You CAN Get There from Here: Mapping One Route to a Quality Culture

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Abstract

How can companies change their organizational cultures in pursuit of Total Quality? In the culture literature, rewards are frequently cited as levers for change, but writers in the quality literature usually are guarded, at best, about recommending use of rewards as incentives for doing new kinds of work required for quality. This research examined use of rewards for quality in 10 firms (9 manufacturing, 1 financial services). Interviewees described their cultures and their reward programs, including financial incentives and informal recognition. A content analysis provided numerical ratings of each firm in terms of the complexity of the system used to reward employees' quality efforts (e.g., levels of review of applications for reward) and 15 other dimensions. Further analysis of these ratings by multidimensional scaling provided a scheme or map summarizing how the firms differed from one another in terms of two summary dimensions: extent of progress toward quality culture, and complexity and tangibility of incentives for work toward quality. After scrutinizing this map and the interview comments behind it, we concluded that formal reward systems (which include financial or other material incentives) may serve to "get firms moving" in the direction of Total Quality. We discuss hazards in use of formal rewards, actions that may reduce these hazards, and an alternative to formal rewards suggested by the findings.

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EXECUTIVE SUMMARY

Quality requires contributions from virtually all categories of employees: leaders, middle-managers, front-line employees, and technical and non-technical support workers. Because TQM and CI require such extensive change in employee values, beliefs, and behaviors, it is no exaggeration to say that organizational change for quality requires culture change.

The literature on organizational culture discusses a variety of influencing factors on culture, such as stories told, employee rites of passage, and symbols. These factors are partially under the control of management, thus providing levers for culture change for quality.

Among these factors, rewards and recognition often have been considered to be fundamental for culture management. Rewards function directly to leverage new behaviors desired of employees (such as making CI part of their jobs) and indirectly by symbolizing leaders' and managers' commitment to the strategic aims behind the new desired behaviors. Consequently, reward systems can have potent effects either to facilitate or inhibit quality and CI cultures desired by leaders and managers. A key question in the literatures on TQM and CI has concerned whether it is wise or mistaken to provide extrinsic rewards contingently for economically significant improvement suggestions (e.g, Deming, 1986; Jha, Michela, & Noori, 1996). As Hackman and Wageman (1995) put it, some past advice on this question may be summarized as "Just don't do it." These authors go on to suggest that such a sweeping prohibition seems unlikely to be universally good advice.

Our study addressed these matters by conducting semi-structured interviews with managers in a randomly selected sample of 10 medium- and large-sized organizations. The thrust of the interview questions was to learn: How do organizations manage rewards and recognition so as to promote an organizational culture for quality and continuous improvement? Because of the qualitative and somewhat case-intensive nature of the research, even with only 10 companies we realized that we would face the problem of representing these cases in an encompassing framework or scheme. For this purpose we adapted a method of multidimensional scaling (MDS) introduced by Wish, Deutsch, & Kaplan (1976).

The resulting scheme identified locations of the 10 firms in relation to one another in a two-dimensional space. The horizontal dimension of the space concerned firms' extent of progress toward a culture for quality, and the 10 firms were seen to vary widely in this progress. The vertical dimension concerned firms' extent of using administratively complex systems of tangible rewards (e.g, money or merchandise), in order to provide extrinsic incentives for employees to do work specifically for quality (e.g., to make improvement suggestions or to meet quality goals by whatever means).

Finally, the interview data were reexamined in light of this scheme. It became apparent that some companies in our sample intended for these incentive systems to provide a transition between an earlier state—minimal culture for quality and few rewards available for doing the work of quality, and a desired state—a strong culture for quality, maintained by group norms and pride, recognition, and other intangible rewards and motivators. Interviewees from these companies described definite progress toward quality associated with implementation of these extrinsically-based systems.

However, other interviewees described progress toward quality by other means, such as rallying the work force in response to crisis-level competitive challenges. These other means appeared to draw on goodwill between labor and management.

We conclude that despite the drawbacks of extrinsically-based rewards, these rewards may contribute to organizational change for quality under some circumstances. Particularly when an organization needs to introduce some motivational force to induce movement toward quality (as when labor-management relations are less-than-great), an extrinsically-based system can provide direct incentives for employees to try out new behaviors (e.g., process analysis or working with customers in new ways). These rewards also signal the importance that management places on new ways of working, thus amplifying the many communications and other culture management actions that should accompany any such program (e.g., communications about why and how to achieve quality). Over time, as new ways of working generate intrinsic rewards (such as a sense of accomplishment from analyzing complex problems), complex and extrinsically-based systems can give way to the more tailored, recognition-based and appreciation-based systems that were characteristic of firms in our sample with the highest levels of quality culture and behavior.

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Success in global competition is widely believed to follow when companies provide maximum value in their goods or services produced. A key contributor to value, in turn, is quality. Quality requires contributions from virtually all categories of employees: leaders, middle-managers, front-line employees, and technical and non-technical support workers (e.g., Dean & Evans, 1992; Deming, 1986; Jha, Michela, & Noori, 1996; Olian & Rynes, 1992; Powell, 1995; Schroeder & Robinson, 1991).

Despite all the discussion of quality in the past 10 or 15 years, many companies retain a more traditional orientation toward maintenance of control (e.g., budgetary) or standards (e.g., for minimizing variability of output) (Melcher, Acar, DuMont, & Khouja, 1990). It has proved difficult for very many companies to fully embrace the various aspects of a Total Quality orientation, such as teamwork and infusing the voice of the customer throughout the organization (Schmidt & Finnigan, 1992). This difficulty stems partly from the depth and breadth of changes that Total Quality Management (TQM) and Continuous Improvement (CI) require in attitudes and behaviors of the various categories of employees.

Transformation for Quality as Organizational Culture Change

Because of the kinds and extent of changes that TQM and CI require in employee values, beliefs, and behaviors (e.g., Jha, Michela, & Noori, 1996), organizational change for quality requires culture change. This way of viewing transformation to quality provides perspectives on how to accomplish these changes. That is, the literature on organizational culture discusses a variety of influencing factors on culture (and indicators of culture itself), such as stories told, employee rites of passage, and symbols (e.g., Kilmann, Saxton, Serpa, & Associates, 1985; Trice & Beyer, 1993). These factors are partially under the control of management, thus providing levers for culture change for quality.

Among these factors, rewards and recognition often have been considered to be fundamental (Kerr & Slocum, 1987; Knouse, 1995; Sethia & Von Glinow, 1985). Rewards function directly to leverage new behaviors desired of employees (such as making CI part of their jobs) and indirectly by symbolizing leaders' and managers' commitment to the strategic

aims behind the new desired behaviors (Michela, 1996). Consequently, reward systems can have potent effects either to facilitate or inhibit quality and CI cultures desired by leaders and managers.

A key question in the literatures on TQM and CI has concerned whether it is wise or mistaken to provide extrinsic rewards contingently for economically significant improvement suggestions (e.g, Deming, 1986; Hackman & Wageman, 1995; Jha et al., 1996). As already noted, this practice may have value through its direct and indirect effects on behavior. The downside is that specific rewards for quality improvement (QI) may signal that QI is somehow separate from, or in addition to one's real job. In addition, whatever reward one receives contingently for a worthwhile suggestion may not seem to be in proportion to the benefit to the organization as a whole—the reward is never enough. Finally, the use of extrinsic rewards such as money in proportion to the value of the suggestion may undermine intrinsic motivations such as pride in doing one's job well or in being creative. When extrinsic motivations for behaviors are salient, people tend to engage in behaviors only to the extent that extrinsic rewards are likely and sizable. These conditions initiate a cycle in which management must invest resources in monitoring and rewarding desired behaviors, and employees become especially sensitive to equity in allocation of rewards and sufficiency of rewards (Michela, 1996).

PRESENT STUDY

The preceding observations led the investigators to address the following research question: How do organizations manage rewards and recognition so as to promote an organizational culture for quality and continuous improvement? We suspected that the ideal state of affairs was for an organization to reach a point of using a minimum of extrinsic rewards (tangible rewards such as money or merchandise), instead emphasizing recognition and other symbolic and relational transactions to maintain intrinsic motivation for quality performance and continuous improvement.

However, this state of affairs is an end point, reached only after some process of transformation away from an initial control-oriented or standards-oriented organizational culture. How do companies make this transformation?

We undertook semi-structured interviews with managers in a randomly selected sample of 10 medium- and large-sized companies in hopes of seeing how this transformation process

unfolds. These interviews concerned the reward and recognition systems of the companies and the extent to which their organizational cultures supported quality and continuous improvement.

Our overall strategy in the research was to try to select enough companies, by a systematic process, so that we would be able to see a variety of cultural orientations toward quality and associated reward and recognition practices. Because of the qualitative and somewhat case-intensive nature of the research, even with only 10 companies we realized that we would face the problem of representing these cases in an encompassing framework or scheme. For this purpose we adapted a method of multidimensional scaling (MDS) introduced by Wish, Deutsch, & Kaplan (1976). This method and the findings it provided are presented next.

METHOD

OVERVIEW

In each of 10 companies a manager was interviewed about aspects of the company's culture and its rewards policies. The semi-structured interview covered topics such as what kinds of rewards or incentives were used by the company to encourage quality improvement suggestions from employees, and how the corporate culture might promote or inhibit QI or might be congruent or incongruent with the aims of QI and rewards for QI in the company.

Each of the companies was then rated on each of 16 rating dimensions derived from the interview. These ratings were transformed arithmetically to allow analysis by multidimensional scaling (MDS). MDS results were examined to reveal the nature of the dimensions of variation among the companies and other aspects of the interrelations among the companies in terms of organizational culture and rewards for QI.

SAMPLE

The sample was drawn randomly from a comprehensive list of manufacturing firms maintained by Industry Canada, the federal ministry of industry. This population was narrowed to medium-sized ($25-$50M annual sales) and larger firms, because these seemed most likely to have QI programs and to have well-developed corporate cultures. The population was further narrowed to firms within a 90 minute drive from the researchers' universities.

A final sample size of 10 was established a priori. Ultimately a total of 30 companies had to be approached to reach this sample size. Initial contact with companies occurred in a

telephone call to the head of Human Resources or someone else in HR "who would be able to answer questions about HR policies and practices" in the organization. The university affiliation and federal research grant support for the research were noted in the initial call.

Interview Protocol

Participants were oriented to the interview by saying that we were investigating QI programs including Continuous Improvement (CI) programs in industry. The interviewer had a list of 11 questions concerning the kinds of rewards used by the company to encourage QI suggestions from employees, and how the corporate culture might promote or inhibit QI (Table 1). For example, the first question was: "What rewards or incentives, if any, do you supply for doing continuous improvement work?" Further questions probed specifically into financial and non-financial rewards and recognition, and teams versus individuals as units to be rewarded. In order to probe the connection of corporate culture to rewards, one approach was to ask whether the company used rewards "that you think would not work as well in another organization." Another was to ask whether the company seemed to have a "philosophy of human nature" or a "philosophy of managing people." Often, even before these probes were used, participants spontaneously referred to their corporate cultures explicitly and described them in detail.

The data provided by these interviews consisted of tape recorded and written notes of what participants had said, plus notes of the interviewer's impressions of central matters such as the extent to which extrinsic incentives were used to induce QI behavior, and the extent of having instilled values, norms and beliefs consistent with an organizational culture supporting quality and continuous improvement. These data were reduced further by the rating procedure described next.

Summary Ratings

After reviewing the interview data, the authors developed a list of 16 dimensions usable for rating pertinent characteristics of the firms (Table 2). For example, rating scale number 6 concerned the extent to which the participant (a) emphasized teams as important for QI; (b) noted that employees were members of QI teams; and/or (c) said that rewards for quality were team-based as opposed to individually-based. Although this index, in principle, could be broken down into its component parts, theses interview data did not provide a basis for making these

distinctions clearly. Some other rating dimensions were more narrow, such as one concerning whether the participant described interpersonal relations within the firm as "Close-knit" or family-like. Every firm was rated on a 9-point scale for every rating dimension.

ALSCAL Multidimensional Scaling

Data from the 16 rating dimensions were transformed arithmetically to allow ALSCAL multidimensional scaling (MDS). Transformations described by Wish, Deutsch, and Kaplan (1976) were used. ALSCAL is able to use as input a set of data matrices, where each matrix describes similarities among the objects of study (in this instance, the 10 firms). In our case, the first data matrix described similarities in terms of the first rating dimension (e.g., Team orientation). The 10 ratings on this rating dimension had been converted to a symmetrical 10 x 10 matrix by calculating for each possible pair of firms the difference in ratings between the two members of the pair. For example, matrix elements (2, 1) and (1, 2) consisted of the arithmetic difference between how firms 1 and 2 were rated (e.g., 7 - 4 = 3, so the value 3 would be placed in the 2, 1 and 1, 2 positions of the matrix). (Diagonal elements are not used by ALSCAL when symmetric matrices are input.) Thus, 16 matrices of this kind formed the input to ALSCAL Following standard practice for MDS (e.g., Kruskal & Wish, 1978) for a data set with 10 objects being scaled, we specified that 2 dimension should be extracted, and ordinal-level (i.e., not interval-level.) measurement should be assumed when scaling.

RESULTS

Locations of the 10 firms in the space produced by ALSCAL MDS analysis have been plotted in Figure 1. This plot is based on the values in Table 3, a matrix of "stimulus weights" provided by ALSCAL. The firms' locations optimally represent in two dimensions all of the input data (summary ratings transformed to differences). For example, overall there was little difference in ratings of the firms designated CHM3 and ELEC (see bottom-left of Figure 1). In contrast, the figure indicates that each of these firms tended to receive quite different ratings from, say, AUTO at the top-middle of the figure, or COMP at the right.

Figure 1 also shows the labels that we assigned to the horizontal and vertical dimensions. We arrived at these labels ("Progress toward Quality Culture" and "Use of Incentives") through two approaches: (a) going back to the open-ended comments from firm representatives, looking for common themes from firms in the same region of the space, and (b) statistically analyzing

the raw ratings of firms in relation to the obtained MDS dimensions. The following two sections describe these two approaches.

Regions of the Obtained Space

Our region-by-region examination of the obtained space revealed three regions—at the left and lower left hand part of the figure, at the top-middle of the figure, and at the right and lower right hand part of the figure.

Low extrinsic incentive/low quality culture. Firms appearing at the left of the figure were those displaying the fewest attributes of quality-oriented corporate culture. In the firm labeled CHM2, a chemical company, the participant said that continuous improvement had not diffused through the organization—though management had recently attended pertinent training. In the firm labeled COMM, a producer of communications towers, it was difficult to engage the participating manager in a discussion of culture, and the manager could not give examples of shared values or beliefs when this approach was used to try to discuss culture. CHM3 and ELEC (a producer of electrical components) had more definite concepts of corporate culture, though in both cases this was centered on close-knit interpersonal relations instead of quality. The ELEC company handbook said "we feel certain that you will soon sense you have become a member of a closely knit group," and the participating ELEC manager said "we work together, and if there is success together there is a payout on top of normal salary." This latter quote illustrates also that this firm had a relatively uncomplicated orientation to reward system design and administration. CHM3 was similar to ELEC in this respect at the plant level (where the interview was focused) though the larger company had a more complicated reward scheme not reflected in the figure.

High extrinsic incentive/moderate quality culture. Firms appearing at the top of the figure are those with extensive and complex systems of incentives for quality improvement contributions. For example, in the company designated CHM1, specific criteria existed for awards for high performance or special contribution, and a competitive process of nomination and review was used to allocate awards. In the company designated AUTO (an automobile chassis maker) the various production groups in the organization periodically were given targets for productivity improvement, which had to be maintained for three months in order for group-based rewards to be received. This process followed detailed, documented guidelines and

involved many hierarchical levels. As with CHM1, there was a win-lose element to the process and little flexibility around the guidelines.

These same firms were judged by the researchers, and in some cases the participating managers themselves, to have made intermediate progress toward the quality cultures they sought. For example, the manager at CHM1 said "we're about halfway along the continuum" from what her firm termed a "reward" culture, to the "appreciative" culture they had set as their goal. Their concept of the "reward" culture involved use of rewards to induce individuals and groups within functional areas to achieve high performance and make process improvements. In the "appreciative" culture, teamwork, performance, and improvement would be more intrinsically valued, and the primary reward would be recognition and appreciation by stakeholders—generally internal customers of work group outputs.

LOW EXTRINSIC INCENTIVE/HIGH QUALITY CULTURE. Firms appearing at the right hand part of the figure were those we judged to have made greatest progress toward having a corporate culture that promoted quality and continuous improvement. For example, in the company labeled PART, a replacement parts manufacturer, the manager said "we have a culture that has motivation for continuous improvement built into it. Continuous improvement is seen as a necessary part of a person's job." At TURB, a maker of turbines, the manager said: "People here want to contribute their knowledge to the improvement process. What we have to do as managers is provide forums through which they can voice these ideas." It is noteworthy that in these same firms, reward and recognition systems were simpler and more flexible than in the firms at the top of the figure. The manager at the turbine manufacturer added: "The continuous improvement culture has become ingrained in the way we do business. [We feel no] push to go back to some sort of incentive plan. What we're trying to do is create a team environment. You don't do that by having one employee pitted against another." In this firm, one way of recognizing improvement suggestions was to publish stories about them in the company newsletter. Another involved a lottery in which a small proportion of suggestions was rewarded by merchandise (a company jacket) without competitive review.

DIMENSIONS OF THE OBTAINED SPACE

Our final step in interpreting the two dimensions that define the MDS space drew on the correlations in Table 4. These are Pearson rs between the summary dimensions produced by

ALSCAL (the horizontal and vertical dimensions that appear in Figure 1 and Table 3) and the rating scales (Table 2). For example, $\underline{r} = .84$ (near the top left of Table 4) describes the association between the left-to-right positions of firms in the MDS space and the low-to-high ratings received by these same firms on the first rating scale (overall extent of discussion of culture by the firm interviewee).

Because the interview comments described in the preceding section were the basis of the ratings used in the correlations discussed in this section, there was little doubt about obtaining at least some corroboration here. Nevertheless, this statistical analysis provides some assurance that our interpretations are consistent with all the data—because all 10 firms enter into the calculations. This is one of the ways our combined use of qualitative and quantitative data enhances confidence in these interpretations.

Most consistent with our label for the horizontal dimension is the correlation of .83 between rating scale number 4 and this dimension. That is, firms at the far left claimed little relatively little progress toward a CI culture; firms at the right, relatively great progress. However, the table suggests several additional attributes that go along with this progress. These are: enhanced communication about and for CI (scale number 5), belief that explicit goals are important in CI (scale 7), and widespread use of rewards for CI contributions that are tailored to the firm (13 and 15).

Our label for the vertical dimension is also well-corroborated in Table 4. The key correlations are with scales 11, 12, 14, and 16 (complexity, tangibility, formality, and non-recognition-based). Thus the firms near the top of the figure are generally using incentives for CI work within reward systems that feature tangible rewards (such as merchandise or money). These systems also tend to be complex in terms of the number of people and hours involved in making decisions about awards; the number of different rewards available; the complexity of the criteria; and related factors. The firms near the bottom of Figure 1 tend to use recognition. The high positive correlation for rating scale 3 ("future") is consistent with the notion that the purpose of these complex reward systems is to move the culture to embrace CI.

Other sizable correlations with the vertical dimension point to an accompanying attribute of firms that use these complex reward systems: interpersonal relations are less close-knit and

more "hierarchical" than in the other firms. We will offer our interpretations of this and earlier findings in the Discussion that follows.

DISCUSSION

THEORETICAL INTEGRATION

The arrows in Figure 2 summarize our broader interpretation of the findings. That is, there appears to be an identifiable sequence in the transformation to a quality culture.

The initial state is to have a weak or non-existent orientation to quality. In this state most management and non-management workers may believe what they do has "quality" to it, but few understand and act on the various aspects of providing value to customers that are central to quality as it is understood in the literature on quality management. Next, a decision is made to try to move toward a quality culture, and a major vehicle for this movement is the introduction of financial and non-financial rewards for QI, often within an administratively complex reward system. At this point the firm has moved along the arrow that appears in Figure 2 from the lower left to the top middle. Finally, quality improvement becomes seen as part of one's job and fundamental to how the company performs and competes, and other organizational systems and processes gradually are brought into alignment with a quality culture (e.g., by organizing more around teams, or by developing norms of providing excellent services or products to one's internal customers). These changes correspond with movement along the arrow from the top-middle to the bottom right of Figure 1.

Obviously, 10 "snapshot" cases cannot establish unequivocally the existence of such a sequence. Nevertheless, we are impressed by how well this interpretation corresponds with recommendations in the corporate culture literature concerning how to change culture. Some writers (e.g., Kerr & Slocum, 1987) comment that behavior change must precede the changes in beliefs and values that would constitute the desired culture change—and a key way to obtain behavior change is through appropriate rewards or incentives.

ALTERNATIVE SEQUENCES

Having argued that there exists an identifiable progression through the three regions discussed, it is important to note the comments from one of the managers in the third region (PART) indicating that the intermediate state is not always necessary. This manager described how his company had arrived at its quality culture in the 1980s when their business was

threatened by competition. In this period, leadership identified continuous improvement by all employees as necessary for survival—and employees readily bought into this orientation in order to save their jobs. This case is consistent, too, with some writings on culture change and organizational change more generally. Thus, we do not claim that the arrows in Figure 2 map the only route to a quality culture, but that various findings point to it as one route.

Findings in Table 4 concerning the varying warmth of interpersonal relations among firms in our sample may suggest another route to a quality culture. This would be for management to promote a climate of trust and goodwill in labor-management relations before asking employees to make the new contributions required for quality improvement. It is noteworthy that in many instances of seeking quality improvement, dating back to the first documented case at National Cash Register in 1894, improvements in physical working conditions or other conditions of work have been provided by management at the outset (see Jha et al., 1996, for references). It is possible that firms where these conditions are already favorable are firms that do not require complex systems of tangible rewards for movement to a quality culture.

If these are two routes to CI, together they suggest a more general conclusion: that movement toward CI requires some solution to the problem of compensating employees for the extra efforts asked of them in CI programs. Several perspectives on employee motivation, most notably equity theory (see Greenberg, 1987, and Jha et. al, 1996), indicate that employees expect more from their employers in return for giving more, whether for quality or other needs of the firm. One way to give more is to improve working conditions in various senses (physical and interpersonal for example). Another is to give tangible rewards such as money or merchandise.

Over time, if doing the work of quality becomes simply part of one's work and not something "more" than that, then employees will not expect extra compensation for doing this work. From this point of view, the critical period for managing rewards for a quality culture is the early stage when compensation is expected. The reward system should be managed at this time with an eye toward a future with a different set of rewards.

Motivating Employees To Do the Work of Quality

We noted in the introduction that there are many hazards in using extrinsic rewards (money, merchandise, etc.) to induce employees to perform new behaviors for quality. A good

example is the signal these rewards may send, saying that behaviors for quality are somehow separate from or in addition to one's real job. This may imply that quality is a fad, or that the work of quality is only worth doing if extrinsically rewarded. Given these observations, why would any organization, or why should any organization use these rewards and the systems described by some of the participating managers?

One answer is: it may be necessary. We noted that companies in our sample that used these systems tended to have "cooler" or more "hierarchical" labor-management relations. In this climate, use of these systems could be said to promote "unfreezing" of past behavior and attitudes. Once "induced" to do specific work for quality, employees can discover both the possibilities for success in quality improvement and the intrinsic satisfactions that accompany the more analytic and collaborative kinds of work necessary for quality performance. Managers can discover that non-management employees can contribute mightily to quality—an especially important discovery for those managers who hold elements of "Theory X" beliefs (e.g., that employees want to do as little as possible and are incapable of analytic tasks traditionally hoarded by management).

The challenge for managers who use extrinsic rewards on the way to a quality culture is to avoid becoming captive to them. We saw that the firms with the most advanced quality cultures tended to use recognition and individualized rewards instead of administratively complex systems that emphasize extrinsic rewards. On this empirical basis, and from everything else we know from the literatures on organizational behavior and quality management, it seems better to use more informal and personalized rewards for quality, or at least not to rely heavily on extrinsic rewards over time. However the data raise the question of how it is possible to make the transition from a more extrinsic to a more intrinsic basis for motivation to work for quality.

Worthwhile places to look for the answer are in the literatures on employee perception and motivation (Michela, 1996) and on management of organizational culture (e.g., Kilmann et al., 1985; Trice & Beyer, 1993). Both literatures suggest that it is critical that employees truly value quality as a endpoint and that they become motivated to perform their role for this outcome. As noted in the introduction, when employees perceive that they perform quality-related behavior in order to obtain extrinsic rewards, this motivation is undermined.

This perception can be minimized by using rewards of the lowest possible value for inducing desired behavior. The logic is: if I don't see a big extrinsic payoff for my quality-related behavior, it must have some other basis (such as my intrinsic motivation to do the behavior). If this behavior does, in fact, produce intrinsic satisfactions (such as feelings of accomplishment from solving tricky problems, or feelings of belongingness with one's group or organization), employees may have little concern over whether (already small) extrinsic rewards are maintained. Instead, they may become more attentive to indications that their work has led to significant accomplishments or enhanced group relations. As this occurs, a shift to use of recognition and symbolic forms of reward (such as awards) should maintain motivation for quality behavior.

The full range of culture management actions as described in the literature should accompany the rewards management part of this range. For example, leaders must set examples and communicate rationales. Employees should be selected, socialized, trained, and coached in ways that promote desired behaviors for quality and the placement of high value on performing these behaviors effectively and meeting quality goals. Peer and group support for a focus on quality should be encouraged, publicized, and celebrated. Group norms for open communication and mutual respect should be fostered.

We know from other comments in our interviews that the firms in our sample with the strongest cultures for quality and CI displayed many of these attributes or activities. For example, the manager at the turbine manufacturer noted the frequency of communication from the leader, that appeals were made to "corporate sense of identity," and that efforts had been made to ensure that "people know they're not going to get laughed at" for quality suggestions.

Thus we make no claim that rewards management was any more or less important than any other actions directed toward reaching an organizational culture for quality. Instead, our conclusion is simply that one route to a quality culture passes through a period of using relatively elaborate, extrinsically-based reward systems.

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TABLE 1

INTERVIEW QUESTIONS

1.	What rewards or incentives, if any, do you supply for doing continuous improvement work?
2.	Why do you use these particular rewards or incentives?
3.	Have you had any negative experiences with any particular approach?
4.	Do you provide specific financial incentives for quality improvement suggestions, such as % of money saved? If so, why, and how well has that worked? If not, why?
5.	Do you provide specific non-financial incentives for quality improvement suggestions, such as % $ saved? If so, why, and how well has that worked? If not, why?
6.	Do you have a formal recognition program, involving, for example, a formal review of candidates?
7.	How does informal recognition (e.g., saying "Well done" or "Thanks") take place in your organization?
8.	What has been your experience with team-based rewards? Are they more effective than individual rewards? Under what circumstances do you use each?
9.	Are there rewards that you think would not work as well in another organization? If so, why would that be so?
10.	Do grievances ever arise? Are there procedures in place to deal with these grievances?
11.	Do you have a Philosophy of Human Nature? A Philosophy of Managing People?

TABLE 2

DIMENSIONS ON WHICH FIRMS WERE RATED

1	Overall:	The extent to which the participant talks about culture, a general index of culture talk.
2	Present:	The extent of talk about the present culture of the organization, e.g., "We have a very egalitarian culture here."
3	Future:	Talk about the cultural future. "We want to move from a reward culture to an appreciative culture."
4	CI culture:	Talk about the culture as a culture of continuous improvement.
5	Communication:	Expressed belief that communication is important for CI success, both rationale for CI program and providing information necessary for making improvements.
6	Teams:	Belief that team formation and management are important for CI. Includes team membership and the rewarding of teams.
7	Goals:	Belief that explicit goals are important for CI.
8	Measurement:	Use of measurement in the CI program.
9	Close-knit:	Description of the organization as close-knit or family-like.
10	Hierarchical:	Psychological or emotional distance across managerial and non-managerial levels, inferred from comments about labor-management relations, plant layout, the nature or philosophy of reward systems, etc.
11	Complexity:	Primarily determined by the administrative complexity, e.g. in criteria, levels of review, variety of available awards/rewards, time.

TABLE 2 (CONTINUED)

12	Tangible:	Tangibility of available awards, ranging from cash, to merchandise or gift certificates, to pizza parties, to formal recognition, and to less-public, informal thanks.
13	Novel:	Tailoring of rewards to own firm, vs. generic.
14	Serious/Formal:	Extent of rigorous review of candidates, or no-nonsense rewards like profit sharing or a formal dinner with the president. Contrasts with pizza parties, ice cream carts brought into the office.
15	Percent affected:	with high numbers indicating a large %.
16	Recognition:	Public (e.g. newsletter, other announcement) vs. private (e.g. profit sharing).

Note. Dimensions 5 through 8 were organizational attributes sometimes believed to be important to success in quality or CI; dimensions 9 and 10 were conceptualized as features of the organization generally; and 11 through 16 were conceptualized as features of the reward systems.

TABLE 3

ALSCAL STIMULUS WEIGHTS (COORDINATES OF FIRMS IN THE MDS SPACE)

Firm Label in Figure 1	Horizontal Dim 1	Vertical Dim 2	Firm's Business or Industry Sector
ELEC	-0.58	-1.14	Electrical components
PART	1.26	-0.73	Chain saw parts
AUTO	0.22	1.36	Auto chassis
CHM1	-0.03	1.33	Chemical
COMP	1.35	0.18	High tech electronic/computer
COMM	-1.83	0.22	Towers for communications
FINA	0.43	1.27	Financial services
CHM2	-1.20	-0.09	Chemical
CHM3	-0.58	-1.09	Chemical
TURB	0.97	-1.31	Turbines for electricity

TABLE 4

CORRELATIONS OF RATING SCALES WITH MDS DIMENSIONS

Rating Scale Number	Horizontal Dim 1	Vertical Dim 2	Rating Scale Name/Description
1	***0.84***	0.20	Overall
2	***0.61***	***-0.63***	Present
3	0.08	***0.75***	Future
4	***0.83***	-0.18	CI culture
5	***0.88***	-0.41	Communication
6	0.48	0.30	Teams
7	***0.75***	-0.46	Goals
8	0.28	0.36	Measurement
9	-0.01	***-0.76***	Close-knit
10	-0.29	***0.71***	Hierarchical
11	-0.34	***0.55***	Complexity
12	0.15	***0.57***	Tangible
13	***0.90***	0.03	Novel
14	-0.19	***0.66***	Serious/Formal
15	***0.94***	0.03	Percent affected
16	-0.18	***-0.54***	Recognition

Note: Boldface signals value above .50.

FIGURE 1

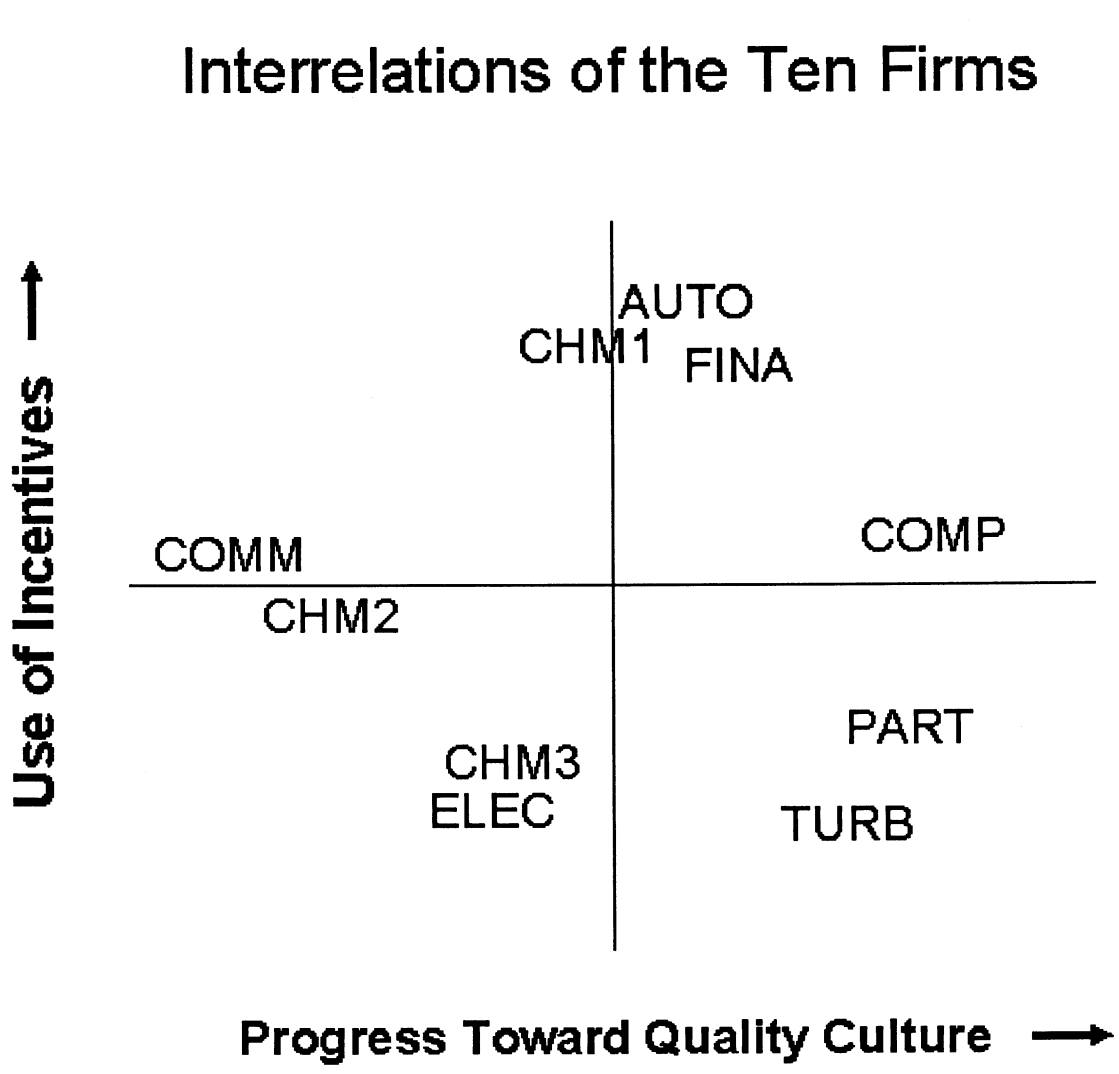
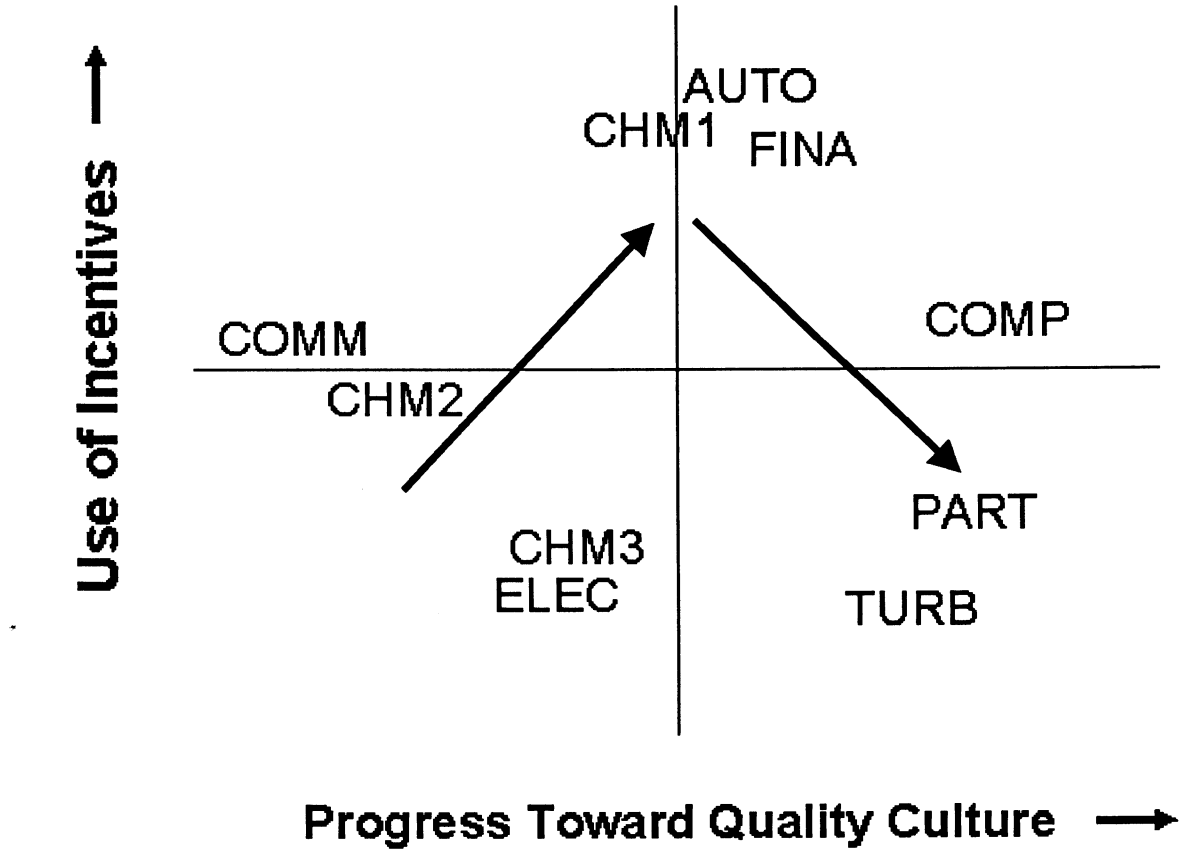

Interrelations of the Ten Firms
Use of Incentives
AUTO
CHM1
FINA
COMP
COMM
CHM2
PART
CHM3
ELEC
TURB
Progress Toward Quality Culture

FIGURE 2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