Stretch targets: What makes them effective?

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Executive Overview

The intensity of competition has increased dramatically over the past two decades. This has led many organizations to develop specialized approaches to support creative problem solving and generate high levels of performance. One of these innovative approaches, stretch targets, enhances motivation, performance, and creative decision making. Yet just stretching targets will not guarantee success. Other changes in the work environment and organizational culture are also needed. Stretch targets must include work environment changes that encourage acceptance. Two factors that we call "bureaucratic immunity" and "structural accommodation" encourage this acceptance. This article views each of these concepts as essential precursors for matching reach and grasp.

Companies are finding that they must make some profound changes in the way they do business in order to remain competitive in a global marketplace. Computer information technology, excellent logistic systems, and rapid technology transfer have made it possible for competitors to quickly replicate a unique product or service. Intense global competition makes it more likely that the consequences of not meeting the needs of customers will be fatal to the non-responsive organization. As a result, many organizations have turned to a total quality management (TQM) approach. TQM, as defined by Dean and Evans, "conveys a total, company-wide effort that includes all employees, suppliers, and customers, and that seeks continuously to improve the quality of products and processes to meet the needs and expectations of customers."[1] Other organizations have gone beyond TQM to embrace the philosophy of "the learning organization." Learning organizations are those that focus on renewal and improvement through continual introspection and assessment.[2]

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Critical to this discussion is the impact that group-based activities have had in furthering the contribution of TQM and learning organization projects. Initially designed to enhance employee awareness of quality issues, work teams now take on a central role in the daily operations of many enterprises. Most industry observers conclude that this is a trend that will continue well into the future. This philosophy has made it necessary to design strategies that maximize group effectiveness. One such way is through the use of stretch targets.

Using a stretch targets approach, either as part of a TQM approach or learning organization philosophy, is one of the newer techniques directed at improving organizational effectiveness.[3] General Electric, under Jack Welch, was one of the earlier adopters of stretch goals and may have coined the term over a decade ago. Stretch targets are objectives that force organizations to significantly alter their processes in a way that often involves a whole new paradigm of operations. In fact, stretch targets are those that are considered virtually unattainable. The purpose of stretch targets is not only to allow employees to

stretch their abilities to new levels, but also to change the organization's competitive position by dynamically altering its business processes.[4] Many organizations have used stretch targets as part of their change strategies. These efforts have exhibited very favorable results in a number of distinct manufacturing and service settings.

Goal setting research seems, at least on the surface, not to support the use of stretch targets.[5] Stretch targets, by their very nature, are extremely difficult. According to Locke and others,[6] an individual will reject impossible-to-reach goals. Nevertheless, many work groups have accepted stretch targets. Why are work teams accepting these "mission impossibles?" Is there something different with the use of stretch targets that changes what we know about setting difficult work goals? Is there something different within the culture of the organization? What are these differences and what are the implications to the executive who is considering the use of stretch targets?

With stretch targets, the emphasis is on reinventing how to do the work, since the old methods will not lead the organization to reach the stretched goals.

Two elements seem to be imperative in achieving success when using stretch targets. We call these factors "bureaucratic immunity" and "structural accommodation." This article views these concepts as central elements in making stretch targets effective. First, examples of companies currently using stretch targets will be presented. Next, the various components that are typically present when organizations successfully use stretch targets will be examined. Inherent in this analysis is a brief review of the goal-setting literature. Lastly, a set of guidelines will be provided for executives wishing to use stretch targets. Stretch targets can be effective, but only if they are applied in a way that will increase the likelihood of acceptance by the work group. Without this acceptance, it is unlikely that stretch targets will be achieved.

Using Stretch Targets: Some Examples

Since stretch targets are difficult goals, the only way to reach them in most cases is to change employee attitudes and existing work habits to incorporate a new paradigm of thinking.[7] This means more than just applying harder goals. The whole notion is to force revolutionary change. With hard goals, the focus is on how things were done in the past and how to do them faster and smarter in the future. With stretch targets, the emphasis is on reinventing how to do the work, since the old methods will not lead the organization to reach the stretched goals. Thus, organizations and its participants *learn from* rather than being *bound by* their experiences.[8] To get a better understanding of how the process works, we reviewed four organizations that have successfully implemented stretch targets: Motorola, CSX, 3M and Union Pacific.

A Reduction of Cycle Time at Motorola

The use of stretch goals by Motorola to *reduce cycle time*, the time it takes to complete a process, is a good example of how stretch targets can lead to creative changes. Motorola had used stretch targets to support their quality efforts for several years. Its 1987 targets supported a ten-fold increase in quality over a two-year period. After success with the initial goal, it set a goal of one hundred-fold improvement in quality over four years. Motorola's first program in reduction of cycle time was initiated in 1992. It set stretch targets to reduce cycle time ten-fold in a five year period. The deliberate use of difficult goals was to encourage employees to rethink and redesign the entire work process. Motorola found that individuals could meet hard goals by just working harder and longer. However, stretch targets forced the work team to rethink the entire process, to

design new methods of doing traditional jobs, and to determine which processes could be eliminated.

For example, Motorola typically took six weeks to close out its books at the end of the year. Using teams of employees from different divisions, Motorola reduced this time to four days.[9] The goal to reduce cycle time forced people to look closely at each activity involved in closing the books. Employees made detailed process charts, developed strategies to speed processes, decided where to cut out unnecessary steps, and designed programs to standardize information flows. In some cases, teams redesigned entire systems to meet the goal. Motorola has saved over $10 million a year in the closing processes and saved both time and money by obtaining information on operations more quickly.[10]

Better Asset Utilization at CSX

CSX railroad wanted to improve its asset utilization in its Appalachian coal fields, and stretch targets focused exclusively on obtaining a ten percent return on assets.[11] A team formed to help reach this goal found that current practices focused on reducing direct expenses such as salaries. Coal cars were held at the mine collection point until there were enough cars to form a single train—in many instances, more than 160 cars. Although this practice reduced the total cost of train crews, coal cars spent large amounts of idle time, either full or empty. Focusing on improving the utilization of the cars, the team increased labor costs by running more but shorter trains with as few as 78 cars. These trains get on the road quicker, get unloaded quicker, and thus return to the mines sooner than under previous procedures. CSX eliminated over 9,000 coal cars, used 25 fewer locomotives, and freed over 150 million of capital that was tied up in equipment while hauling nearly the same amount of coal. These financial benefits were achieved only after top management allowed the autonomous work team to collectively develop its own strategies to meet the stretch goal and gave the team the freedom to make needed changes. The funds that became available from the sale of the excess coal cars were used to further improve plant and equipment, helping other parts of the railroad.

Increased Innovation at 3M

3M used stretch targets to increase the number and speed of new products introduced to the market.[12] 3M relied heavily on new product development to maintain its sales growth which, in 1993, increased only one percent. Twenty-five percent of sales were generated by products introduced within the past five years. 3M's stretch target mandated that 30 percent of sales be generated by products introduced within the last four years. Part of the change process involved the notion of pacing. The research and development group focused on those projects that had the best chance of meeting the ambitious sales goal. In addition, a new paradigm of thinking accelerated the process of new product development from product design to commercial production and marketing. For example, a new product (Never Rust soap pads) was test marketed in 1991. Construction of a production facility was approved in January, 1992. Construction began in March, 1992, and production started in November of the same year. This pace was a record for 3M and established a benchmark for other company start-ups.

Performance Improvements at Union Pacific (UP)

Union Pacific successfully applied stretch targets to improve the productivity of its railroad operations.[13] In 1987, Union Pacific (UP) quantified customer responsiveness into 250 operational metrics. It then assessed current levels of

performance for each to establish baseline measures of productivity. From these baseline metrics, UP developed specific stretch targets to improve performance in each area. In one area, UP found that only 86 percent of its locomotive fleet was available at any given time. Improved locomotive maintenance meant improved locomotive availability. Every one percent increase in locomotive availability translated into twenty-five more locomotives ready for use. More locomotives available for use translated into a smaller size fleet needed to meet UP's needs. Stretch targets were applied and by 1992 there was a 93 percent locomotive availability rate. The organization eliminated nearly 250 million dollars in avoidable costs. Similarly, stretch targets have been applied to other performance metrics. Today the operations department is more responsive to customer needs and freight is handled faster.[14]

Making Stretch Targets Work
To better understand why stretch targets are effective, we will first consider what is known about effective goal setting.

Setting Targets
The relationship between goal setting and performance has been explored in a number of significant studies over several decades.[15] These studies compared performance under three distinct conditions: 1) The absence versus the presence of goals; 2) general goals versus specific goals; and 3) easy goals (with specific metrics) versus hard to reach goals (with specific metrics). These reviews explored Locke's theory of goal setting and the subsequent empirical work to validate his predictions.[16] Locke's basic premise is that an individual's conscious intentions regulate actions. These decades of research demonstrate that hard goals result in higher performance than easy goals, and specific hard goals result in higher performance than no goals or generalized goals. However, hard goals lead to higher levels of performance over easy goals only when they have been accepted by the individual.[17]

No Goals versus Goals
General goals seem to improve performance. Taylor and others demonstrated the effectiveness of setting specific standards for performance.[18] Taylor increased performance by four hundred percent in loading coke and pig iron by establishing clear performance objectives, providing the right tools and work layout, training, and incentives for performance. Other studies also support the effectiveness of goal setting.[19]

A goal, sometimes called an objective, such as "to provide quality health care," sets forth direction. Adding a metric (a specific means for measuring progress) makes the goal specific. "Improving the quality of health care by reducing the level of post-operative infections to a level of one per hundred procedures by December 31, 1996," is an example of an objective or specific goal. Taylor's favorable results occurred in part by moving from a no goal to a specific goal environment.[20] But is there a performance improvement when specific rather than general objectives are applied?

General Goals versus Specific Goals
General goals are represented by statements such as "do your best," "work harder," or "improve your productivity." In contemporary work settings, many goals can be labeled as general goals. This research asks whether performance improves under conditions where there are more specific directions given regarding expected performance. Instead of just telling an employee to "improve

quality" (a general goal), a more specific goal is applied, such as, "make parts that are within plus or minus .0001 millimeter of product specifications."

Research supports the notion that specific goals are more effective than general goals in improving performance.[21] Campion and Lord's control system model shows how individuals develop a benchmark to judge performance.[22] When the individual has no benchmark, as in general goal situations, performance will not be adjusted to reach a specific target.

Easy versus Hard Goals

Specific objectives that use harder-to-achieve metrics are more motivational than easy, specific objectives, if the goal is accepted. When the goal is perceived as too difficult, it may be rejected in lieu of personal goals that are more attainable. When this occurs, levels of performance deteriorate, therefore a curvilinear relationship exists between performance and goal difficulty.[23] Hence, under stretch targets, where impossible goals are set, performance should not increase as the goal would not be accepted. Something else other than just stretching the targets must be influencing acceptance, and performance, at companies like Motorola, GE, and others.

Beyond Setting the Targets

Teams accepting stretch targets seem to thrive on the challenge of stretch goals. If the effectiveness of goal setting depends on the acceptance of the goal, what about stretch targets encourages acceptance of "impossible" goals?

Four factors seem to be present in each of the above examples. Two of these factors are autonomy and empowerment. They relate directly to the structure of the group. However, these alone are not enough to explain what takes place. We believe that top management also needs to support successful stretch teams. It is management's responsibility to restructure the work environment to facilitate stretch target success. (See Exhibit 1.)

Autonomy

In each of the examples, the stretch goal was established in concert with changes that allowed the group a high degree of control, or autonomy, over how to reach the goal. At Motorola, the teams had the ability to significantly alter the system. At CSX, the team had unrestricted control over the changes that were needed to improve car utilization, which made acceptance of the targets easier. Empirical research supports the notion that autonomy is an important factor in improving work motivation.[24]

Empowerment

In each of the four cases, the teams also were empowered. Empowerment means that the group was given power over resources and power to propose changes in work processes needed to reach the target. At CSX, five volunteers were moved from corporate offices in Jacksonville, Florida to Cumberland, Maryland. They were set up as their own profit center and empowered to do "what it takes" to reach a ten percent return. When a dispute arose regarding the increased cost of running shorter trains, the team decided to pay for the extra crews in order to attain far bigger returns.[25] The team had financial clout to address the concerns that the operating division had with their proposed changes.

The degree of control that occurs from having autonomy and being empowered is important since it increases the willingness of teams to accept stretch
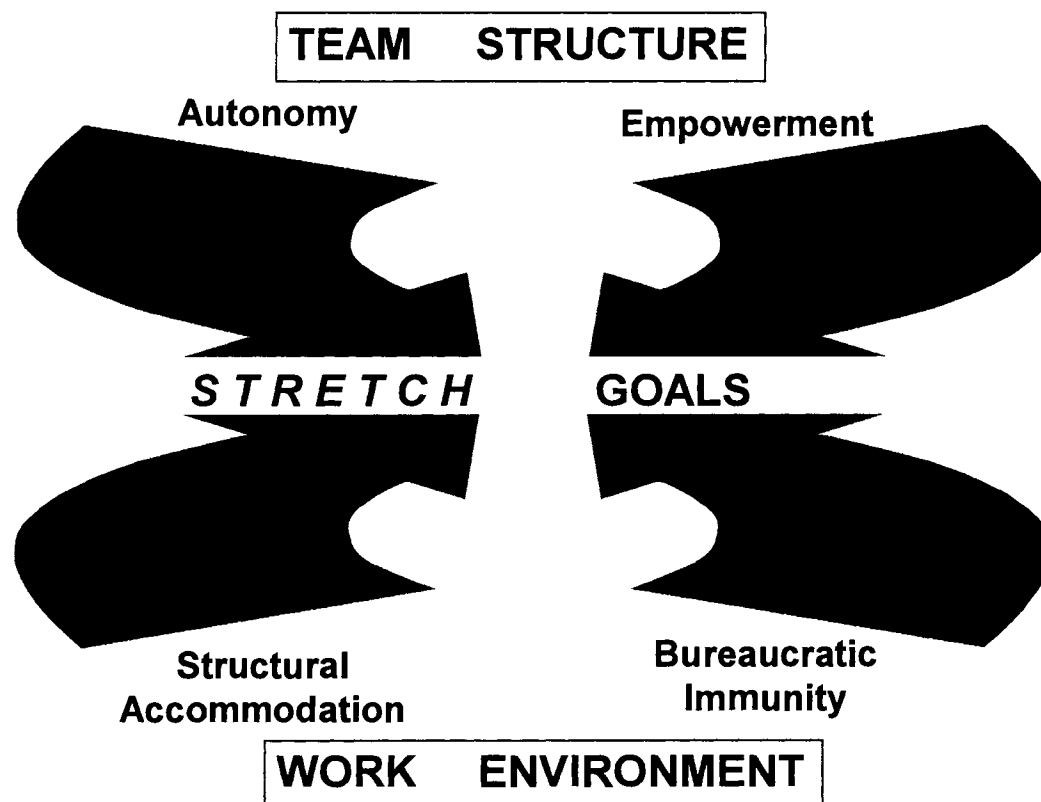
Exhibit 1. The Basis for Stretch Target Acceptance

targets.[26] However, control alone may not be sufficient. Since stretch teams are asked to accept challenges that extend beyond normal expectations, they need to understand that top management supports their efforts. Management supports the stretch team by modifying the work environment through the activities that we call structural accommodation and bureaucratic immunity.

Structural Accommodation
Structural accommodation is the modification of organization structures, policies, and practices to help a stretch team meet its goals. Structural accommodation goes beyond providing information to a group; it means that the group has unlimited access to information and the power to make changes in organizational procedures. For example, Motorola allowed the stretch team to change the forms used by the various divisions to ensure a more uniform information flow. Management told the stretch team to do what needed to be done; the team had the latitude to rethink the system and rebuild it if necessary; management was flexible enough to significantly modify its current way of doing things to support the activities of the group.

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Structural accommodation was also evident at CSX. Besides providing financial data so that the coal operations could be run as a profit center, management allowed the team to increase crew budgets to enhance car utilization. Traditional thinking held that the only way to improve productivity was to increase the number of cars. Equipment utilization was viewed as a minor issue in profitability. However, the stretch team was empowered to change the organization's operating mentality and the system accommodated a different view that allowed the team to achieve its stretch targets.

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Bureaucratic Immunity
Bureaucratic immunity is the process whereby a stretch team is virtually removed from the lengthy multi-level review processes that occur in many organizations. With bureaucratic immunity, the team is held responsible only to top management. Therefore, the team is immune from other power groups that tend to slow or modify change to meet their own agendas. Immunity also lessens the fear of failure and permits the team to explore creative approaches. Not only is the team empowered to make task-related changes, it has virtual carte blanche to make widespread system changes as well. Top management has little tolerance of other groups in the organization that want to defer or slow the change process.

At Motorola, for example, the words "if it looks feasible" or "if we can get groups to agree, we will make the change" were never spoken. The stretch target of reducing the time it took to close the books was clear and factions impeding the team's progress faced an uphill battle.

At 3M, the focus was on improving innovations and there was little patience for a lengthy debate over basic versus applied research. Again, the target was clear and behaviors had to conform to help reach the target. Similarly, the CSX team got quick approval to reduce the fleet of coal cars without second-guessing by the layers of bureaucratic approvals common in most organizations.

Creating a Climate for Successful Use of Stretch Targets
Successful use of stretch targets takes planning. Leaders need to ensure team acceptance and enhance the probability that the team's efforts will be successful. There seem to be four steps that, if followed, will lead to the desired outcomes. (See Exhibit 2.)

Establish a Clear Set of Stretch Targets
The leader must ensure that the team perceives the goal as one that can be attained and that can be influenced by the team. A clear goal requires a very specific metric that indicates where the team should be, and suggests ways to get there. Motorola, for example, had a clear metric: having the books closed in

Stretch Targets

Step 4 | **Develop Culture of Continuous Support and Encouragement**

Step 3 | **Modify Work Environment:** Structural Accommodation & Bureaucratic Immunity

Step 2 | **Structure the team:** Autonomy and Empowerment

Step 1 | **Establish measurable stretch target responsive to team's efforts**

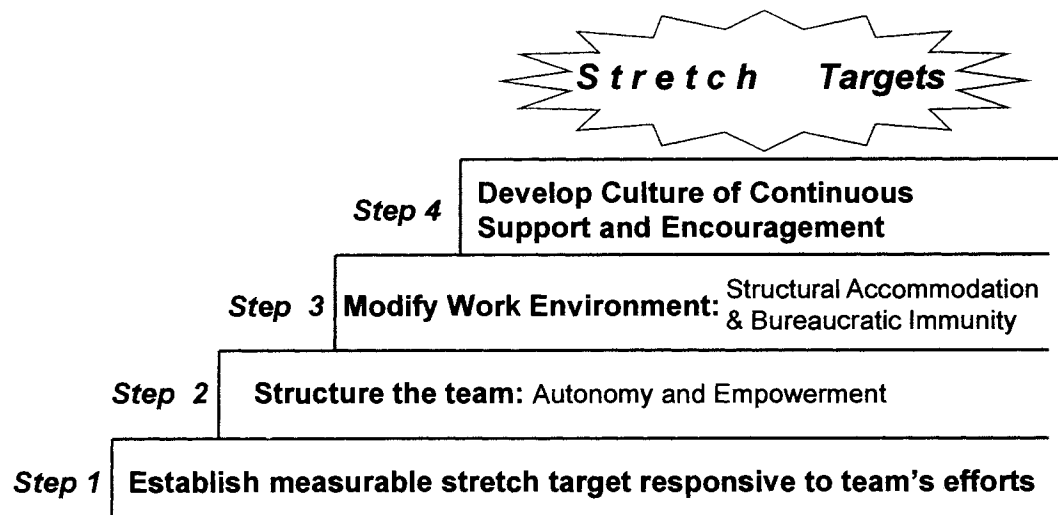Exhibit 2. Steps Needed to Support Successful Use of Stretc Targets

one day by the close of the financial records in 1999. Well-defined metrics provide a clear and focused direction and time frame—essential ingredients when using stretch targets successfully.

Targets must be under the control of the team. For example, setting sales quotas is one form of target setting. But only some of the factors affecting sales targets are under the control of the sales representative. These factors include the number of cold calls, the frequency of contacts with existing accounts, accuracy in taking the order, and response time to customer queries. The team would be more willing to accept these personal effort-related targets rather than be at the mercy of relative demand for the product, competitor pricing, or the quality of product that is being sold.

Structure the Team for Success
Structuring a stretch team so that it can make decisions on its own requires creating an autonomous team environment and empowering the team.

Autonomy can be reflected in how the targets are written. If the targets are structured toward outcomes not means, the team is able to be more creative in finding the best solution to reach the target. However, if the target is so confining and structured that little latitude is left the group, much of the excitement of achieving the stretch target will be lost. Setting stretch targets towards reducing scrap loss by fifty percent (a means target) will be much more restrictive than increasing profitability by twenty-five percent (an outcome target) Motorola's desire to close the books in 24 hours, for example, was a specific outcome target that allowed discretion.

A lack of empowerment leads either to non-acceptance of the stretch target or to failure. For example, if 3M's stretch team had no control over what new product proposals would be funded, there would be little incentive for the team to accept the stretch target.

While empowerment and autonomous work groups have been central to the total quality approach and the use of stretch goals, there seems to be an entirely different level of support that top management must exhibit to make stretch goals work. This level of support concerns restructuring the operating environment.

Modify the Environment to Support the Team's Effort
Major changes in the work environment symbolize that the team has the blessings of management, is an extension of management, and has the approval of the organization's top leadership to make requisite changes. Structural accommodation provides ready access to any information of value to the stretch team. At CSX, information on how much one car was used on a weekly basis was critical to the development of an equipment schedule from the mine to unloading facility. In addition, data was necessary regarding the time to load and unload the train and the time for the equipment to get over the road.

Structural accommodation also means obtaining the necessary information when it is needed. A recent study of almost 900 North American manufacturing organizations found that firms identifying themselves as world class applied advanced technology and communicated organizational knowledge more rapidly than did non-world class firms.[27] To pursue improving engine

availability rates at Union Pacific, the team needed information regarding the current rate, (i.e., the baseline measures). In changing preventive maintenance procedures for diesel engines, the team also required rapid feedback on the success of implementing new maintenance schedules. In addition, they needed measures that were sensitive to changes in engine availability rates. Therefore, not only does the team need quick feedback on their progress in reaching the stretch target, they also need data on the success of the interventions attempted.

Stretch teams are revolutionaries, thus there is an excellent chance that strong resistance will occur.

Structural accommodation may also take the form of revising work procedures in order to meet the needs of the stretch team. For example, it would have been impossible for Motorola's stretch team to meet its target without the ability to have the system adapt to changes in reporting formats. In essence, this ensured consistency among the multitude of divisions and facilities worldwide. This was true at 3M as well, where major system-wide changes were made so that innovations would reach the marketplace faster.

Bureaucratic immunity allows the team to experiment with creative problem-solving. Different approaches are often needed to alter past ways of thinking. Some may work and some may not. The organizational culture needs to encourage risk taking and allow for experimentation while providing information in a timely fashion. One of the important variables reinforced in the culture at Motorola was the necessity of change. "Safefailing" encouraged employees to try new ideas and work toward constant improvement in processes and products.[28] Employees need to realize that their ideas are important and encouraged. Experiments, even if they do not work out, are acceptable. The learning is what matters.

Time also is important when making changes to achieve stretch targets. If the team must spend weeks, or even months, trying to get approvals from a multitude of sources, the team's progress will stall. Other approving units may also compromise the integrity of the change process, further frustrate the target team's efforts, and lower their morale.

This does mean that other groups lose their power or that change leads to intergroup conflict.[29] Other groups should have input in the process, reducing roadblocks and land mines that may scuttle the stretch team's efforts. Stretch teams are revolutionaries, thus there is an excellent chance that strong resistance will occur. But lengthy debates over the merits of change will only jeopardize the targets.

Team with too much power and autonomy can be potentially troublesome, and it is imperative that there be close monitoring and coaching from management to safeguard other working relationships. This will ensure the team balances its powers with the goals of the organization and its sub-units. At CSX, for example, an increase in labor costs resulted from the increase in the number of trains. A unit evaluated on labor costs needed allowances for the adverse effect that those cost increases had on their performance.

Developing a Culture of Continuous Support and Encouragement
Since a critical examination of thoughts and habits is at the heart of stretch targets, radical changes often result. With change comes the likelihood that some parties gain while others lose power or resources. As a result, there is potential for conflict in many areas. People feel threatened. At a minimum,

training in conflict resolution approaches is needed.[30] With proper training, conflict can be channeled toward building positive relationships and understanding. Of greater importance, however, is the role of the leader in developing organizational cultures that focus on the positive aspects of conflict and restructuring efforts that are likely to result from using stretch targets.[31]

Tully[32] found that management is more successful in creating a stretch target environment by: setting a clear, convincing, long-term corporate goal; translating the goal into one or two specific stretch targets; using benchmarking to prove that the goal is not impossible, enlisting employees to support striving for the goal; and getting out of the way and letting the team find ways to meet the targets.

Steven Kerr, the chief learning officer at General Electric, suggested that leaders focus on the creativity needed to find new solutions to business problems that may be necessary for competitive survival.[33] Motorola's success in using stretch targets to improve the time it took to close the books was due, in part, to the support of top management to clear roadblocks and resolve conflicts.[34] It is not enough to assign the stretch targets. The leader must also encourage, facilitate, and show that he or she cares about the work of the team and about the development of team members.[35] Similarly, the stretch target team leaders must provide feedback to team members on performance.[36]

Leaders must decide what to reinforce. Is the goal to reach the targets or to change the way of doing things? Is effort important or are performance results the main focus? If the team is rewarded for effort or partial success, does the integrity of the approach suffer? Will future teams believe that reaching the stretch target is not important for success? If the goal is to move the organization toward finding a new operational paradigm, then teams should be rewarded for making significant changes in how the organization conducts business. If the team gets bogged down in conflict and a reluctant bureaucracy, should it be penalized because top leadership did not clear enough of the roadblocks? How does one determine if top management or the team was at fault? Reinforcing only effort and not tangible results might reduce the team's efforts to strive for the target. On the other hand, if the team is under-rewarded, there may be a loss of motivation the next time stretch targets are proposed.

The Targets are only Part of the Approach

In the cases reviewed, the stretch target approach served as a very effective change technique, producing fundamental changes in the structure of the team and in the work environment. Teams experienced increased autonomy and empowerment. Changes to the work environment occurred to a greater degree than in normal work assignments. These increased levels of management support for the team took the form of structural accommodation and bureaucratic immunity. These changes in the work environment signal leadership support of stretch targets, and may be a prerequisite condition for the team to accept stretch targets. The leader who advocates stretch targets, therefore, must restructure the environment to include those elements that improve the chances of stretch target acceptance. In addition, the leader should provide encouragement to support the team's efforts and monitor performance, intervening if necessary when conflict arises. Finally, in the long term, leaders are responsible for developing organizational cultures that support and encourage such transformational processes as the stretch target approach. A full consideration must be made to ensure that the tools and climate are present to

make change possible and increase the chances that the substantive changes to improve the organization will occur.

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Endnotes

[1] J.W. Dean, Jr. and J.R. Evans, *Total Quality: Management organizations, and strategy,* 1994. St. Paul, Minn.: West.

[2] For a discussion regarding the development of a learning organization, see Peter Kline, "Ten Steps to a Learning Organization," *Executive Excellence,* 12(4), 1995, 20. Also see James Collins, "Building a Visionary Company," *California Management Review,* 37(2), 1995, 80-100.

[3] While General Electric has used stretch goals for years (see Strat Sherman, "Stretch Goals: The Dark Side of Asking for Miracles," *Fortune,* 132(10), 1995, pg. 231-232) the results of many stretch goal programs are just being written about. For example see; A.V. Feigenbaum. "Quality Leadership in the Global Economy," *Journal of Quality and Participation,* 17(2), 1994, 36-41; S. Tully, "Why Go for Stretch Targets," *Fortune,* 130(10), 1994, 145-158.

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[8] See M. McGill, J. Slocum, and D. Lei. "Management Practices in Learning Organizations," *Organizational Dynamics,* 21(1), 1992, 5-17.

[9] For a discussion of Motorola's team-based TQM programs, see K.R. Thompson. "A Conversation with Robert W. Galvin." *Organizational Dynamics,* 20(4), 1992, 56-69.

[10] Ibid., 61.

[11] See S. Tully. "Why Go for Stretch Targets," *Fortune,* 130(10), 1994, 145-158.

[12] Ibid., 150.

[13] See A.V. Feigenbaum. "The Making of a World Class I Railroad," *Railway Age,* 193(2), 1992, 20-21.

[14] For more discussion regarding the organizations discussed in this article as well as others, see Brown op. cit., 1994; Feigenbaum op. cit., 1992; Feigenbaum op. cit., 1994; A.V. Roth and A.S. Marucheck. "Innovations That Work for Learning Organizations," *Planning Review,* 22(3), 1994, 33; A.V. Roth, A.S. Marucheck, A. Kemp, and D. Trimble. "The Knowledge Factory for Accelerated Learning Practices," *Planning Review,* 22(3), 1994, 26-32.

[15] For examples of some of the streams of goal setting research, see G. Latham and E. Locke. "Self-Regulation Through Goal Setting," *Organizational Behavior and Human Decision Processes,* 50(2), 1991, 212-247; E. Locke and G. Latham. *A Theory of Goal Setting and Task Performance* (Englewood Cliffs, N.J.: Prentice-Hall, 1990); G. Latham and G. Yukl. "A Review of Research on the Application of Goal Setting in Organizations," *Academy of Management Journal,* 18(4), 1975, 824-846; J. Austin and P. Bobko. "Goal-Setting Theory: Unexplored Areas and Future Research Needs," *Journal of Occupational Psychology,* 58(4), 1985, 289-308; D. Terpstra and E. Rozell. "The Relationship of Goal Setting to Organizational Profitability," *Group and Organization Management,* 19(3), 1994, 285-294.

[16] Locke op. cit., 1968.

[17] Most research supports that hard goals lead to higher levels of performance. However, that is only under conditions where the goals have been accepted by the individual. For example, see J. Hollenbeck and H. Klein, op. cit.; G. Latham and E. Locke, op. cit.; E. Locke, K. Shaw, L. Saari and G. Latham. "Goal Setting and Task Performance: 1969-1980," *Psychological Bulletin,* 85, 1981, 125-152.

[18] See F.W. Taylor. *The Principles of Scientific Management,* 1911. New York: Harber & Brothers. This seminal piece was reprinted in 1967.

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[20] Taylor op. cit., 1911.

[21] For discussion regarding specific versus general goal setting, see Latham and Locke op. cit., 1991; Locke and Latham op. cit., 1990; Gellatly and Meyers op. cit., 1992 and Barrick et al., op. cit., 1993.

[22] See M. Campion and R.G. Lord. "A Control System Conceptualization of the Goal-Setting and Changing Process," Organizational Behavior and Human Performance, 30, 1982, 265-287.

[23] This curvilinear relationship is demonstrated in A.C. Stedry and E. Kay. The Effects of Goal Difficulty on Performance (Crontonville, N. Y.: General Electric Company, Behavioral Research Services, 1964); and also see J. Forward and A. Zander, "Choice of Unattainable Group Goals and Effects of Performance," Organizational Behavior and Human Performance, 19, 1971, 184-199.

[24] For excellent articles discussing the value of autonomy, see M.R. Barrick and M. Mount. "Autonomy as a Moderator of the Relationship Between the Big Five Personality Dimensions and Job Performance," Journal of Applied Psychology, 78(1), 1993, 111-118; B.K. Evans and D.G. Fischer. "A Hierarchical Model of Participatory Decision-Making, Job Autonomy, and Perceived Control," Human Relations, 45(11), 1992, 1169-1189; J.E. Sawyer. "Goal and Process Clarity: Specification of Multiple Constructs of Role Ambiguity and a Structural Equation Model of their Antecedents and Consequences," Journal of Applied Psychology, 77(2), 1992, 130-142.

[25] Tully, op. cit., 1994, p. 146-148.

[26] See L.E. Parker and R.H. Price. "Empowered Managers and Empowered Workers: The Effects of Managerial Support and Managerial Perceived Control on Workers' Sense of Control over Decision Making," Human Relations, 47(8), 1994, 911-928; S. Wernick. "Self-Directed Work Teams and Empowerment," Journal of Quality and Participation, 17(4), 1994, 34-36; E.E. Lawler III. "Total Quality Management and Employee Involvement: Are They Compatible?" Academy of Management Executive, 8(1), 1994, 68-76.

[27] Roth and Giffi, op. cit., 1995.

[28] For more discussion about creating a fail-safe environment and "safefailing," see A. Roth and A. Marucheck, "Innovations that Work for Learning Organizations," Planning Review, 22, May/June 1995, 33.

[29] For a discussion regarding conflict resolution tactics, see A.C. Amason, K.R. Thompson, W.A. Hochwarter and A.W. Harrison. "Conflict: An Important Dimension in Successful Management Teams," Organizational Dynamics, 24(2), 1995, 20-35.

[30] Ibid., 1996.

[31] Hume, op. cit., 1992.

[32] Tully, op. cit., 1994.

[33] Sherman, op. cit., 1995.

[34] Thompson, op. cit., 1992.

[35] For a good review of what leadership traits are needed in a TQM environment, see Sheila M. Puffer & Daniel J. McCarthy. "A Framework for Leadership in a TQM Context," Journal of Quality Management, 1(1), 1996, 109-130.

[36] Monitoring and providing feedback are major factors that differentiate between effective and less effective leaders as reported in Judith Komaki, "Toward effective supervision: An operant analysis and comparison of managers at work." Journal of Applied Psychology, 71, 1986, 270-279.

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