

Profiles In Action

Burlington Northern Railroad

Mission/Vision

Our mission as a company is to provide the many markets we serve with products of consistently superior quality at price levels that are fair and competitive. Achieving this mission is a responsibility that we all share and is necessary to meet the expectations of our customers, ourselves, and our shareholders. With this uncompromising dedication to superior quality, we have a focus for our actions that unifies us, adds value to our work, and enriches our lives.

Macrologistics Strategy: use of small-scale teams to achieve breakthrough results which are tied to performance goals and key business issues. The focus is on improving the macro-process of the extended enterprise. This involved the key concept of installing Breakthrough Thinking throughout the entire value chain using a combination of cross-organizational project teams, EDI based Information Systems, and Process Enhancement techniques. The organization has achieved tens of millions of dollars in 'savings' while reducing the cycle time for delivery by using over 200 Breakthrough teams.

Address:

Industry Category:

Corporate Description:

Size Revenues:

Number of Employees:

Background Information:

In 1992, the President of Burlington Railroad, Bill Greenwood, received a suggestion from a friend that would transform his thinking and that of his company as well.

“My friend suggested that I read a book by Robert Schaffer called ‘The Breakthrough Strategy’. It was written by a consultant from Connecticut who went on to popularize the concept through a couple of articles in the Harvard Business Review. Well, my friend thought there may be some possible applications of the ideas at BN and it turns out he was correct. It turned out to be a million dollar idea”.

Over the next few years (1992-1993), Burlington Railroad would begin to put together its Macrologistics strategy around the four following components:

- small-scale teams
- urgent, measurable goals
- real business issues involving multiple stakeholders
- capabilities and confidence building that takes place using Adaptive Learning for Breakthrough results

Small-Scale Teams

At BR, small-scale teams typically consist of 5-10 people who are recruited from the area being targeted for improvement, such as equipment management or billing. To work effectively and achieve the needed improvement, the team must be cross-functional in nature. As Bill Greenwood describes it:

“If timely billing is a problem, then you must have accounting people, customer service people, and the people who do the billing in the field and who are directly involved with developing the solution to the problem. It is important that these people work not as departments, but as a problem-solving team working on a process”.

In many cases, people at BN often started improvement activities without first being clear as to why the problem in question is being addressed. Often, people become uncomfortable, wondering whether or not the real or correct problem is being addressed, or whether there is not a more important issue to work on right

around the corner. Problem areas become much clearer when one compares the actual circumstances to the business objective, the process requirements, or the customer expectations. The bottom line is that problem areas must be 'discovered.'

In our research, we found that one of the most interesting things about humans at work is the way we perceive things. On one hand, there is a strong need for stimulation and change. On the other hand, we resist change. A good example dates back to Russia at the turn of this century. The decision was made to change to the Gregorian calendar, which is in use throughout most of the civilized world today. The problem was that the peasants, thinking they were being robbed of several days and possibly years of life, rioted because of the adjustments to the dates. Hundreds were killed over this opportunity for adaptive learning gone awry.

In many ways, humans are like the animals who adapt to gradually changing conditions so well that threats to existence are frequently ignored. In industry, it's common for serious problems to be ignored for months and years, while trivial matters receive much attention. The serious problems have been with us for so long, we have adapted to them. On the other hand, if some change comes along to disrupt the status quo, we sit up and take notice, giving the squeaky wheel the most attention. The other reason why we don't notice problems when we should is that we are busy doing our 'normal jobs.' We just don't make time for problem recognition.

At BN, problem solving activities began with separating problems from symptoms, understanding the facts, organizing the data, and exposing them through data analysis. One of the most common mistakes in problem solving is trying to solve a symptom. Therefore, one of the key uses of the Macrologistics Quality Journey is to improve the process by insuring that we are working on the problem(s) and not the symptoms.

Urgent Measurable Goals

At BN, a goal setting process was used similar to Policy Deployment Goalsetting, in which team goals were aligned to the business objectives.

In the BN world of work, they basically have three types of goals: individual, team/workunit and corporate (organizational). Their work goals serve as an essential part of conducting business activities successfully. Setting goals and reaching them provided the motivation and direction necessary for growth and

success in important breakthrough areas of almost every team accomplishment, as summarized by Bill Greenwood.

“ Urgent measurable goals are ones where the team works on things that matter now! The team knows exactly what to achieve and how success will be measured. Communicating without a desired outcome is like traveling without a specific destination. You may or may not end up in a place you really enjoy. Outcomes help us end up at the goal destination we want”.

An outcome is the result we want, expressed in words and terms of the way we would like to see things happen, the way we want to feel, and what we expect to hear when we have the outcome. Goals and objectives are in a broader category than outcomes. Think of outcomes as goals that have been clarified and sharpened.

Goal setting for effective outcomes increases in importance within work teams. The Goal Setting Process encourages the team to identify and develop a sound understanding of customers' needs as well as business strategy. Teams who make goal setting an key part of their working processes encourage diversity of input, increased consensus, and firmer commitment between members.

Goal Setting for breakthrough outcomes has been proven successful at BN for the following reasons, which are common themes in the organizations we gave researched over the years:

- Improves teamwork through a shared sense of approach and purpose.
- Heightens achieved performance by setting targets to be achieved.
- Identifies resource constraints or limitations.
- Distinguishes work load priority.
- Is challenging yet achievable.

Specific Project Example: the Moorhead Malting Facility

The objective was to implement an EDI based information system at the Moorhead Malting facility by 12/1/93. The breakthrough was achieved in an eight week period, producing dramatic results. The reason was that the team developed and implemented solutions that they were

empowered to implement and the barriers were removed. According to Greenwood:

“ A breakthrough team does not produce studies that get analyzed and reviewed and analyzed again, and someday may even get implemented. No, a breakthrough team develops and implements solutions and usually gets results in as little as a week and usually in eight weeks or less”.

Business Issues Involving Multiple Stakeholders To Improve Capabilities and Confidence Building

The key point in this step, both at BN as well as in many of the organizations surveyed, is for the members to put themselves as a team in the shoes of the customer and develop simple surveys to help scope out areas to focus the team on. Some of the areas to cover are:

- Quality
- Speed/Timeliness
- Cost and functionality
- Availability and flexibility
- Responsiveness
- Durability
- Reliability

The main goal of all of this is to become a high-value organization and becoming one depends upon the rate of improvement. Customer data and business statistics helps speed up learning which is the central purpose of information--to speed up learning which speeds up improvement. Without change there is no improvement. However, change requires new knowledge and new knowledge requires learning. Thus, rapid improvement using structured business issue-oriented problem-solving techniques is all about rapid learning. According to Bill Greenwood:

At BN, breakthrough teams deal with business issues that typically involve the service to our customers. For example, providing 45 additional covered hoppers per month so a specific customer can expand into new markets in the Pacific Northwest was a challenge for one of our team projects. As a result, the team members came away from the project with increased business literacy and a more in-depth understanding of the customers needs and wants. Team members also learn skills which can be

applied to other parts of the person's job and to the way in which the railroad operates and continuously improves itself".

The ARCO Project Example

ARCO is a major customer of BN, and is served by the Cherry Point Refinery north of Seattle, Washington. BN handles movements of petroleum coke to Pacific Northwest Aluminum smelters. In 1993, BN had 155 of its covered hopper cars assigned to supplement ARCO's fleet to handle this business. The 155 cars were needed in service because of rail yard congestion and poor utilization of these covered hoppers.

A breakthrough team was formed and chartered to improve the situation. The identification and documentation of the team charter is the critical first step in the problem-solving process. Ironically, it is also the least understood and most frequently omitted or short-circuited. The nucleus of the charter revolves around the establishment of a performance promise that the team can consistently deliver in order to ensure success. According to Bob Lynch of QualTeam, flawless delivery on the performance promise to our customers and stakeholders depends upon seamless execution internally. At BN, seamless execution is the result of strong links between internal customers and suppliers. The charter enables the team to consider its role in helping to accomplish the greater purpose of the organization by considering these relationships.

In our research, we have found that the charter can often be viewed as a chain of objectives, which begins with a statement of the mission of the team, followed by the supporting purposes. The length of the mission statement should be between 25-50 words and describes the core purpose of being for the team. The next section covers the Team Organization and Reporting Structure, followed by the Team Member Responsibilities. This is followed by the Procedures for each of the team's supporting purposes, as well as those items that are out of scope. Rounding out the Charter are the team Goals to be accomplished. The following are the key items typically covered within the charter framework:

- 1- Team Mission and objectives
- 2- Products, Services and/or Information Provided
- 3- Synopsis of Team Processes, customers, and their valid requirements
- 4- Competitive benchmarks, if known
- 5- Supplier Requirements, if available
- 6- Problem Statement and related symptoms
- 7- Charter Boundaries, including items not included

The BN/ARCO Breakthrough team found that many of the cars were safety stock to ensure that ARCO wouldn't run out of car supply. Thus, the opportunity was there to improve service to ARCO and reduce the number of cars required at the same time. Greenwood reports:

“This looked like an ideal situation to test the breakthrough concept. But we needed a new way of doing this. The reason I said that is that in the past each department (train operations, freight car management, and marketing) would each do their own thing. All these employees were working as hard as they could, but the traditional BN approach lacked the cross-functional and cross-organizational cooperation required to fix this situation with ARCO. In other words, no one person was responsible and accountable for the ARCO business.

All that changed in 1993 with the launching of BN's Account Leader initiative as a one-point contact. Let's take a look at what happened. The newly appointed Account Leader, Clint Watkins, is now accountable for coordinating all aspects of ARCO's business with BN. This includes freight car as well as utilization. Clint assembled the six appropriate people to be on the ARCO Breakthrough team.

Three of the key people were: Doug Verity, the trainmaster at Bellingham, Washington; Gary Dunn, who was in charge of managing the covered hopper fleet; and Stu Gordon, the terminal superintendent in Everett, Washington. Without the full participation of these people, the project would have failed for the approach had to be cross-functional”.

The seven person team met and reviewed all the pertinent information and then took the key next step in making the Breakthrough approach work: the creation of razor-sharp goals. These are goals that are precise, clear, and timely. After identifying an area of improvement, goal setting for razor-sharp outcomes allows a team or an individual to create an incremental plan to increase their problem-solving and business outcome effectiveness. Goal setting illuminates the paths of solutions and helps measure successful endeavors. Razor-sharp goal setting improves performance by providing clear, tight targets to aim for. When teams adapt and meet relevant, razor-sharp goals, areas of concern improve systematically. According to Bill Greenwood:

“The ARCO Breakthrough team’s goal, created by charter in April 1993, was to reduce excess inventory in Pool Assignment #5104 by 50% by June 1993. Notice how the goal is precise, clear, and timely. And now the hard part began: implementing it! In the past, this is the kind of situation that a marketing person would have tossed across the wall to an operating person to handle and report back on. With Breakthrough, the team is accountable to jointly achieve the results.

The team worked together with the ARCO people and reviewed in depth the shipping patterns, frequencies, and schedules. ARCO’s customers who were the recipients also had their shipping patterns, frequencies, and schedules reviewed, thus extending their work throughout the entire value chain. Finally, BN’s handling practices in distributing covered hoppers and in working through terminals were examined as well”.

The Macrologistics Goal Setting System¹ relies on the use of action verbs to signify what will result from the completion of the goal. Use the following list to help identify action verbs.

¹ This goal-setting system is based upon the work of Maxcomm, Inc. and Strategy Associates. It has been implemented in a number of client organizations and is presented here as one of the key components to Macrologistics Management implementation. Different organizations profiled in this book call this approach by different names but the key components are the same in each.

Accept	Compute	Estimate	Judge	Provide	Stop
Accomplish	Conduct	Evaluate	Justify	Pull	Study
Accumulate	Connect	Examine	Keep	Purchase	Submit
Achieve	Conserve	Exchange	Label	Rate	Suggest
Acquire	Consider	Execute	Lecture	Read	Summarize
Activate	Construct	Expedite	List	Recall	Supervise
Adjust	Consult	Expand	Mail	Receive	Supply
Administer	Control	Experiment	Maintain	Recite	Survey
Adopt	Convert	Explain	Make Available	Recommend	Take
Advise	Cooperate	Express	Make Happen	Record	Teach
Advocate	Coordinate	Fabricate	Manage	Recount	Test
Aid	Counsel	Facilitate	Manipulative	Recruit	Train
Align	Create	File	Measure	Regulate	Transfer
Allocate	Criticize	Fix	Mediate	Reject	Transmit
Analyze	Critique	Forecast	Meet	Remove	Tutor
Appoint	Decrease	Formulate	Motivate	Render	Utilize
Appraise	Defend	Forward	Name	Repair	Verbalize
Approve	Define	Furnish	Negotiate	Replace	Verify
Arrange	Delegate	Further	Notify	Report	Weight
Ascertain	Delimit	Gather	Observe	Request	Withdraw
Assemble	Deliver	Get	Obtain	Require	Word
Assess	Depict	Give	Optimize	Requisition	Write
Assist	Describe	Guarantee	Order	Research	
Audit	Design	Guide	Organize	Resolve	
Authorize	Distribute	Grow	Orient	Restrict	
Balance	Detach	Identify	Originate	Return	
Bargain	Detect	Implement	Overhaul	Review	
Brief	Determine	Improve	Participate	Schedule	
Budget	Develop	Inform	Perform	Score	
Build	Devise	Initiate	Persuade	Secure	
Buy	Direct	Inquire	Pick-up	Select	
Calculate	Do	Inspect	Pilot	Sell	
Catalog	Draft	Install	Plan	Send	
Check	Draw	Instruct	Prescribe	Serve	
Choose	Edit	Insure	Present	Show	
Classify	Eliminate	Interpret	Prevent	Sketch	
Collect	Encourage	Interview	Process	Solicit	
Combine	Endorse	Inventory	Procure	Solve	
Communicate	Enforce	Investigate	Program	Sort	
Compile	Ensure	Issue	Project	Specify	
Complete	Erect	Itemize	Proofread	Staff	
Comply	Establish	Join	Protect	State	

All of this was a new way of doing things at BN which directly resulted from the introduction of Breakthrough Goal-setting and set the stage for the way the organization continues to do business today. The Breakthrough team has a detailed plan covering how to resolve their situation to ARCO's benefit, as well as to BN. The team got the buy-in to make reductions in the fleet, but to make it work, they needed one more

thing: precision execution! Bill Greenwood illustrates this point with a story about a man changing a flat tire:

“It takes me about fifteen minutes to change a flat tire. Under normal conditions, this may seem fine. But let’s say that I’m a driver at the Indy 55. Here, it takes a pit crew less than *fifteen seconds* to change a tire. What’s the difference? First of all, at Indy, the customer is the driver of the race car and a fifteen minute change-over would be totally unacceptable. A few seconds can mean the difference between winning and losing.

Second, at Indy there is a well trained pit crew that acts as a team with each person knowing exactly what to do in a very precise way. Third, the team’s focus is on the absolutely essential movements to change the tire, for there are no wasted moves in the pits at Indy. Fourth, every member of the team knows exactly what the goal is: to get that tire changed as quickly and safely as possible.

Fifth, every member of the team has been trained to do his/her own job exactly right. And lastly, the team has practiced and practiced and practiced so that when it’s race time, they perform each movement as precisely as they should. And with any luck, their customer--the driver--and the entire team will win the race”.

While Bill Greenwood’s example may seem a little extreme, it clearly illustrates what a highly focused, high performance team can do if they have razor-sharp execution. The racing team may not have called this process Breakthrough Thinking, but that is exactly the kind of thinking they used to figure out how to change a tire in less than fifteen seconds.

So how did the ARCO Breakthrough team do? Excellently well! Their initial efforts reduced 65 cars, or what amounted to 42% of the available cars from the fleet. These cars have been deployed to other business opportunities with ARCO and with other customers needing covered hoppers. According to Greenwood:

“Remember, the razor-sharp goal was 50% and the team achieved 42%, or almost eighty-five percent, which was considered breakthrough results. Also, this was the first time through the Breakthrough process for this group. Why is this a big deal? Because these are the results of

only one breakthrough team. By the end of 1993, we had more than 200 breakthrough teams, all making productivity and cycle time improvements on a customer-by-customer basis. When you add up the results of the 200+ teams, they are in the tens of millions of dollars”.

To accomplish all this required quite a bit of training. In the first year alone, more than 400 BN people had formal training in the Breakthrough process and how to use razor-sharp goal setting effectively.

Lessons Learned

At BN, they learned that you must include on the team from the start all the people with a major stake in the project's success. This means that they must be part of setting the razor-sharp goals and developing and implementing the plan. Second, make sure that there is a razor-sharp goal. Without it, the team will flounder and not stay focused. Third, make sure the team has a master workplan. The masterplan with a clear understanding of the roles each team member plays is essential to success. Finally, empower the team to do what needs to be done, get them the resources needed, and then get out of the way. Bill Greenwood summarizes in this manner:

“The need for breakthrough thinking exists because nothing in this world stands still. And it never will. Our customer requirements, our markets, and our technology keep evolving. And that's good, for it creates improvements to our products and services. This constant change makes us focus on the essential parts of providing our services; and on which parts add value and which ones don't; and on new ways to do things--breakthrough ways!

The introduction of the Breakthrough learning process at BN has been very successful and rewarding experience. I also think that we have just scratched the surface of the potential that breakthrough thinking has in Macrologistics.”