoting the quality movement became the responsibility of executives within an organization. Education and training in workshops conducted by consultants and several types of team activities helped to promote the quality philosophy within an organization (Kano, 1993).

Summary

Continuous improvement is a philosophy within an organization. It is a philosophy where decisions are made based on statistical facts. Statistical data is gathered and analyzed to make changes in processes to eliminate error and rework. The focus is on the customer and employees are involved in analyzing processes to best meet and exceed the expectations of the customer.

The continuous improvement philosophy originated after World War II when Deming, a statistician worked with Japan to rebuild after the war. Japan experienced great recovery utilizing the Deming principles to improve quality.

Deming taught that quality could be improved in three ways: through innovation in design of a product or service, through innovation in processes, and through improvement of existing processes. Deming's philosophy employed the theory of profound knowledge. Profound knowledge included appreciation for a system, knowledge about variation, theory of knowledge, and psychology.

Japan's recovery after the war was mainly due to the application of Deming's Fourteen Points. The Fourteen Points created the blueprint to institute change within an organization to make improvements. There were the Seven Deadly Diseases and Obstacles to employing the Fourteen Points that would act as inhibitors to implementing change.

Tools are used in the continuous improvement process to depict the collected data. Common tools are: cause-and effect diagrams, flow charts, Pareto charts, run charts, histograms, control charts, and scatter diagrams. Using tools to analyze data provides management with a mechanism to make sound decisions about an organization. It is management's decisions about an organization that drive continued change.

Quality activities have changed in the U.S. during the last two decades from having little focus to greater focus. The main reasons U.S. companies use quality improvement activities is to reduce costs, improve customer service and increase market share. There is a better understanding by top management that using data to make decisions and utilizing tools to analyze data assists in solving problems.

Chapter 3

METHODOLOGOY OF PROCEDURES

Overview of Study

The problem of this study was to evaluate the impact of a continuous improvement initiative in the Western Region of Blue Cross and Blue Shield United of Wisconsin for the past two years. Objectives for the study were to:

1. Determine if the continuous improvement initiative has improved customer satisfaction
2. Determine project team effectiveness in solving problems
3. Identify teams' ability to use process thinking
4. Determine the use of data-based decision making
5. Determine unintended variation in processes
6. Identify the degree of employee involvement in the continuous improvement initiative
7. Determine to what degree the continuous improvement initiative was implemented

The study to determine the impact the continuous improvement initiative has had in the Western Region of Blue Cross and Blue Shield United of Wisconsin was conducted by gathering data from employees working in the Western Region office of Blue Cross and Blue Shield United of Wisconsin. Employees working in the systems were the best source of information about how the organization change was progressing. Analysis of the data gathered determined the impact the continuous improvement initiative was having on changing the system. This chapter will contain information on the description

of research approach, research design, characteristics of the sample, instrumentation development, data collection and recording, data processing and analysis, and limitations of the methodology.

Description of Research Approach

The research approach consisted of the use of a survey. It was developed based upon the objectives of the study. The survey was tested by distributing it to eight employees working for Blue Cross and Blue Shield United of Wisconsin. The employees included a two Customer Service Representatives, an Underwriter, the Contract Booklet Processor, two Claims Processors, an Enrollment Representative, and a Supervisor. This test gave an indicator of the expected response rate for the survey. Employees working at the Western Region and having completed the introduction training to the Principles of continuous improvement were asked to complete the survey. Employees were given advance notice about the survey at a weekly Monday morning employee meeting. The survey purpose and importance was explained to employees to encourage participation. Directions about the survey, how to complete it, and where to return the survey and response form was explained.

Research Design

The research design was descriptive. A descriptive design was used because it best accomplished the objectives for the study. The best source for the study were the individuals working at Blue Cross and Blue Shield Untied of Wisconsin in the system being evaluated. The goal of the study was to collect data that supported whether or not the continuous improvement initiative was doing what it was intended to accomplish. In order to gather data to measure the objectives of the study, a survey was developed. The

survey consisted of twenty-four statements, one statement asking for the respondent's comment, department, and length of time with Blue Cross and Blue Shield United of Wisconsin. An Employee Opinion Survey previously developed for Blue Cross and Blue Shield United of Wisconsin in 1998, by Life Office Management Association, Inc. was used as a reference in developing statements for the survey. Statements in the survey were written to gather data needed to measure a particular objective of the study. Two to three statements were written for each objective of the study.

Characteristics of the Sample

The sample included eight individuals working in the operations area for Blue Cross and Blue Shield United of Wisconsin. These eight individuals worked similar jobs to those employees that would be completing the survey. All individuals had completed the introduction training on the principles of continuous improvement. All individuals had worked in operations, and were responsible for identifying and suggesting areas needing improvement, involved in project teams resolving process issues, and had been involved in implementing solutions to improve processes.

Instrumentation

The instrumentation in the study consisted of statements (Appendix B) directly related to objectives of the study. A letter accompanied the survey explaining the purpose, the questionnaire, the response verification form, and return instructions. Complete directions on how to use the instrument were included. Participants were asked to read each of the statements and decide to what extent each statement was true of the Western Region today. Statements were answered by responding to responses on a Lickert scale. 1=Strongly disagree, 2=Disagree, 3= Undecided, 4=Agree, and 5=Strongly Disagree.

Terms like management, supervisor, and project teams were defined for the purposes of this study. Other information asked in the survey were department information and length of time working with Blue Cross and Blue Shield United of Wisconsin.

Data Collection and Recording

The surveys were distributed to participants on Monday, August 23, 1999 by inserting the survey in each participant's mailbox. Participants were asked to have the completed survey returned by Friday, August 27, 1999. The researcher had asked participants to return the completed surveys and response verification form to baskets located in a central area of the office equally accessible to all participants. The baskets were color coded to match the color of paper used for the survey and the response verification form. A white basket was used to collect the completed survey and a yellow basket was used to collect the response verification response form.

The sample group consisting of eight employees had a return response rate of seventy-four percent. A total of sixty-four employees completed the survey with a return response rate of eighty-five percent.

Data Processing and Analysis

Responses to each question on the survey were recorded on a spreadsheet. The program MiniTab was used to calculate the mean and standard deviation for each statement. Survey data was then sorted by department and by length of time with Blue Cross and Blue Shield United of Wisconsin. The mean and standard deviation was calculated for each department and category of length of time with Blue Cross and Blue Shield Untied of Wisconsin. Data was analyzed to identify statements with a standard deviation greater than 1.1 within specific categories of length of time with Blue Cross

and Blue Shield United of Wisconsin. Statements having a standard deviation greater than 1.1 were compared to each specific department. A comparison was accomplished by performing a one-way analysis of variance between category of length of time and department. This comparison identified specific departments having a standard deviation greater that 1.1 for a particular statement. The researcher reviewed the question being analyzed and gave a rational for the standard deviation being greater than 1.1 for the specific department. The survey consisted of twenty-four statements, one statement asking for the respondent's comment, six departments, and four categories of length of time with Blue Cross and Blue Shield United of Wisconsin. The departments included Administrative Services, Enrollment, Claims, Customer Service, Sales, and other. Other included the Training, Underwriting, Provider Relations, and Executive Support staff. Other was used because each of these areas consisted of two to three employees each. Length of time included six months to one year, two to five years, six to ten years, and more than ten years.

Table 1
Responses for department

Department	Number	Percent
Administrative Services	2	03%
Enrollment	4	07%
Claims	14	24%
Customer Service	21	36%
Sales	8	14%
Other	9	16%
		100%

Fifty-eight of the sixty-four surveys completed indicated a response for the department. Customer Service, the largest department, accounted for the largest percentage of responses. Claims, the next largest department, accounted for the second largest percentage of responses. Sales, Enrollment, and Other were similar in size but accounted for varied differences in percentages of responses. Administrative Services, the smallest department, accounted for the smallest percentages of responses.

Table 2
Responses for length of time with Blue Cross and Blue Shield United of Wisconsin

Months/Years	Number	Percent
6 months to 1 year	13	23%
2 to five years	22	39%
6 to 10 years	15	27%
More than 10 years	6	11%
		100%

Fifty-six of the sixty-four surveys completed indicated a response for the length of time with Blue Cross and Blue Shield United of Wisconsin. Two to five years accounted for the largest percentage of responses. More than ten years accounted for the smallest percentage of responses.

Limitations of Methodology

The limitations of the study were:

1. Employee attitudes and work demands at the time the survey was completed. Blue Cross and Blue shield Untied of Wisconsin had recently completed a migration to a new claim processing system to become Y2K compliant. The experience was difficult, confusing, and lengthy. Many employees experienced anxiety in learning a new way to do work, and backlogs of work created a stressful work environment.

2. Although all employees completing the survey had completed the introduction to continuous improvement training, there may have been an unequal understanding of the continuous improvement initiative. The unequal understanding may have been due to availability for involvement and length of time working in the system.
3. Some employees may have interpreted the survey statements differently because of the type of job performed and length of time spent performing a job.

Chapter 4

FINDINGS AND ANALYSIS OF RESULTS

Introduction

The purpose of this study was to evaluate the continuous improvement initiative that was implemented two years ago in the Western Region of Blue Cross and Blue Shield United of Wisconsin. This chapter analyzes the results of the study.

The mean and standard deviation was calculated for each question. Over half of the survey statements had a standard deviation of less than 1.1. For each objective of the study there was a statement or statements with a standard deviation of less that 1.1. In determining if the continuous improvement initiative has improved the Western Region's ability to meet/exceed current customer needs, only one statement out of four had a standard deviation of less than 1.1. In determining how effective project teams operate to resolve problems, three out of four statements had a standard deviation of less than 1.1. In identifying employees' perception and understanding of system/process thinking, three out of four statements had a standard deviation of less than 1.1. In determining how employees use data-based decision making to improve processes, two out of three statements had a standard deviation of less than 1.1. In determining if unintended variation had been reduced, one out of two statements had a standard deviation of less that 1.1. In identifying the degree of employee involvement in the continuous improvement initiative, two of the three statements with a standard deviation of less than 1.1. In determining to what degree the continuous improvement initiative was implemented, three out four statements had a standard deviation of less that 1.1. The

standard deviation was used to interpret what statements survey respondents were in agreement and where there was disagreement.

Survey data was then sorted by department and by length of time with Blue Cross and Blue Shield United of Wisconsin. The mean and standard deviation was calculated for each department and category of length of time with Blue Cross and Blue Shield United of Wisconsin. Data was analyzed to identify statements with a standard deviation greater than 1.1 within specific categories of length of time with Blue Cross and Blue Shield United of Wisconsin. Statements having a standard deviation greater than 1.1 were compared to each specific department. A comparison was accomplished by performing a one-way analysis of variance between category of length of time and department. This comparison identified specific departments having a standard deviation greater than 1.1 for a specific question. The researcher reviewed the question being analyzed and gave a rational for the standard deviation being greater than 1.1 for the specific department.

Tables

Table 3
Responses to the Continuous Improvement Initiative Survey

Question	Number of Responses	Mean	Standard Deviation
1. In my day-to-day work it is not clear that the customer comes first.	64	2.39	1.31
2. Employees are encouraged to go "above and beyond" to serve customers by improving processes.	64	3.70	1.06
3. The environment of the Western Region Facilitates good customer service.	64	3.43	1.05
4. The Western Region uses customer feedback to bring about improvements in existing products and services.	64	3.48	.89
5. CI project teams developed in the Western Region work effectively to identify and remove barriers which reduce effectiveness.	64	3.64	.74
6. CI project teams do not look for ways to add value to products and services by resolving process problems.	64	2.14	.79
7. CI project teams work together as a team to improve processes.	64	3.96	.71
8. CI project teams share ideas and information about improved processes.	64	3.67	1.12
9. The Western Region subscribes to a philosophy that centers on CI principles.	64	3.54	1.03
10. In the Western Region, there is an emphasis on continuously improving processes.	64	3.89	.75
11. In my position, I am not encouraged to find better ways to get the job done.	64	2.03	1.05

12. Most employees in the Western Region believe that a change in the work process can make improvements.	64	3.73	.92
13. In my day-to-day work, it is important to follow a work flow or process to achieve desired outcomes.	64	4.07	.86
14. My daily production is not a direct result of the processes I use to accomplish my tasks.	64	2.15	1.05
15. Based upon the outcomes of my work, I can generally identify when a process needs to be changed.	64	4.20	.59
16. The work flows I use to accomplish my work are not consistent with those used by co-workers in my department.	64	2.73	1.10
17. I usually use the same process consistently to accomplish my work.	64	3.96	.77
18. I believe I have made contributions to continuously improve processes in the Western Region.	64	4.15	.59
19. I have demonstrated CI principles by suggesting ideas for process improvements in the Western Region.	64	4.17	.70
20. The Western Region's Managers and Supervisors welcome new ideas for continuous improvement.	64	3.85	.97
21. The employees in the Western Region do not quickly adapt to change.	64	2.89	1.14
22. Employees in the Western Region have a sense of urgency about the need to deliver quality and service.	64	3.48	.99
23. Most of the employees in the Western Region understand and believe in CI principles.	64	3.64	.82

24. The CI initiative in the Western Region does not encourage risk taking and challenging the status quo.	64	2.64	1.15

The survey responses were analyzed to identify standard deviations less than 1.1. Fifteen statements out of the twenty-four statements had a standard deviation of less than 1.1. The data indicated that there was agreement on over half of the survey statements.

There was agreement by survey respondents that the environment of the Western Region uses customer feedback to bring about improvements in existing products and services. Survey respondents were not always clear that the customer comes first in the day-to-day work, that the Western Region facilitates good customer service, or were encouraged to go "above and beyond" to serve customers by improving processes.

Survey respondents were in agreement on three statements about the effectiveness of continuous improvement project teams. It was believed that continuous improvement project teams worked effectively to identify and remove barriers which reduce effectiveness, project teams looked for ways to add value to products and services, and project teams worked together as a team to improve processes. There was not agreement that continuous improvement project teams shared ideas and information about improved processes.

There was agreement on three of the four statements regarding perception and understanding of system/process thinking of employees in the Western Region. Respondents believed the Western Region subscribes to a philosophy of continuous improvement, that there is an emphasis on continuously improving processes, and that most employees believe that a change in the work process can make improvements.

There was not a consistent belief that each individual was encouraged to find better ways to get the job done.

Employees working in the Western Region believe that it is important to follow a work flow or process to achieve desired outcomes and based on the outcomes, can identify when a process needs to be changed. There was not a consistent belief that daily production was a direct result of the processes used to accomplish tasks.

It was agreed upon that the same process is used consistently to accomplish work, but that work flows used to accomplish work were not consistent with those used by co-workers in the same department.

There was strong agreement that each individual has made contributions to continuously improve processes and have demonstrated continuous improvement principles by suggesting ideas for process improvements.

There was agreement on three of the last five statements of the survey. Managers and supervisors welcomed new ideas for improvement. There was a sense of urgency to deliver quality and service to customers. Employees have an understanding of continuous improvement principles and believe in the continuous improvement principles. There was not agreement that the employees in the Western Region quickly adapted to change and that the continuous improvement initiative encouraged risk taking and challenging the status quo.

The researcher sorted the data by department and by length of time with Blue Cross and Blue Shield United of Wisconsin. Using the program MiniTab, calculations were performed to produce the mean and standard deviation for each question of the survey within each specific department and for each specific category of length of time with

Blue Cross and Blue Shield Untied of Wisconsin. Within each specific category of length of time, statements were identified that had a standard deviation greater than 1.1. A comparison was then made with the statements where a standard deviation was greater than 1.1 to the specific departments. A rational was given as to why the standard deviation was greater than 1.1 for the statement.

Table 4

Comparison of department to length of time for two to five years with Blue Cross and Blue Shield United of Wisconsin

Survey Question	Departments	Standard Deviation
In my day-to-day work, it is not clear that the customer comes first.	Customer Service Sales	1.92 1.73
The environment of the Western Region facilitates good customer service.	Customer Service Sales	1.36 1.15
CI project teams share ideas and information about improved processes.	Claims Customer Service	1.09 1.22
In my position, I am not encouraged to find better ways to get the job done.	Customer Service Other	1.05 1.15
The work flows I use to accomplish my work are not consistent with those used by co-workers in my department.	Customer Service Other	1.36 1.52
The employees in the Western Region do not quickly adapt to change.	Claims	1.3 0

Customer Service had a high standard deviation because of the recent experience of converting to a new system to become Y2K compliant. The new system for Customer Service was not as efficient in accomplishing the work as the old system. There were

many problems with claims processing correctly and therefore delaying claim payments and increasing phone inquiries. It took a long time for system problems to be corrected.

Sales had a high standard deviation because of the way enrollment and claims processing systems work. Requests are made by sales staff in order to accommodate a client's need and it is many times impossible for the system to make the accommodations.

Other consisted of the Training, Underwriting, Provider Relations, and Executive Support staff. These departments may have had a high standard deviation because there are two to three individuals working in each department. Each respondent may have had a different application of the question as to how it relates to the specific job performed.

The Claims department did not consistently agree that employees do not quickly adapt to change because of the learning curve experienced during the new claims processing system. Some Claims Processors learned quickly while others took more time to learn the new system.

Table 5
Comparison of department to length of time for six to ten years with Blue Cross and Blue Shield United of Wisconsin

Survey Question	Department	Standard Deviation
In my day-to-day work, it is not clear that the customer comes first.	Claims	2.30
	Customer Service	1.22
	Other	1.73
CI project teams work together as a team to improve processes.	Claims	1.52
The Western Region subscribes to a philosophy that centers on CI principles.	Claims	2.30

My daily production is not a direct result of the processes I use to accomplish my tasks.	Sales	2.82
The employees in the Western Region do not quickly adapt to change.	Claims	2.08
	Sales	1.41
	Other	1.15

The Claims department in this category had a high standard deviation because of the recent system conversion experience. The training sessions were lengthy, the learning process slow, and high anxiety was felt by individuals having to re-learn the job. Claims processing problems with the new system contributed to a backlog of claims, causing claims to age and high claim inventories. The longer length of time provided individuals with an in depth knowledge of how the system should work.

Customer Service in this category had a high standard deviation because of the increase of inquiries received and the inability to resolve the issues. The increase of inquiries and inability to resolve issues were directly related to the backlog of claims caused by the system processing problems. The longer length of time provided individuals with an in depth knowledge of how the system should work.

Individuals in the Sales department had a high standard deviation in two of the five statements for the six to ten year category. Sales may not be in agreement here because of the two different roles in the Sales department. There is a Sales Support staff and a Direct Sales staff. Support staff may believe that daily production is a direct result of the processes used to accomplish tasks due to the nature of the tasks performed. Direct Sales staff may believe that daily production is a not a direct result of the processes used to accomplish tasks because a different process could be used to accomplish a task

depending on the individual situation. Several years spent doing the same job contributed to adapting to changes quickly.

Other included the Training, Underwriting, Provider Relations, and Executive Support staff. Since there are two to three individuals working in each department, each respondent may have had a different application of the question as to how it relates to the specific job performed.

In both categories of two to five years and six to ten years of time with Blue Cross and Blue Shield United of Wisconsin, there were two of the same statements with high standard deviations. The reason for the two same statements in each category is because of the individual experiences during the system conversion. Some individuals adapted quickly to the change while others took a longer time to learn the new processes. Based upon the individual experiences, respondents did not consistently agree on the clarity of the customer being considered first in the day-to-day work.

Comparison of department to length of time for six months to one year with Blue Cross and Blue Shield United of Wisconsin had agreement on all survey statements. A comparison of department to length of time for more than ten years with Blue Cross and Blue Shield United of Wisconsin was not feasible because there were six surveys with more than ten years and one survey for each department.

Chapter 5

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Introduction

The purpose of this study was to evaluate the impact of a continuous improvement initiative at Blue Cross and Blue Shield United of Wisconsin. There was a need to research the impact the continuous improvement initiative was having on the Western Region of Blue Cross and Blue Shield United of Wisconsin and to find out if changes of operating the initiative were necessary to achieve desired outcomes.

The continuous improvement initiative was implemented two years ago in the Western Region of Blue Cross and Blue Shield United of Wisconsin for the following reasons:

- To improve ratings for the Western Region based on National Information Management System standards set by the Blue Cross and Blue Shield Association
- Requests from customers to meet/exceed expectations
- High operational costs
- Other health insurance companies (competitors)

These driving forces created a need for Blue Cross and Blue Shield United of Wisconsin to make a change in the philosophy and culture of the operation. The continuous improvement initiative was implemented to create the change.

The evaluation of the impact of the continuous improvement initiative will help management make a decision to keep going forward with the initiative as it is or to make changes to it in order to reach the desired outcomes. This chapter summarizes the study,

offers conclusions and interpretations about the findings and makes recommendations for changes.

Summary

The goal of the study was to collect data to support whether or not the continuous improvement initiative was doing what it was intended to accomplish. To collect the data, a survey was distributed to seventy-five Blue Cross and Blue Shield United of Wisconsin employees working in the Western Region. The survey was developed based upon the objectives of the study which were to:

1. Determine if the continuous improvement initiative has improved the Western Region's ability to meet/exceed customer needs.
2. Determine how effective project teams operate to resolve problems.
3. Identify employees' perception and understanding of system/process thinking.
4. Determine how employees use data-based decision making to improve processes.
5. Determine if unintended variation has been reduced.
6. Identify the degree of employee involvement in the continuous improvement initiative.
7. Determine to what degree the continuous improvement initiative was implemented.

The survey consisted of two to four statements for each objective of the study. A letter accompanied the survey explaining the purpose, the questionnaire, the response verification form, and return instructions. Participants were asked to read each of the statements and decide to what extent each statement was true of the Western Region

today. Responses were on a Lickert scale. 1=Strongly Disagree, 2=Disagree, 3= Undecided, 4=Agree, and 5=Strongly Disagree. Survey return response rate was eighty-five percent.

Survey data was recorded on a spreadsheet. The program MiniTab was used to calculate the mean and standard deviation for each survey statement. Surveys were then categorized by department and by length of time with Blue Cross and Blue Shield Untied of Wisconsin. The mean and standard deviation was calculated for each department and length of time category. Data was analyzed to identify statements with a standard deviation greater than 1.1 within specific categories of length of time. Statements having a standard deviation greater than 1.1 were compared to each specific department. A comparison was accomplished by performing a one-way analysis of variance between length of time categories and departments. This comparison identified specific departments having a standard deviation greater than 1.1 for specific statements. The researcher explained the rational for the standard deviation of each statement being greater than 1.1 for the specific department.

Conclusions

Fifteen out of the twenty-four survey statements had a standard deviation of less than 1.1. The statements included:

- The Western Region uses customer feedback to bring about improvements in existing products and services.
- Continuous improvement teams developed in the Western Region work effectively to identify and remove barriers, which reduce effectiveness.

- Continuous improvement project teams do not look for ways to add value to products and services by resolving process problems.
- Continuous improvement project teams work together as a team to improve processes.
- The Western Region subscribes to a philosophy that centers on continuous improvement principles.
- In the Western Region, there is an emphasis on continuously improving processes.
- Most employees in the Western Region believe that a change in the work process can make improvements.
- In my day-to-day work, it is important to follow a work flow or process to achieve desired outcomes.
- Based upon the outcomes of my work, I can generally identify when a process needs to be changed.
- I usually use the same process consistently to accomplish my work.
- I believe I have made contributions to continuously improve processes in the Western Region.
- I have demonstrated continuous improvement principles by suggesting ideas for process improvements in the Western Region.
- The Western Region's Managers and Supervisors welcome new ideas for continuous improvement.
- Employees in the Western Region do not quickly adapt to change.

- Most of the employees in the Western Region understand and believe in continuous principles.

By comparing the data to the objectives of the study the following conclusions were made:

1. The continuous improvement initiative has helped to improve customer satisfaction, although it is not clear to all employees that the customer comes first in the day-to-day work.
2. Project teams are effective in solving problems, but not all employees feel ideas and information about improved processes are communicated.
3. Employees have the ability to use process thinking but not all employees believe there is encouragement to find better ways to get the job done.
4. Employees use data-based decision making, but not all employees believe their daily production is a direct result of the processes used to accomplish the tasks.
5. Unintended variation in processes has been accomplished for individuals doing individual work, but not by co-workers working in the same department doing the same type of work.
6. Employees are completely involved in the continuous improvement process.
7. The continuous improvement initiative has been implemented in the Western Region except for encouraging risk taking and challenging the status quo.

Recommendations

Having collected and analyzing the data for this study, the researcher makes the following recommendations for changes to the continuous improvement initiative:

1. Develop and implement processes and systems to make it clear the customer comes first.
2. Continuous improvement project teams need to develop and implement a mechanism for communicating changes in work processes.
3. Create an environment that encourages employees to think and develop better ways to accomplish work.
4. Develop consistent work flows to be used by all employees.
5. Encourage risk taking and challenging the status quo to improve processes.

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Appendix A

SURVEY LETTER

August 23, 1999

Dear Blue Cross & Blue Shield Co-workers:

I am evaluating the Continuous Improvement initiative in the Western Region of Blue Cross & Blue Shield United of Wisconsin. Part of the project requires gathering data to support the objective of the study, which is to determine if the Continuous Improvement initiative is having an impact on the Western Region.

There are two parts to the survey, the questionnaire, and a response verification form. Your cooperation would be greatly appreciated in completing both parts of the survey. To keep your responses confidential, please sign and return the response verification form indicating your survey has been completed and returned. **Please return the response verification form separate from the survey.** This will not only verify you have returned your completed survey, but also ensure you do not receive a follow-up request.

Please return the completed survey to me by August 27, 1999. The survey will take five to ten minutes to complete. Completing the survey is voluntary, and completion and return of the survey is considered applied consent. Once the research project has been completed, all respondents will receive a summary of the results.

If you have questions about the survey or research, please call me at 715.836.1336. Thank you for your participation.

Sincerely,

Dorothy Conroy

Appendix B

SURVEY

Continuous Improvement Survey

Background and Instructions

The Continuous Improvement (CI) survey will help assess the Western Region's CI initiative.

- Read each of the statements; decide to what extent you agree with each statement of the Western Region today.

- Rate each statement on a scale of 1 – 5.
  1 = SD – Strongly Disagree
  2 = D – Disagree
  3 = U – Undecided
  4 = A – Agree
  5 = SA – Strongly Agree

- Circle the number that best describes the Western Region.

For purposes of this survey, please use the following definitions.

Management – refers to the Vice President and Director
Supervisor – refers to the person you report to on a day-to-day basis.
Project Team – members working as a team to resolve problems and develop work flows.

Circle your responses.

Statements	Responses SD 1	D 2	U 3	A 4	SA 5
1. In my day-to-day work, it is NOT clear that the customer comes first. ……..	1	2	3	4	5
2. Employees are encouraged to go "above and beyond" to serve customers by improving processes.…….	1	2	3	4	5
3. The environment of the Western Region facilitates good customer service. ……	1	2	3	4	5
4. The Western Region uses customer feedback to bring about improvements in existing products and services. ……..	1	2	3	4	5
5. CI project teams developed in the Western Region work effectively to identify and remove barriers which reduce effectiveness. ……	1	2	3	4	5
6. CI project teams DO NOT look for ways to add value to products and services by resolving process problems. ……..	1	2	3	4	5
7. CI project teams work together as a team to improve processes. ……...	1	2	3	4	5
8. CI project teams share ideas and information about improved processes. ……	1	2	3	4	5

9. The Western Region subscribes to a philosophy that centers on CI principles. ……	1	2	3	4	5
10. In the Western Region, there is an emphasis on continuously improving processes. ……	1	2	3	4	5
11. In my position, I am NOT encouraged to find better ways to get the job done. ……	1	2	3	4	5
12. Most employees in the Western Region believe that a change in the work process can make improvements. ……..	1	2	3	4	5
13. In my day-to-day work, it is important to follow a work flow or process to achieve desired outcomes. ……	1	2	3	4	5
14. My daily production is NOT a direct result of the processes I use to accomplish my tasks. …….	1	2	3	4	5
15. Based upon the outcomes of my work, I can generally identify when a process needs to be changed. ……...	1	2	3	4	5
16. The work flows I use to accomplish my work are NOT consistent with those used by co-workers in my department. …….	1	2	3	4	5
17. I usually use the same process consistently to accomplish my work. ……	1	2	3	4	5
18. I believe I have made contributions to continuously improve processes in the Western Region. ……	1	2	3	4	5

19. I have demonstrated CI principles by suggesting ideas for process improvements in the Western Region. …… 1 2 3 4 5

20. The Western Region's Managers and Supervisors welcome new ideas for continuous improvement. …… 1 2 3 4 5

21. The employees in the Western Region DO NOT quickly adapt to change. …… 1 2 3 4 5

22. Employees in the Western Region have a sense of urgency about the need to deliver quality and service. ……. 1 2 3 4 5

23. Most of the employees in the Western Region understand and believe in CI principles. ……. 1 2 3 4 5

24. The CI initiative in the Western Region DOES NOT encourage risk taking and challenging the status quo. ……..…… 1 2 3 4 5

25. Please write any additional comments below pertaining to the CI initiative in the Western Region or any of the statements on this survey.

Department:

_____ Administrative Services
_____ Enrollment
_____ Claims
_____ Customer Service
_____ Sales
_____ Other

Length of time with BCBS:

_____ 6 months to 1 year
_____ 2 – 5 years
_____ 6 – 10 years
_____ more than 10 years

Response Verification Form

The purpose of this form is to verify that you have completed and returned the survey and to ensure that your responses will be kept anonymous. **Please do not send this form back with your survey, return it separate from the completed survey to Dorothy Conroy.**

Thank you.

_____I have completed and returned the Continuous Improvement Survey.

NAME _____