

Values, Technology and TQM

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.A previous article posed the question:

"Why does science fail to guide both engineers and citizens with the highest values, the best attitudes, the most noble altruism, the most creative art, and the most equitable form of justice?"¹

In brief, the answer that was offered to that question was that science is like metaphysics in that both of them function by theory structures. It was by this means that science was released from the limitations of ordinary sense data to seek a higher truth.² However, we need to find the highest means to guide ourselves to these new values. The purpose of this article is to explore the triangle of leadership, values and technology.

Although these three could be discussed in abstract, the place where they meet and are applied is the workplace. There is a large gap between (a) academic preparation in the technical fields such as engineering or systems, and (b) practical success in a business.

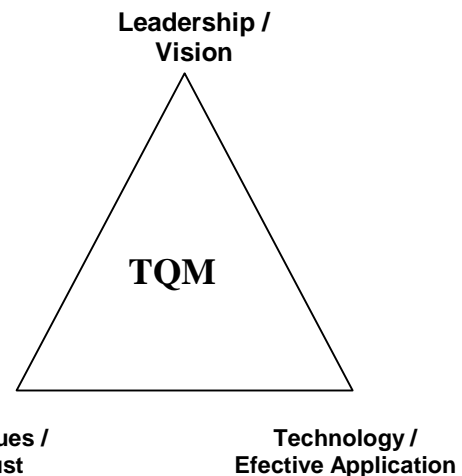
VISION TRUST AND EFFECTIVE APPLICATION

- The triangle of leadership, values and technology can be restated in terms of organizational development as the triangle of vision, trust and effective application.
- Hopeful leadership must be translated into a vision of the optimal path into the future—without this we lose our direction, end up in the wrong place, and fail to promote the common good
- Abstract values must be translated into deep trust and openness—without this we cannot find our common ground or believe in the

common good that would allow us to cooperate, coordinate, and achieve together what we cannot achieve apart

- Theoretical possibilities in technology and its economic foundations must be translated into practical application of systems of work and the integration needed when the systems are applied organizationally (rather than individually)

There is a powerful management system called Total Quality Management (TQM) to facilitate these three translations. Although there are many detailed techniques in statistics, sampling, and feedback that are used in partial application of TQM, we will concentrate here on the business as a whole: what must occur in the organization from the highest levels to the individual workers.



The bottom line for organizations is **distributed leadership**, and it can lead to new values.

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Leadership is not the domain of the top management. Leadership must be distributed throughout all levels of the organization because in all the levels are the loci of commitment, dedication, getting the operations done right, corrective action, and the required quality of the end results.

The purpose here is to throw light on a program that may give some guidance to both engineers and citizens by revealing a path to new values, the best attitudes, the most noble altruism, the most creative art, and the most equitable form of justice. Obviously, we cannot explicate all of that program. We will focus this search in terms of cooperative work. Equally, the contention here is that this program is the best mode for adding value, in the economic sense, and thereby is profitable.

The following words of Bill Creech about the qualities of leadership are crucial to the business world:

*"The last quality of the six is the desire to lead—for the right reason. The other qualities depend on that as heavily as they do on courage, because only desire to lead brings them into play. The right reason? To make life better for others, not for oneself."*³

Selflessness is the key. After serving as head of the Air Force Tactical Air Command (TAC), Creech became an internationally renowned private consultant to business. He argues against the long-standing and currently dominant management theory of centralization:

1. Top-down authority,
2. Isolated & specialized divisions by functions, and
3. The split between those who manage and those who are managed.

He argues that the better organizational system is the mirror image:

1. Decentralization and empowerment at the "lowest" levels to analyze and fix problems,
2. Integrated functions based in teams who are responsible for specific accomplishments, and
3. An interrelationship of leaders and participators throughout all organizational levels.

Whenever decision making is removed from those who do the work, the organization suffers from delay in corrective feedback while centralized management takes excessive time to learn of problems, analyze them, and issue the directives that are supposed to fix them (and rarely do fix them). This centralism can work well only where things are so routine and workers are so complacent that the changes of and challenges to the organization are minor and slow in arriving. But the contemporary world market is just the opposite: fast paced, non-routine, complex, ever-changing, and requiring companies to compete to retain the best and brightest workers. Living in an environment of world-class competition requires quick response, creativity and the highest quality outputs to survive.

We use the term "world-class companies" for those successfully competing in this kind of market. Admittedly, not all companies have to enter that world market; many companies can try to hide and serve only local niches. However, the opportunities are receding for avoiding world-class competitors in these local niches. It is not altruism that will drive companies with top-down central authority to change; it is competition from those who have already changed.

There is a pragmatic progression of the phases to build a strong business enterprise: first **build** the organization and product, second **unify** the organization, and third **develop** the base to a higher

level of human capacity. However, the phases also intertwine.

PHASE ONE: BUILD THE ORGANIZATION

Good leadership is needed to get started in the right direction. An understanding of corporate culture is needed to organize and lead.

Perhaps even more difficult is the intertwining that is based upon the receptiveness of people and their ability to change. One of the most difficult of the human factors is openness *versus* closeness, the exclusionary mode *versus* the inclusionary mode. This problem is more than merely psychological resistance to change. Mere psychological resistance can be confronted and managed by many techniques, such as authority, reward/punishment reinforcements, explanation and information, group pressure, etc. More fundamental is an inability of people to constitute an inclusive horizon, action world, or point of view on the new ideas.

Leadership can play an important role when the authority figure demonstrates that the new view, even if difficult to understand, is exciting and absolutely necessary. People can respond intuitively and rally to a new cause for an inspiring leader even before they understand what to do. Especially in developing countries, where the educational preparation of the operators is lower, the role of leadership is to go beyond the traditional functions of managers to organize resources and tasks, provide work instructions, and control the processes. Now, real leaders need to

- Add to the company the role of a learning organization⁴
- Identify a safe span of innovation

- Clarify the criteria for successful change, and
- Introduce feedback mechanisms in the work process that allow the operators to receive as soon as possible knowledge of accuracy of performance



Bill Creech

In a word, no matter how good are the arguments for change, without that kind of top-level commitment in an organization to continual improvement, one could not merely "motivate" workers or managers into changing permanently their view of new standards and dedicating themselves to a new course of action (which if it fails could subsequently mean that they will be judged to be wrong).

The new organization involves a **change in power structure**, which is why the old centralists resist it so vehemently. They do not want to give up their centralized power by introducing distributive leadership and pushing decision-making down line to worker teams. Tom Peters noted the same problem.

"People are everything, have no doubt—though many firms still don't act that way. But I've come to realize that, in a madcap world, turned-on and theoretically empowered people (not to mention genius management strategy makers, even if strategy making did make sense) will never amount to a hill of beans in the vertically oriented, staff-driven, thick-headquarters [centralized] corporate structures that still do most of the world's business. Empower until you're blue in the face. Call in the best consultants and create the best

*strategies. It'll make no difference unless the arteries are unclogged (the "structure" part), then radically rewired (the "systems" part)."*⁵

However, if the rigid centralists keep their power prerogatives at the top, they **lose** throughout the organization a future benefit of an emergent property of team organization: the human contributions of adaptability, flexibility, creativity, commitment, problem solving, cooperation, and enthusiasm for getting the myriad of details of the job done right the first time, every time. This change in organizational structure may seem to be simply unnatural; it may seem rather that top-down, centralized organization is the natural path to evolutionary dominance.

Against this deeply held Darwinian assumption of those in established roles of power, the disadvantages of top-down impositions are being recognized also by chaos theory and the sciences of complexity in the study of evolution.

*"Evolution thrives in systems with a bottom-up organization, which gives rise to flexibility," says Farmer. "But at the same time, evolution has to channel the bottom-up approach in a way that doesn't destroy the organization. There has to be a hierarchy of control—with information flowing from the bottom up as well as from the top down."*⁶

If bottom-up change is not organized in the usual way but seems to at first chaotic, then it also seems to be a threat to the existing organization. This idea from the science of complexity leads us to the problem of how to unify the organization when it is in the midst of such bottom-change? The computer modeling experiments have shown that instead of ever-increasing chaos, certain types of complexity reaches new kind of organization. The inferences, such as made by Farmer in the above

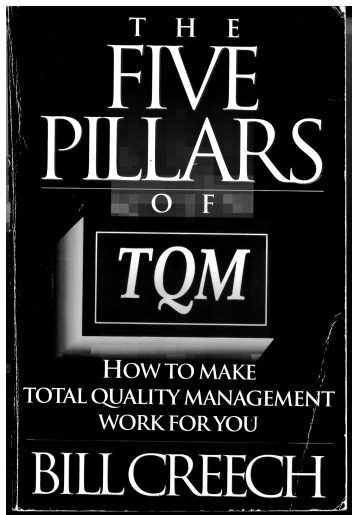
quote, that can be made from chaos theory are not in the same class as those that can be made from quantum theory. The principles of "chaos" theory are basically that turbulent types of events can be generated in computer models and mapped in three-dimensional plots which reveal variations which tend to stay within certain boundary conditions. The "strange attractor" which holds turbulent activity within certain ranges means that higher-level chaos is perhaps best thought of as a stage through which some activities can go and after which a new creative alternative order is possible.⁷ Thus, in management and leadership situations, going into chaos can be the means by which people and organizations are stripped of prejudices that otherwise organize and limit their experience -- and thereby they can emerge out the other side with creative new ideas and dynamic new energies.

PHASE TWO: UNIFY THE ORGANIZATION

One of the main tasks of Phase Two is the work of good leadership to forge this common purpose out of all the diversified and even conflicting individual and separate purposes in the organization.

There are several levels on which to define the common good. The first and least inclusive level is that of the company as a whole: everyone in the company must share in the common good, not just the managers, executives, not even just the stockholders. Companies that exclude workers or types of workers from the common good will lose the benefit of those workers' dedication, enthusiasm, innovation, and commitment to quality.

The next level is the common good of those outside the company in the local environment and community where the company has the most direct impact. The third level is the common good of national and international organizations, where the company realizes that it is part of humanity as a whole, part of



the planet as a whole, and part of the change process into the new planetary culture.

Leadership sets forth the common good. Yet leadership also has to win the acceptance of the common good by having the hearts and minds of the people accepting shared values and binding principles. In an organization the people need some fundamental shared values in order to know whether they are going in the right direction, doing the things that matter. In the old paradigm capitalism, the touchstone values were things like efficiency by the many and profit for the few. People at all levels have to be able to have a gut feel for whether what they are doing at the moment is in touch with the overall values by which they will be judged. The overriding question is if someone with greater authority finds out what you are doing, will he approve and reward you because you share the same values or will he disapprove and punish you because he has different values?

For Phase Two it became necessary for the organization to have not just good managers but excellent leaders, allowing the work to proceed

with a common purpose. It must be kept in mind that the division of the Action Plan into phases is for practical purposes. For a particular company it may be preferable to work out the problems of leadership first among the top management team, then proceed to constitute the company and begin with the problems of organization and production. Traditional societies will be said resist the forces of change more strongly. But if traditionality would make TQM impossible, then why did Japan, which was a highly feudal society, embrace and succeed with TQM? We cannot answer that question here, but the fact that they did proves that even the most rigid of societies with traditional values that favor centralism and dominance at the top level can both change and become more world-class competition because they changed. This fact emphasizes again that it is survival in the world-class market, not mere sentimental altruism, that is driving the development of organizations to introduce more distributive leadership. Then other feedback loops are set in motion: universities upgrade the philosophy of education to teach students how to think, families upgrade their beliefs about parenting to emphasize trust and cooperation, government upgrades its philosophy of power to make room for innovation and entrepreneurship, and finally the investment banking identifies and invests in promising entrepreneurial companies.

PHASE THREE: DEVELOP THE NEW BASE INTO A HIGHER LEVEL OF HUMAN CAPACITY

Now in Phase Three of the organization action plan, those empowered teams that serve the common good need to rise to a higher level.

The action plan in phase three is based on learning and self-development. However, the problem is that self-development begins with incompetence during infancy and gains greater and greater levels of

competence through the motivations of self-interest. Thereby, the problem is that the individual begins (starting with infancy) as a "me-first" individual. **Developmentalism** of stages of consciousness moves from selfishness to altruism, from "me-first" to "us-first," from "my needs" to "our needs." The action plan for the organization needs to find ways

- To assist people in developing right consciousness,
- To assure commitment by all individuals concerned through the best possible values,
- To shape power of the corporate culture which embodies and communicates the way to do things in the organization,
- To select the right symbolic actions that represent the depth of opportunities for improvement
- To recognize that we are all working towards the distant evolutionary goal which is a transformation into group consciousness that is the means by which we can obtain the common good.

Transformation occurs at a higher level than development; we all have the genetic material for developmental stages to unfold. Transformation begins to use consciousness itself as that which changes, so we can change without relying on genetic pre-programming of options.

How can we introduce new organizations, new institutions, new art, and new culture? It takes many dedicated people, immense resources, and hundreds of years. It is important to realize that we already have the infrastructure needed for implementation of these new

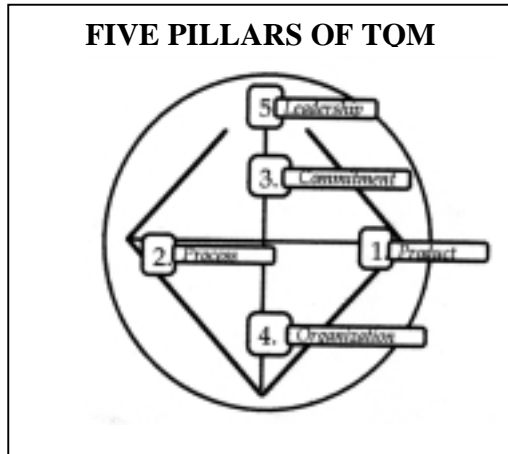
programs. In tropical "Third World" countries, people might say—who cares: we have enough to eat without struggling so much. Unfortunately, with population explosion and dwindling resources, it takes either reduction or renewable technological processes to survive when populations double more often than the nation can tolerate.

The keys to the beginning in our era are capital markets and internet access. One gives the centripetal structure needed to pool capital resources in needed concentrations and the other gives the centrifugal structure needed to disperse, interchange and multiply information. In the formative phase, the small percentage naturally has difficulty affecting the inertia of the majority. That difficulty is enforced by two factors: individual resources and dispersion.

With these technological keys, capital markets and internet access, even a few individuals can make a disproportionate impact on the culture and accelerate the normal change process by distributing information and opportunities more rapidly than would happen randomly.

DISTRIBUTED OWNERSHIP

Finally, we must remember the economic foundations. It is true that we must distribute leadership. In the future phase we also must make decisions about distributing ownership. When ownership is in the hands of the few, then the many who do the work are less motivated. To have TQM direct us to the common good, we need the many to participate in the magic of ownership. Communism offered an hypothesis: if no one owned anything, than everyone would own everything. That communistic ideology is a theory of altruism which unfortunately collapsed in application when the many still failed to benefit from the common good.



Distributed ownership in a capitalist society is not too difficult to imagine. Workers, like managers, can buy stock in their company with their labor, often called "sweat equity" among venture capitalists who already place a high value the intangible assets of expertise, dedication, and commitment to total quality.

In sum, it is perhaps ironic that the traditional engine of selfishness called capitalism is becoming the progressive engine of higher values. It is not the religious call for altruism and charity that is driving the change; rather, it is the sheer economic necessity to produce at a lower cost a higher quality product (or service). Engineers, programmers, and other technical people (including lawyers, doctors and other professionals) find themselves on the cutting edge of implementation of knowledge in society. If the professionals fail, it does not do much good for the theoretical sciences to succeed. Likewise, if the organizational structures fail to distribute leadership and ownership, it does not do much good for the professionals to succeed. It is organizations that shape the lives of most of

the people by providing a system of work. It is organizations that compete in the market place, and it is world-class organizations with higher values that will survive.

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