Title: Effective Goals, Measurement, and Motivation for Total Quality Management.

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Abstract: Businesses typically establish goals, measure performance relative to those goals, and motivate employees to improve results. Now, in the era of Total Quality Management (TQM) are the historical methods for setting goals, measuring performance and motivating employees being replaced by new approaches? If they are being replaced, then what methods are appropriate in a TQM environment? This paper addresses goals, measurements, and motivation in the context of TQM and in comparison to some of past practices and studies.

Effective Goals, Measurements & Motivation for Total Quality Management

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TQM 1

Prof. Deckro

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Introduction

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TQM Direction Shift

TQM guru Deming (1986, p.19-23) advocates that management must develop an integrated plan using his 14 points to achieve transformation in the fundamental business processes. Improving the processes and providing leadership will improve results. Likewise, Townsend and Gebhardt (1993, p.9) state: "Companies that earn and consistently maintain a reputation for being the quality alternative in their particular field are consistently profitable."

Peters and Waterman (1982, p.8-23) in searching for excellence in larger companies found a preponderance of the following 8 attributes:

1) *A bias for action*, for getting on with it.
2) *Close to the customer*. These companies learn the people they serve.
3) *Autonomy and entreprenuership*. The innovative companies foster many leaders and many innovators throughout the organization.
4) *Productivity through people*. The excellent companies treat the rank and file as the root source of quality and productivity gain.
5) *Hands-on value driven*. Thomas Watson, Jr. said that "the basic philosophy of an organization has far more to do with its achievements than do technological or economic resources, organizational structure, innovation, and timing."

6) *Stick to the knitting.* While there were a few exceptions, the odds for excellent performance seem strongly to favor those companies that stay reasonably close to business they know.

7) *Simple form, lean staff.* The underlying structural forms and systems in the excellent companies are elegantly simple.

8) *Simultaneous loose-tight properties.* For the most part they have pushed autonomy down to the shop floor or product development team. On the other hand, they are fanatic centralists around the core values they hold dear.

They defined excellent companies as those that met 6 long term financial measures, were innovative, and "especially adroit at continually responding to change of any sort in their environment." Interestingly, these common attributes have similarity to TQM principles listed by Evans and Lindsay (1993, p.102-105), such as empowerment (Nos. 3, 7, and 8), customer focus (No. 2), treating people as the key source of competitive advantage (No. 4), and committed leadership (Nos. 1, 2, 6, and 8.)

On the other hand, Mahajan et al. (1992, p.325-334) evaluated 12 computer and office product businesses and found that that excellence does not necessarily translate into financial success. With differing perspectives on TQM and profitability, what is a company supposed to do to assure prosperity, focus on TQM or focus on the bottom line?

According to Steele (1993, p.425) 1990 brought on TQM bashing, focusing on the activity based TQM approach. The activity based approach, which initiates numerous activities to increase employee involvement, teach skills and solve problems, results in many problems. Significant problems include: 1) too much focus in the early stages on putting processes in place rather than producing results (Myers and Ashkenas, 1993, p.40), 2) companies activities tend to highlight the breadth of activities rather than on the results achieved (Chang, 1993, p.23), 3) elements of a change program are not the same as the objectives of a change program, which is why even though programs meet process goals they do not necessarily deliver results (Walker, 1992, p.476), 4) TQM efforts frequently fail because there is lack of clarity in goals and the organization becomes caught in the activity trap that has little effect on their customers or position in the marketplace

(Schaffer, 1993, p18), 5) the business community had bought the idea that TQM would not bring any bottom line results for at least 3 to 5 years, since an organizational culture change was necessary (Steele, 1993, p.428-429), 6) management typically abandons the system because of limited success and bottom line impact (Steele, 1993, p.429), and 7) reflecting on current TQM practices, Crosby (1992, p.xii) states: "People are so busy working on techniques such as "building teams", and doing statistical process control, that they never get around to actually learning how to build prevention into their organization."

This excessive activity can be detrimental. In order to avoid a deficiency in measurable progress, a results oriented approach must be taken (Chang, 1993, p.23). Likewise, according to Myers and Ashkenas (1993, p.41) to prevent TQM from becoming an unproductive fad the focus needs to be on results with short run improvements that are built upon for a longer term transformation. Organizations need an alignment of goals to be effective (Nordeen, 1993, p.39). The results based approach provides and translates organizational objectives, and then provides training and support to the employees who can contribute to those objectives (Steele, 1993, p.425).

Goals and Objectives

Establishing Goals

Management must establish goals and measurements for the organization (Ripley and Ripley, 1992, p.27). According to Deming (1986, p.65-77) goals are often just an arbitrary number or wishful thinking based on management's belief that if workers would put forth the proper effort they could achieve whatever management desires, such as improved productivity and zero defects. Additionally, slogans, exhortations, targets and numerical quotas should be eliminated. If management has no plan as to how to achieve desired results then they do not have meaningful goals, one goal is as good as another.

Ozawa (1988, p.45) strongly supports establishing meaningful direction:

> "A policy that arbitrarily aims at reducing costs by ten percent or increasing profits by eight percent over the preceding year cannot be labeled a true policy, and is in fact nothing short of nonsensical. Each policy needs to be based on numbers, data, and facts; if not, then any target will end up being totally meaningless, no matter how much effort is used to justify it."

Even the use of training to achieve improved results can have a short term effect similar to a quality slogan or productivity quota. Ozawa (1988, p.85) observed that about 3 months after operator instruction the number of defectives would gradually return to the original level prior to the training. This pattern repeated regardless of the type of training and occurred in Japan as well as Malaysia. The data supported their need to improve machinery in order to maintain higher levels of quality for any extended length of time, since education alone was not sufficient to maintain acceptable levels of quality. Reducing defects by machinery improvements resulted in sustained improvements. Although every organization does not use machinery for every operation, a system composed of a set of equipment, materials, skills and methods will achieve a stable level of performance that can not be improved on without improving the system.

Deming (1986, p.67) observes that most of the trouble comes from the system, which is the responsibility of management. Setting goals beyond the capacity of a stable system are useless since you will get whatever the system will deliver (Deming, 1986, p.76).

Setting labor productivity goals is not the single answer either, as Muckler (1982, p.16) puts it; "increasing labor productivity alone will not automatically insure positive economic and/or social benefits." Feigenbaum (1993, p.314-315) suggests productivity needs to be evaluated in terms of good product or service, not the old method of non-quality oriented measurement of total throughput. According to Skinner (1986, p.57) to achieve the highest productivity, the old primary goal of productivity must be let go and be replaced with the objective of being competitive.

The results oriented approach to TQM begins with identifying the right things to do (Steele, 1993, p.429-431). Just focusing on a program such as 'zero defects' is not an appropriate way to implement TQM (Sheridan, 1993, p.54). Goals should include customer satisfaction and continuous improvement, financial achievement, and global competitive position (Ripley and Ripley, 1992, p.27). Benchmarking, or comparing a companies products, practices, and processes to the world's best, can be used as a basis for setting targets and goals (McGonagle and Fleming, 1993, p.60-61). However, management by establishing numerical goals without planning is an attempt to manage without knowing what to do (Deming, 1986, p.76). Developing goals through effective planning is essential.

Goal Development and Planning Process

According to Schaffer (1993, p.19) the goal of a total quality programs should be to constantly improve organizational performance across the board, not just improving quality. Execution is like any other strategic initiative: develop and work to a plan including goals, milestones, responsibilities and resources, communicating the plan, and assess progress and create opportunities for corrections.

Ishikawa (1989, p.39-41) proposes top management must set policies that are subsequently translated into objectives to act on. Policy must be consistent for the entire organization based on a comprehensive analysis of accurate information. Objectives must be stated clearly in numerical terms appropriate for each level. The company must indicate what should be done to achieve the objectives. Leaving people to do what they think is necessary will not produce good work.

According to Juran (1988, p.257-258) the process of deploying goals from the corporate officer level to the lower levels is part of the planning process of how to meet the goals. Methods for achieving the objectives should be left for the lower levels within the organization to determine.

Setting a very limited number of priorities is important to achieve breakthrough improvement (Steele, 1993, p.432). This is necessary because a company needs to invest its limited resources into those things that matter most to the company and the customers (Chang 1993, p.24; Graves 1993, p.304). Ishikawa (1989, p.39-41) recommends only 2 or 3, at most 5, priority items, while Steele (1993, p.429-431) emphasizes strategic focus be placed on what is important to the business and establish a limited number, preferably 3, but not more than 7, priority measurable targets with specific timelines.

Prioritizing and planning objectives must also include proper allocation of resources to accomplish the objectives (Juran, 1988, p.257-258). Limiting goals is critical because lack of resources often results in failure to meet the goals. Adequate support is essential to address the priority areas, ensure speedy results, and get the employees to do things right the first time (Steele, 1993, p.438).

Ozawa (1988, p.53) makes the importance of the goal setting process clear:

> "In order to realize the future vision for a company, every worker, from the top right down to the assembly line workers, has to have a goal. The goal should be set by the individual, since setting one's own goals leads to greater motivation and satisfaction when it is achieved."

Ozawa (1988, p.7) asserts that the quality management system will only work when there is a total, unified effort by all the employees in the company. Common commitment and accountability are essential for a team to produce collective performance, instead of just a collection of individual performances (Katzenbach and Smith 1993, p.112). Setting clear task objectives improves team effectiveness, while ambiguous demands tend to result in teams using obsolete, irrelevant procedures (Bass, 1982, p.208-209). Likewise according to Katzenbach and Smith (1993, p.113) specific, attainable performance goals must be established for teams that are directly related to the team's overall purpose, otherwise the team tends to pull apart and revert to mediocre performance.

Organizational norms bear heavily on personal goals and strongly influence personal behavior and actions (Nordeen, 1993, p.39). Personal ambition is seldom discussed, but is a factor in many actions On the individual level, performance objectives must address what behaviors are important and what levels are desired (Muckler, 1982, p.29).

Individual performance plans need to be closely linked to the company's strategic objectives with the employees being held accountable to meet those objectives (Wilkinson 1993, p.331).

Considering their observations of excellent companies, Peters and Waterman (1982, p.56-57) emphasize that people must be allowed to set their own targets and quotas so that each person can feel like a winner, in spite of the fact that some are less than average. Likewise, according to Nash (1985, p.161) an important part of the goal setting process is to get individual commitment to specific goals.

Difficulty of individual goals is also very important since difficult, specific goals lead to greater performance than non-specific goals or no goals (Locke, 1990, p.28). This is especially apparent when one considers performance for individuals with the hardest goals was shown to be over 250% higher than those with the easiest goals. Locke (1990, p.27-29) supports the premise of goal setting theory; "that there is a linear relationship between degree of goal difficulty and performance," with empirical evidence from numerous studies by other researchers.

Breaking Barriers to Achieving Goals

When management completes the process of goal setting through careful analysis and planning, are they finished and ready to start measuring results? If they stop at that point they have not completed their work. To achieve real organizational performance it is essential that perceived performance limits are successfully breached, even beyond perceived psychological limits (Ripley and Ripley, 1992, p.30). This is the responsibility of management and according to Scholtes (1993, p.359): "managers' expectations can have a powerful effect on the quality and productivity of work." Similarly Crosby (1979, p.273) states: "Workers perform like the attitude of the management."

"In some companies there are many forces which seek to have as much product shipped as possible. There are pressures which discourage care in manufacturing and assembly" (Mundel, 1991, p.103). Situations occur on the manufacturing floor where inspectors sort out the good and bad product. The supervisor then reviews the bad units and returns some of them to the acceptable group. This results in inspectors flinching and placing marginal product with the acceptable group (Mundel, 1991, p.186-187.) Pressure also comes from management to accept or not accept shipments depending on the need for product and the favor of the sourcing. In this case inspectors will look for nonconformities so they can reject what may be useable product (Mundel, 1991, p.164).

According to Nordeen (1993, p.40) inconsistency in deeds and actions at the leadership level is the root cause of many organizational problems. The message is often indirectly communicated that the stated organizational policies are not really wanted by leadership when promotions and rewards are given to people who have qualities that are inconsistent with the stated organizational goals. According to Peters and Waterman (1982, p.73-75) management actions clearly express their priorities much louder than their words. It is important that management beliefs and actions support the stated goals and objectives if they really want to accomplish the stated objectives. When layoffs are the reward for improvement further improvement can halt (Kaplan and Norton, 1991, p.78).

Employees try to figure out what qualities top management really desires regardless of stated organizational goals (Nordeen, 1993, p.40). These characterisitics can be beneficial since the organization will usually reject or resist efforts that do not align with business objectives, and likewise will support activities that do (Luther, 1992, p.27). Additionally, Schaffer (1993, p.18) observes that the stronger the tendency of the organization to reject what they consider non-essential activities, such as; MBO, quality circles, and zero defects, the more likely they are to survive the long run since they stay focused on what is critical to success.

In summary, goals and objectives must be established from the top down, with participation at each level. Goals must be based on sound analysis of accurate data and must focus on a limited number of items crucial to continued business competitiveness and success. Whether the goals are directed at improving processes or results, they must have a clearly defined, well-communicated plan to achieve success. It is also critical that management demonstrate genuine commitment and support to the goals in both word and action. Linking performance standards and ratings to the strategic mission of the organization is one way to improve the validity of performance standards and increase awareness of desired end results (Heneman, 1992, p.133.)

Measurement

Why Measure?

Simply, as Luther (1992, p.25) puts it: "You get what you measure." Similarly, Kaplan and Norton (1992, p.71) state: "What you measure is what you get." Measurement strategies in themselves establish goals (Kaplan and Norton, 1991, p.79).

According to Ludeman (1992, p.52-57) two key tenets of continuous improvement processes are: "Nothing improves until it is measured, and as soon as it is measured, it automatically begins to improve." Unless critical areas are measured, it will be difficult to evaluate progress and determine whether or not your program is actually producing changes necessary for lasting quality improvements. Additionally, "if you can't measure it you can't manage it" (Garvin 1993, p.78). To make sure things are done that are beneficial to long term business success, they must be measured (Lawler, Nadler and Cammann, 1980, p.28).

Selecting Appropriate Organizational Measurements

The measurement system should monitor and reinforce progress toward meeting the objectives to ensure organizational success (Bridges, 1993, p.337). To accomplish this the measuring system should ask for the right things since the system will generally deliver what is requested and the organization will know if the request from top management is on track (Luther, 1992, p.36). Additionally the measurements must be accepted, as Crosby (1979, p.76) puts it: "People really like to be measured when the measurement is fair and open."

Kaplan and Norton (1992, p.71) suggest that financial measures used to work well, but are no longer appropriate for present business conditions. Deming (1986, p.121-123) argues against measuring performance based on visible figures only, which are primarily finance driven. While financial measures are important to management they must also consider figures that are unknown and unknowable, such as the multiplying effect of happy customers, productivity and quality improvements as the result of various quality process improvements, and the improvement resulting from removing inhibitors to the workers. Schonberger (1992, p.24) suggests that accurate costing is necessary since some customers define quality as value, however caution must taken on how this data is presented, so that it does not become the primary focus.

Productivity focuses, a very common form of measurement, alienate the workforce with a quota measured culture, set up a short term operational mindset, and look at internal performance controls at the expense of customer service and quality (Skinner 1986, p.57). Productivity assessment may actually be detrimental to productivity unless it is perceived by the worker as valid and fair (Muckler, 1982, p.17). Also, the more companies focus on productivity improvements by attempting to increase labor efficiency, the more difficult it becomes to improve productivity (Skinner, 1986, p.55-56).

According to Juran (1988, p.76-78) the ideal unit of measure; 1) provides an agreed basis for decision making, 2) is understandable by those who affected, 3) applies broadly so it can be used for comparative analysis, 4) is interpreted uniformly, 5) is economic to apply, and 6) is compatible with existing data collection methods. Luther (1992, p.30) also recommends that measurements be kept in simple and understandable terms since the average employee and some managers do not understand sigma measurements.

TQM companies focus less on the usual profit, sales, and cost variance reports, but instead look at monitoring, improving, and controlling causes (Schonberger 1992, p.19). Luther (1992, p.29) notes that indicators of key results should be separate from financial reporting. Measurement should include primary results, related to fixing causes, such as higher process yields, decreased nonconformance and reduced scrap (Schonberger 1992, p.19-20). Secondary effects such as labor productivity and sales per employee should be avoided, since the focus shifts to hours the machine is in production instead of maintenance and training. Proper training and maintenance are what makes for the improved productivity in the first place.

Galvin as recorded by Thompson (1992, p.60) notes that they measure almost everything at Motorola and that even though this would appear costly, when the data are synthesized, they know what needs to be done to correct the problem. The key is analyzing the data as a whole to understand the business. Eccles (1991, p.133) proposes benchmarking as a method to establish measurements that can be compared in a comprehensive, meaningful fashion to best practice industries. These measurements go beyond just finances and help to change managerial perspectives.

To provide management with a single focused report on performance measures, Kaplan and Norton (1992, p.73-79) propose using a set of measurements. They include measuring from a customer perspective: time, quality, performance, and service, from an internal business perspective: core competencies and critical technologies, from an innovation and learning perspective: time to next generation, and from a financial perspective: profitability, growth, and shareholder value.

Internal measurements need to show progress at achieving agreed upon customer deliverables and customer satisfaction (Chang 1993, p.27; Luther, 1992, p.28-29). Customer satisfaction must be measured directly. Further, business units need to have flexibility in establishing performance measures, with regular progress evaluations by peer, customer and team review (Wilkinson, 1993, p.331).

Wilkinson (1993, p.329) notes that Duke Power business units set their own objectives Performance relative to these goals coupled with Duke return on equity determined the cash award for the units' employees. This was set up because the employees wanted a closer tie between the plan objectives and their own work. Including difficult targets for management was crucial to employee acceptance of the plan. Executive success meant success for employees in achieving objectives, instead of the opposite.

Measures of continuous improvement are usually found on the walls and in publications of TQM oriented firms rather than in company mission statements (Schonberger 1992, p.18). Results typically include less variable quality, quicker, less variable response, greater flexibility, and lower cost. Ownership of the process is important as Schonberger (1992, p.21) notes that in advanced TQM the measurements belong to the front line employees.

Measurements must be established that are appropriate for each area (Steele, 1993, p.437). Companies are quick to measure results on the shop floor, but rather slow to measure underlying behaviors of employees and managers (Ludeman 1992, p.52). To understand and assess the overall effect of quality management efforts an appropriate tool is necessary. Ludeman (1992, p.52-57) recommends using a survey developed to measure; 1) overall effectiveness of TQM, 2) skills and behaviors managers need to improve to support TQM in daily practice 3) team effectiveness in solving problems, 4) results of training, and 5) customer satisfaction. Unless these areas are actually measured it will be difficult to evaluate progress. Garvin (1993, p.89) proposes using a 'half-life' curve to measure the time it takes to achieve a 50% improvement in a particular performance measure. This method of measurement focuses solely on results and some of the benefits of education, such as creating a total quality culture, may not become evident for long periods, even years.

Individual Performance Measurement

To be effective, individual performance measures and results must be mutually reviewed and agreed on between the superior and subordinate (Lawler, 1990, p.84). The performance appraisal or evaluation is a common method to review individual performance. Results oriented performance measures are advantageous in that they are highly specific and well defined, and the results can be directly attached to a specific pay increase (Heneman, 1992, p.109-110.)

Deming (1986, p.98) lists the performance evaluation one of the deadly diseases in preventing Western management from adopting TQM. The time honored American business practice of performance appraisal continues at companies that adopt many TQM principles (Scholtes, p.350, 1993). Is it possible that performance evaluations serve an important purpose in evaluating individual performance?

According to Bass (1982, p.180) the talent of individual members will affect the outcomes of the team effort. The more capable the average team member the better the team product. Further, feedback on the success of a team as a whole only contributes slightly to team performance (Bass, 1982, p.216-217). Performance of individual members of a group improves the most when they are given feedback on their individual performance along with the success of the team.

The performance appraisal rewards those who work within the system rather than fixing the system (Deming, 1986, p.102). While performance appraisals are often tied to a reward, they are a measurement tool characterized by evaluation and measurement of an individuals' performance (Scholtes, p.352-353, 1993). According to Deming (1986, p.105-108) and Scholtes (1993, p.355) performance evaluations encourage meeting individual, short term numerical goals and job standards at the expense of teamwork and long term improvement. Individuals disregard and circumvent the system for their personal gain using creative accounting and other such practices aimed at looking good instead of doing well (Scholtes 1993, p.356). Other problems with the performance appraisal include: the appraisal disregards system variability and will increase system variability, the appraisals are subject to the bias of the reviewer, the measurement system is unreliable and inconsistent, and the appraisal process tends to establish safe goals which promote mediocrity (Scholtes, 1993, p.355), and performance appraisals tend to create an adversarial relationship that harms the relationship between the superior and subordinate (Lawler, 1990, p.87).

Deming (1986, p.110-116) asserts that most of the differences in individual performance measurements are due to variation in the system. Outstanding individual performance, high or low, can only be justifiable when it can be shown that performance is beyond the effects of system variance or the individual demonstrates a consistent pattern of performance on one side of the range over 7 evaluation periods. Substantiated cases of high performance deserve recognition, while substantiated cases of inferior performance require special attention to help improve performance.

Of course, it could be that performance evaluations are often detrimental since they do not necessarily agree with our perception of self worth. As Scholtes (1993, p.359) puts it: "Most of us believe we deserve to be rated in the top 20 percent of our organizations performers. That means 80 percent of us are in for a shock."

Deming (1986, p.116-118) proposes proper leadership to replace the performance review. Part of leadership responsibilities are to measure and evaluate how well each employee performs within the system so that the leader may improve the system and work with the individuals to improve.

Scholtes (1993, p.359-361) alleges that management expects the performance appraisal to accomplish a multitude of things at one time. Instead, separate methods should be established to communicate, establish goals, and provide feedback on a regular basis. Salary increases and promotions should also be separated from the performance appraisal.

Nash (1985, p.161-162) states: "No perfect performance appraisal system exists, nor are we likely to invent one," but he also adds: "Goal setting and performance appraisal are indispensable tools in making people productive." Appraising performance is difficult and can lead to conflict.

In summary, appropriate measurements for organizations, teams, and individuals are necessary to run a business effectively. Measurements allow management to evaluate the system and provide proper leadership. Measurements also provide the workforce with a focus, as Eccles (1991, p.131) puts it: "What gets measured gets attention, particularly when rewards are tied to the measures."

Motivation

Theories

"The success of a quality program is also dependent upon how well the organization can answer the employees question; What's in it for me?, since no employee is going to act contrary to his or her own best interests" (Townsend and Gebhardt 1993, p.8) The answer varies from person to person, but regardless of what the answer is as long as the organization can provide the right inspiration, then employees will become committed partners in the effort. Bridges (1993, p.339) states: "It has been proven that motivated employees produce innovative results."

There are numerous views on motivation in TQM settings, including: early, well communicated, and substantial results are probably the strongest motivator to further improve performance (Myers and Ashkenas, 1993, p.41), the inherent motivator is for people to figure out what qualities top management really desires regardless of stated organizational goals (Nordeen, 1993, p.40), it is impossible to motivate people unless they understand the reasons for doing something (Ozawa, 1988, p.141). Some theories of motivation will be briefly covered to better understand motivation and how it can be effectively applied.

It can be argued whether motivation alone is sufficient to produce results. Whetten and Cameron (1991, p.339) drawing on the work of Maier (1973) and Lawler (1973) summarize performance as the product of ability and motivation, while ability is the product of an individuals aptitude, training and resources.

Performance = Ability x Motivation

Ability = Aptitude x Training x Resources

It is apparent if one is not motivated then ideal ability will not result in performance and likewise, if one is highly motivated but does not have ability, performance will also be lacking. In this paper the focus will be limited to the motivation factor.

In attempting to answer the question of what motivates people, numerous theories have been developed. According to Henderson (1982) theory on human needs and motivation fall into 3 categories. Content theories attempt to determine what elements or needs motivate human behavior. Process theories attempt to model motivation and behavior with a process. Behavior modification concepts describe the environmental impacts on behavior. Individually none of these models or theories cover all aspects of motivation and behavior. Since much of the current work on motivation refers to these theories, a brief summary of these theories has been included as reviewed by Henderson (1982).

Of the content theories, the human hierarchy of needs classifies needs in order of importance (Maslow, 1943). McClelland (1965) suggested 3 drives influence work behavior: the need for achievement, the need for power, and the need for affiliation. McGregor (1960) presents Theory X, control of subordinates, and theory Y, trust employees and allow individual freedom, to describe underlying managerial characteristics. The motivation-hygiene theory separates influences into 2 categories, hygiene factors that are fundamental such as salary and benefits, and motivational factors that provide intrinsic motivation, such as achievement and recognition (Herzberg and Mausner, 1959).

Of the process theories, cognitive dissonance suggests an individual is driven by the internal conflict to resolve something the individual learns that is in conflict with their value system (Festinger, 1957). Social inequity theory proposes that people will attempt to balance the ratio of rewards to contribution by modifying their level of contributions (Adams, 1963). Expectancy theory suggests that humans identify alternative courses of behavior and associated likely outcomes and than select a course of behavior based on the expected likelihood of the outcome and the expected value (Vroom, 1964). The goal oriented model proposes that people work to achieve goals they recognize as desirable and important (Locke, 1968).

Behavior Modification Concepts take a learning approach to modifying employee workplace behavior based on the operant behavior work of B. F. Skinner, where behavior is dependent on its consequences and on the environment which changes and shapes behavior (Luthans and Kreitner, 1975).

With numerous theories, is there a solution for effective motivation? Nash (1985, p.99-118) in reviewing the significant motivation theories applied to work, asserts researchers have been unable to verify Herzberg's motivation hygiene theory or Maslow's Hierarchy of needs theory, and as such they should not be used. Further, self expectancy theory and the work motivational needs of achievement, power, and affiliation, are the only significant correct motivation theories for business.

In support of self-expectancy, Nash (1985, p.118) states: "Self-expectancy has more predictive power than ability does for productivity and achievement." Nash (1985, p.102-103) in describing self-expectancy states: "the quality of a person's performance depends not only on the strength of the valence of the outcome, but also on the degree to which the individual believes that he has the skills necessary for success." Even though not directly addressing self-expectancy, Ripley and Ripley (1992, p.21) note the importance of empowerment in TQM is to enhance an individual's belief in their own effectiveness.

Similarly, Bridges (1993, p.347) states: "for reward systems to work, everyone must be taught empowerment."

Nash (1985), in affirming McClelland's work motivational needs, categorically states: "The need for achievement is the single best predictor of success in business" (p.105) and "When interest in the need for achievement declines, productivity declines will follow as sure as sunset follows sunrise" (p.112). McClelland (1965, p.7-8) found that the need for achievement is usually developed in the formative years and changing the environment will not change the need for achievement. Individuals with a low need for achievement will still "sit around" (McClelland, 1965, p.8). McClelland (1965, p.12,14,16) recommends the use of goal setting training and encouraging individuals to actively talk think, and act like a person with a high achievement need. In this way the need for achievement can be developed in those with low needs for achievement and the productivity benefits can be realized.

Nash (1985, p.33) suggests that goal setting theory is also credible. Locke and Latham (1990, p.46-47) support their conclusion that "goal setting is one of the most valid theories, if not the most valid theory, of work motivation" by referring to the works by Pinder (1984): concluding that goal setting demonstrated the most scientific validity of any theory on work motivation, Lee and Earley (1988): concluding goal setting was the most scientifically valid work motivation theory, and Miner (1984): concluding goal setting theory was 1 of only 4 theories rated with "high" validity. On setting goals Crosby (1979, p.254) states: "Employees must have an opportunity to participate in setting goals and then be recognized for achieving specific goals. Employees must realize that management sincerely appreciates their effort."

Where does all of this lead? In 1963 Gellerman affirmed there is no single effective motivation strategy for everyone since there is no single motive for all workers (p.175) and individual motives change over time (p.182-183). Today, over 30 years later, there is still not a unified, agreed upon theory, as can be seen from the varying perspectives.

Rewards and Reinforcement

Organizations become unwieldy and inflexible if there are no extrinsic incentives to support the individuals intrinsic drive (Baker, 1993, p.45). Compensation plans based on behavior encourage the prescribed behavior while rewards based on results tend to stimulate innovation.

Not all rewards are monetary. According to Steele (1993, p.440) money is generally not the answer, while recognition, in the form of sincere appreciation from management, is important in the TQM process. Peters and Waterman (1982, p.71) suggest that attention from top management may be the most powerful form of reinforcement, since their time is so limited. Other non-monetary rewards include process ownership, self-management, career growth opportunities, access to information and removal of status symbols for the select few (Schonberger, 1992, p.22). Additionally, increased autonomy, self-esteem and security are important benefits for the individual (Townsend and Gebhardt, 1993, p.11).

Peters and Waterman (1982, p.68) suggest that positive reinforcement tends to cause behavior change in the intended direction, while negative reinforcement often leads to unpredictable and undesirable behavior changes since the individual is trying to avoid the negative reinforcement. Similarly, Lawler (1990, p.21) suggests punishment and the anticipated consequences for failures and undesirable outcomes can have a significant demotivating effect in spite of the potential for positive rewards.

According to Herzberg (1968, p.54-55) and Kohn (1993, p.55) incentives, rewards, and punishment are external forces and have no real motivational value. Incentives only bring about temporary compliance, and once the rewards are gone people will revert to their original behavior, since there is no change in an individual's attitudes that underlie behaviors. Kohn (1993, p.54-58) suggests numerous studies have shown that rewards tend to undermine the processes they are intended to enhance. People who expect to receive a reward for successful completion of a task do not perform as well as those who do not expect a reward and performance becomes even worse when more cognitive and open ended thinking was necessary to achieve a reward. Further, rewards and punishment are manipulative and that not receiving an expected reward is indistinguishable from punishment.

Reinforcement and incentives may not be the best motivators, but they can motivate. According to Peters and Waterman (1982, p.72) intrinsic self motivation and reinforcement fit together. Intrinsic self-motivation is built upon commitment and for an individual to be committed to a task they must believe it is inherently worthwhile. Reinforcement helps build that commitment. Also, according to Wolters (1993, p.45,48) for incentive plans to be effective and avoid perceptions of exploitation and manipulation they must include 2 important elements: 1) the performance criteria and evaluation must be seen as objective and within the performer's control and 2) the reward must be equal to the effort. This is very similar to self-expectancy theory.

Monetary Incentives and Rewards

According to Walker (1992, p.478) workers are not fully satisfied with the "psychological paycheck" or the pat on the back. Instead they realize that money expresses value in the business world and they want the value of their contribution expressed in the same terms. In addition, Townsend and Gebhardt (1993, p.9) state: "some people become skeptical when they are being asked for more without any increase in compensation."

From 1987 to 1990 the number of companies using skill based pay increased from 40% to 51% and the number of companies using some form of gainsharing increased from 26% to 39% (Lawler, et al., 1992, p.20-25). This increase in skill based pay and gainsharing is significant. Is this trend in the right direction, or are companies just paying out more money for no additional return?

From the business perspective, according to Wilkinson (1993, p.325) companies traditionally look at benefits as individual cost items to be adjusted for market conditions. Bridges (1993, p.337) asserts most compensation systems are not linked to organizational objectives. It appears that businesses pay individuals what they are worth on the outside, with little consideration to the actual value they bring the company. Could this be why people are not effectively motivated by money, because the link between what the employee does and what they are paid is not evident?

According to Herzberg (1968, p.57) salary is not a motivator, but rather a hygiene factor that prevents dissatisfaction. The strongest motivators are achievement and recognition. Likewise, Crosby (1979, p.254) states: "People really don't work for money. They go to work for it., but once the salary has been established, their concern is recognition." As previously discussed Nash (1985, p.99-118) discredits Herzberg's theory of motivation-hygiene factors applied to work, as not being supported by research.

Kohn (1993, p.61) suggests that instead of using incentive systems to improve performance managers should focus on correcting the underlying problems such as inadequate systems and training. Deming (1986) clearly believes that management should work on correcting system problems (p.67), but also suggests that monetary rewards can be appropriate when an individual demonstrates outstanding performance and the individual performance is also recognized by other means (p.117).

Compensation does not work well when people feel it is being used as a control (Amabile, 1993, p.43) or when they feel they are being manipulated to improve performance (Applebaum, 1993, p.39). However, Applebaum (1993, p.39) suggests compensation packages are an important part of high performance work systems that capitalize on employee skills and participation, while Amabile (1993, p.43) suggests money can be used effectively as a motivator when people view it as an equitable recognition of their performance.

Other researchers tend to agree that money is not an ideal motivator. According to Gellerman (1963, p.168) even though money "has no intrinsic meaning of its own", it motivates "most of the people some of the time, and some of the people all of the time" due to the associated meaning people place on it. Lawler (1990, p.17) suggests that extrinsic motivators, such as pay, are valued more by some groups than others. As such, management must understand how important pay is for the individual and why it is important.

Lawler (1990, p.4) contends that pay can have a positive motivating effect on individual performance. For pay to motivate, an individual must perceive there is a connection between pay and performance and must see the performance level as achievable (Lawler, 1990, p.18-20). This also applies to other incentives and rewards.

Effective Incentive Plans for Motivation

The common individual monetary rewards that inspire individual performance are: pay for skills, merit pay, and discretionary bonuses (Schonberger, 1992, p.22). Gainsharing and profit-sharing are established to enhance organization and team performance.

Skill based pay is most applicable to workers with specific defined skills required for specific jobs, such as hourly work. The advantages are flexibility in the workforce and it provides a base for cross functional problem solving because employees know more jobs and have more skills (Lawler, 1990, p.160-161). Skill based pay has some disadvantages in that employees can tend to spend more time advancing skills rather than working, there are problems with skill assessment, and when employees top out on the pay scale they have no monetary incentive to improve (Lawler, 1990, p.166-168). According to Wilkinson (1993, p.332) pay-for-skills and performance can be successfully implemented for hourly employees with clearly defined objectives.

Schonberger (1992, p.22) suggests teamwork is promoted through gainsharing and profit-sharing. Additionally, gainsharing and profit-sharing allow a company to reward better during good times and give employees an understanding of what behaviors are rewarded (Wilkinson 1993, p.335). However, sharing is not entirely equitable since people who cause the problems often share with those who correct them (Schonberger 1992, p.22). According to Lawler (1990, p.114, 119) and Wilkinson (1993, p.335) for profit-sharing and gainsharing to be effective there must be a link between the sharing pay and organizational performance. Even though plans are established to link sharing pay to the organizational performance, it is important that employees understand the link, because if employees do not perceive this link exists the plan will not be an effective motivator (Lawler, 1990, p.114, 119).

Merit pay is the common method of paying for job performance and is frequently tied to the performance evaluation (Lawler, 1990, p.5). According to Heneman (1992, p.81-82) job characteristics are important in implementing merit pay. The most favorable characteristics for merit pay are: the employee must be responsible for a whole work task and the employee must have the opportunity to have a noticeable impact on performance.

On average, the success of merit pay is moderate. However, even moderately successful merit pay plans give large financial returns to organizations, despite the fact they have considerable monetary cost for the organization (Heneman, 1992, p.10).

A number of problems exist with the way merit pay is applied. It is not always entirely objective (Lawler, 1990, p.71; Schonberger 1992, p.22). Merit pay places the emphasis on the individual and is most appropriate when there is concern for the quality or output of individual members (Heneman, 1992, p.14). It can undermine teamwork (Lawler, 1990, p.71). Organizations fail to create a perceived link between pay and performance (Heneman, 1982, p.19 and Lawler, 1990, p.71), and they also fail to pay better performance with more total compensation (Lawler, 1990, p.71).

Also, there are drawbacks to the performance measurements on which merit pay is based (Heneman, 1992, p.109-110). Performance results may be outside the control of the employee and the results may not capture other important performance aspects.

According to Lawler (1990, p.75) the most serious error in administering a merit pay increase system is the failure to give widely different pay increases when large performance differences exist. One may question whether it is fair for an outstanding performer to get a large increase at the expense of a lesser performer, especially when inflation is eroding earning power. It is interesting to see what Ford and General Motors did in the 1980's when they had difficult financial times. According to Heneman (1992, p.116) they granted merit increases only to the good performers since they were interested in keeping only the good performers. They ended up retaining both the good and poor performers since the poor performers may not have been too marketable. Heneman (1992, p.116) alleges this was obviously better than just retaining the poor performers, which would have been likely with more uniform merit increases. Could it have been possible that this action enhanced the motivation of the good and poor performers alike, since they saw a connection between pay and performance?

Criteria and decisions on rewards, recognition, promotion, and selections will always have some degree of inconsistency with the stated organizational goals (Nordeen, 1993, p.40). Just as there are numerous perspectives on whether pay is an effective motivator there are differing views on how to establish an effective reward system. Schonberger

(1992, p.21) suggests that in TQM companies reward and recognition have gone beyond what conventional thinking has constrained us with, wages, benefits and an occasional pat on the back, to individual monetary, group monetary and non-monetary rewards. Good TQM companies develop an effective balance between individual monetary, group monetary and non-monetary rewards. For an organization to be completely effective in TQM; with quality, speed and cost competitiveness, Walker (1992, p.478) suggests that change must occur throughout the organization, including human resource system redesign. Changing the human resource system is necessary to effectively reward the workers who make the organization successful.

Beer (1993, p.42) advocates that management should focus on paying people equitably, instead of using pay coupled with quarterly or yearly performance as a motivator. In addition, only the top 10 to 15% employees who are top long term contributors should be promoted, while the bottom performers should be eliminated. Similarly, Deming (1986, p.110-116) recommends elimination of pay based on the annual performance review. Also, individual monetary rewards are only justifiable in cases where performance is significantly above normal system variance. According to Heneman (1992, p.38-39) and Lawler (1990, p.84) performance ratings used to establish compensation should be adjusted for factors outside the employees control. Measurements should separate organizational factors from individual performance.

Katzenbach and Smith (1993, p.112) found that "teams and good performance are inseparable; you cannot have one without the other." Further, ingrained individualism and experience tend to make most people cautious about entering a team situation where they put their fate in others hands and accept responsibility for others (p.116). What can be done from the individual reward standpoint? According to Heneman (1992, p.52) merit pay plans can be designed to either promote cooperation or competition, based on how performance standards are established and the nature of the task. Cooperation leads to increased performance when the tasks are interdependent, complex and done in large groups while competition increases performance when the tasks are independent, simple and individualized. Managers must establish appropriate criteria and goals for the individual and then reward the desired results.

Lawler (1990, p.82) proposes replacement of the commonly used salary increase plans with a bonus system. Pay would be given as a bonus based on current performance. Since performance pay is a bonus it does not become part of the base compensation. This addresses the problem with employees who, once at a high salary, can remain at a high base salary in spite of low performance. Base compensation could be administered uniformly and fairly with separate adjustments for market conditions and inflation. The connection between pay and performance is enhanced.

The most important factor in making any compensation plan effective is there must be a perceived link between the employees performance and the pay, whether it is merit pay (Heneman, 1982, p.19; Lawler, 1990, p.71), pay for skills (Wilkinson, 1993, p.332), profit-sharing or gainsharing (Lawler, 1990, p.114, 119; Wilkinson, 1993, p.335). It is important to note that even when a strong link exists between pay and performance, it is also essential that the employees see the connection for pay plans to be motivational.

Nash (1985, p.25) alleges the best results are attained when monetary incentives are linked with hard, specific goals. Performance must be measured, not assumed, for merit pay to work well as an implied contract (Heneman, 1992, p.38-39). Eccles (1991, p.135) favors strongly linking incentives to performance, based on qualitative as well as quantitative information, and then "explain candidly to subordinates why they received what they did." In summary if you want pay or any other reward to be an effective motivator, the reward must be valued by the individual and the individual must clearly see the connection between the performance and the reward.

Conclusions

Goals, measurements and motivation certainly apply to Total Quality Management. While they continue to be analyzed and characterized over the years, the principles appear to remain much the same, even in the era of TQM. Now the issue is focused on management properly applying the principles that have been understood, but little used. Establishing realistic goals that are based on sound analysis, leadership, and participation at all levels, ensures commitment and success in meeting the objectives. Management has to relinquish some control and instead lead. Is this a new concept? Hardly, as in 1963 Gellerman (p.94-95) suggests productivity could be enhanced by allowing decisions to be made at lower levels in the organization and at that time stated: "The tightly controlled organization is obsolete." He was probably a little premature in his conclusion, because even today many organizations have tight controls.

Measurements of business performance historically have been financially driven, including such things as profit, growth, and stock price. These measures continue to be important to the success of a company, however they are not the only measures or the most appropriate measures for all levels of the organization. Financial measures and the common productivity measurements, are secondary measurements. Secondary measures gage how well the business is doing overall. However, they often give the wrong focus for improving the business, since they do not directly address what is wrong with the business operation and systems. Measures should focus on primary results such as process yields, variation, and customer satisfaction. With these measurements the organization and employees can concentrate on improving the areas that are critical to the competency of the business. The secondary results such as improved productivity and financial results will often follow, provided management has developed a carefully integrated plan for the business that links, goals, objectives, and measurements.

Some factors that are responsible for business success are not always easy to measure, such as the effects of dissatisfied customers, organizational culture, and the actions of management. Surveys designed specifically to assess these characteristics are important to really understand what, why and how the business is doing what it is doing. One problem that could likely be revealed is management inconsistencies that prohibit the quality improvement process. Actions often speak louder than words, and employees pick up on any discrepancies very quickly, often choosing the course of action that will avoid any retribution and provide a reward. Many times production goals will override quality efforts in spite of what management professes, because production goals are stressed as the underlying message. TQM can provide excellent results when management establishes specific targets and fully supports the objectives, even if they are directed at improving process yields to increase volume shipped. People clearly understand what is wanted and how it is going to be accomplished.

Setting and planning goals, coupled with appropriate measurements, leads to improved organizational performance. Organizational performance is comprised of individual performances and collective performances of individuals working in teams. Performance of the individual is fundamental to performance of the organization. Setting individual goals and measuring performance relative to those goals is an important process. Individual participation is important to get buy-in and commitment. Establishing specific, tough objectives improves individual performance. While these concepts sound good, they are not often implemented effectively. Employees are given vague objectives, which are subject to change. Then, worse yet, subjective measurements have little meaning to the employee. Measurement of performance must be objective and it must account for variation within the system.

While there is not a single, universal theory of work motivation, some of the most valid work motivation theories are the work needs, of which the need for achievement is key, self-expectancy and goal setting. All of these tend to converge on a common point, that is, the most effective motivation occurs when people internalize a strong desire to accomplish work objectives and that internal drive is supported by external rewards. Regardless of what particular theory management subscribes to, management must do 3 things to enhance employee motivation. First, management must work with the individual to establish specific, tough goals that the individual is likely to achieve. Second, management must make sure the individual can see a clear link between their performance and the rewards, regardless of the type of reward. Third, the rewards must have meaning and value to the individual. The most difficult part is proper application of these concepts. Implementing TQM to effectively motivate people means that the goal setting, measurement, evaluation, and reward systems will have to be changed so the employees can better see a genuine connection between an objective measurement of actual performance and the rewards.

Establishing goals, measuring performance and motivating employees for Total Quality Management is simply getting everyone to pull in the right direction at the same time. The results can be outstanding.

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