DEMING AND CORPORATE STRATEGY

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ABSTRACT

We will produce a model which explains present weaknesses of the Western Management as a result of inconsistent corporate planning and interprets the solution proposed by Deming's 14 management principles as an optimal strategic alternative. Never in human history has the environment changed at such a rate. Competitive businesses in today's market are those which have a rational basis for filtering emerging opportunities and matching them with corporate distinctive competence. We will introduce process management as an analytic decision support technology to bridge the gap between quality concepts and the practice of general management.

STRATEGIC MANAGEMENT PROCESS

This is the decision making process that(a)determines, shapes, and reveals a company's objectives, purposes and goals;(b)produces the principal policies and plans for achieving these goals;(c)defines the business the company intends to be in, the kind of economic and human organization it intends to be, and the nature of economic and noneconomic contribution it intends to make to its steakholders - shareholders, employees, customers and community. Design of commitment to quality, good labor relations, marketing strategy, manufacturing policy, procurement tactics, research and development, or level of technology are all part of the strategic management process (1).

We shall explain through the proposed model how businesses that make closer approximation to reality beat out competitors that make a further approximation to reality. We shall then look at Deming's 14 management principles and translate them in term of corporate strategy.

DEMING'S 14 MANAGEMENT PRINCIPLES

Principle #1. Create constancy of purpose toward improvement of product and service, with aim to become competitive and to stay in business and to provide jobs.

The purpose is defined through the Mission Statement. The mechanism for maintaining the constancy of purpose is nothing else but relating this mission statement to various purpose statement via the Strategic Plan. The latter defines the critical objectives derived from the mission statement thus ensures that individuals are aligned in a common direction.

Principle #2. Adopt the new philosophy. We are in a new economic age. Western management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.

This principle rejects the assumption that differentiation through high quality and overall cost leadership are two opposite ways of seeking competitive advantage. Overall cost leadership will result from a commitment to quality.

Principle #3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection on mass basis by building quality into the product in the first place.

This principle gives a model for product development. The focus is up-stream on consumer research and design of robustness rather than in inspection.

Principle #4. End the practice of awarding business on the basis of price tag. Instead, minimize total cost. Move toward a single supplier for any one item, on a long-term relationship of loyalty and trust.

This principle gives a model for procurement.

Principle #5. Improve constantly and forever the system of production and service, to improve quality and productivity, and to constantly decrease costs.

This principle looks into the reduction of variation as the principal strategy for achieving high quality at competitive costs.

Principles #6 to 14 give a model for integrating social responsibilities into the design of the corporate strategic plan to maximize the match between corporate capability and targeted segments of the market. An analysis of sources of capability will show that they comprise 1) the need for a common direction; 2) the organization´s recognition and acceptance of this common direction; 3) competence (experience, training and education) of individuals in the organization; 4) the quality of the resource allocation strategy which coordinates individual and group efforts. The first two points were addressed by principles one and two. The last two by principles six to fourteen.

From the above analysis we can abstract a path for an approach to managing the cultural change which is both effective and efficient.

INTRODUCTION

Our purpose is to show that a business can only reach a dominant position in the worldwide competitive market through integration of quality in the design of its strategic management process. To reach this goal, we shall give precise definitions to concepts of process, management, strategy, control and improvement. We will then apply these concepts to strategic management process. We shall show that our competitive capability relates to our deterministic management style despite the rate of change in the marketplace.

PROCESS MANAGEMENT

DEFINITIONS

PROCESS. Purposeful work is articulated by some measurement system - eyes, ears, microscopes, questionnaires, and any other assessment instruments - providing a sequence of observations. In some cases, (when or if, observations show a pattern), based on previously recorded knowledge (2), a theory is formalized and a concept abstracted; i.e. the mind formalizes the existence of an abstract object (a process or a cause-system) which it assumes has produced the frame (3) partially perceived through the assessment. The purpose of the theory is to predict the future.
EXPECTED OUTPUT. Thus the theory in the mind sets expectations for the observations to come. These are the expected outputs of the process (4).

NOISE. The difference between the actual and the expected output is called the discrepancy, or the noise of the process.

FIRST DEGREE ESTIMATION. A process is said to be estimated at the first degree if in the planning stage only its expected output is predicted. Since this prediction leaves no room for deviation, every single datum will initiate an action. This deterministic model assumes an infinite capability for the process. (The most common version of this model is one to which an arbitrary boundary called "expectations" has been added: management will react only if the datum is "bad";i.e. beyond the arbitrary boundary).

SECOND DEGREE ESTIMATION. A process is said to be estimated at the second degree if in the planning stage, its expected output and the maximum expected deviation between its actual and expected outputs are both predicted. This probabilistic model recognizes that each process has a limited capability and allows differentiation between special and common causes of variation; i.e., to expect to reach a point beyond the capability of the process without improving the process itself is unrealistic and will result to to increased process variability (5).

STRATEGY. A strategy is a path, a direction, a plan, or a road-map a process has to follow to proceed from its present state to its desired target state (achievement of purpose).

CONTROL. To control a process is to act on its existing cause-system.

IMPROVEMENT. To improve a process is to redefine its cause-system so as to reduce its expected level of noise.

If a process is estimated at the first degree it can only be controlled; if it is estimated at the second degree it can either be controlled or improved. Henceforth we will approximate our processes at the second degree.

MANAGEMENT. To manage a process is to drive this process from its present state to a desired target state. The drive is performed by going continuously through the three stages of process management which are:

PLANNING

In this stage data from the past (history, experience) are gathered, analyzed, and organized as information; i.e. more realistic expectations are set for the future.

IMPLEMENTATION

In this stage plans are carried out; i.e. resources are allocated to recognized critical areas.

EVALUATION

In this stage, the actual outcomes of the process are compared with its expected outcomes and a decision is made either to pursue in the same direction - i.e. to control the process - or to reconsider the assumptions underlying its structure - to improve the process. Evaluation consists therefore of 1) comparing outcomes versus expectations; 2) deciding if the deviation is explained by the model - in which case control is appropriate - or it is not explained by the model in which case the deviation must be recorded until new theories are developed (6).

TWO TYPES OF ERROR

During this evaluation one can make two types of error:

1. Tampering. This is trying to control a process which is operating within its designed capability. This can only result in increased variability and waste of resources: spinning wheels or witch hunting. Results closer to established targets may be needed but they will not come from wasting efforts with the existing process.

2. Laissez-Faire. This is tolerating special causes of variations. The result will be suboptimization and loss of opportunity due to utilizing a process below its designed capability.

APPLICATION TO CORPORATE MANAGEMENT

PURPOSE, GOALS AND OBJECTIVES

A company's purpose is defined by its Board of Directors; usually it is to maximize some function of the shareholders wealth (7) through an optimal match between four factors which are:

1. Market opportunities (what one might do)
2. Corporate competence and resources (what one can do)
3. Management's personal values (what one selfishly wants to do)
4. Management's social values (what one ethically should do).

CONTROL FACTORS

The first two factors determine the quantitative dimension of the purpose: the expected outputs of the process. Is there an economic match between market opportunities and corporate capability? Can the company produce what it might sell at a profit? The emphasis here is on short-term issues and visible numbers (8).

NOISE FACTORS

The second two factors establish the qualitative dimension of the purpose - the variance of the business process: is there a consensus among the various special-interest groups involved in the process? What is the company culture or climate? How are conflicts and emerging aspirations handled? How is commitment to purpose secured? How is risk taking encouraged? The emphasis here is on the long-term stability of the purpose, on the capability of the business process that cannot be reflected totally by visible numbers (9).

ORGANIZATION

A company´s goals and objectives are derived from its purpose through recognition of its critical activities. Traditionally, critical activities are recognized as functional activities such as Marketing, Finance, Industrial Relation, and so on which are organized in a matrix of accountability.

COORDINATION

Goals and objectives are communicated to managers through a hierarchy of supervision for daily problems; through committees and task forces for cross-functional issues.

CONTROL VERSUS IMPROVEMENT

Given all the above, two distinct types of strategies are available to secure employee commitment to company purpose:

I. MANAGEMENT BY VISIBLE FIGURES ALONE; ITS DEADLY DISEASES(10)

We understand by such a management style that of a business whose strategic plan, either written or in its founder´s head focuses only on the first two factors. This of course does not mean that the managers of such a business don´t have any personal values or are insensitive to social issues. It means only that the second two factors don´t come high enough in priority to affect the allocation of resources. It also implies that any discussion and concern about personal inspirations and social issues go into the company´s hidden agenda.

The only ruling principle of such a business is short term profit, and it will be forced to use complex tricks and complicated schemes to overcome the mistrust between managers and managed. It will go through a large number of different incentive programs and annual performance rating reviews, without being capable of retaining its skillful employees. It will drown itself in oceans of paperwork and rigid procedures requiring multiple layers of frustrating control; it will undergo heavy expenditures in electronic gadgets for information management or for automatic control; it will have a high rate of absenteeism and a high rate of accidents because its people taking no pride in their work, will go there absent-minded only to get their pay-checks because they know the business only wants its "pay-check". Because of the social climate of insecurity this creates, it will have high costs of liability and high medical costs. It is clear that such a business will be no more successful in retaining its customers than it will be in keeping its employment stable. The future of such a demise business in a worldwide competitive market is simple to predict: failure.

The only question remains why was this first degree approximation of the business was enough until now? The answer is related to the increase in the speed at which material and information flows today compared with twenty or thirty years ago. Information flows enable people to learn from each other, to learn about emerging opportunities beyond their native villages. Travel is easy; people can fly, and so too can products and services. Up to 19th century, the life-cycle of knowledge was longer than the life span of a human being. We could teach our children what we had learned from our parents. This is no longer the case (11).

II. COMPETITIVE MANAGEMENT; DEMING´S APPROACH

The business process is like an iceberg: less than one-third visible. The complexity of long-term management comes from the fact that it requires formulation and testing of assumptions about the invisible. Competitive management not only requires finding an economic match between present market opportunities and corporate capability; it also requires the projection of this competence into the future and its reconciliation with rising personal and social inspirations. In a worldwide market where existing opportunities are the same for all competitors, differentiation will come from dexterity to manage the future.

To project a vision that company members are inspired to share, the management of a competitive business must integrate and emphasize improvement factors in the design of its strategies. Compliance with directions can then be achieved without KITA (12) techniques - carrots or sticks - by self-motivated employees. Confidence in materials, tools and gauges is achieved through statistical control and preventive maintenance. Confidence in peers, supervisors and subordinates is achieved through teamwork and leadership. Capability is maximized through training for the job and education.

CONCLUSION

Factors related to values are those controlling the integrity of the business process. Their recognition and their integration in the design of the strategic plan is the most competitive way of reducing the variance of the business process, thereby assuring its long-term stability and market penetration power.

It is well known (13) that when a game is unfair, bold strategies are optimal for maximizing the probability of reaching a goal. What we have attempted to prove is that given the unfairness of the changing environment to ritualistic organizations, the optimal strategy for them to reach a dominant position in the worldwide market place is to take the leadership for change, to learn how to transform the variability of the market into competitive advantage. With his 14 management principles, Dr. Deming is offering a guideline for managing this metamorphosis. They point Western Management towards:

PLANNING

- Meet at the Board level to find a more stable approximation than short-term profit for the concept of wealth

- Establish and communicate a credible, operational, inspirational company purpose which people in the organization understand, agree with and get good guidance from (14).

IMPLEMENTATION

Focus the organizational resources on

- Market (customer) research and product improvement and innovation.

- Procurement. Organizational performance can be predicted and future activity budgeted only if suppliers capabilities are known.

- Build corporate capability through employee training and education.

- Coordinate activities to match individual and team competence with emerging opportunities within the scope of the company's purpose.

EVALUATION

- Learn to evaluate systems, not individuals

- Learn to teach through self-behavior.

Ignorance is the human fate. Fear to admit it is the main source of isolation and arrogance, and the main barrier to progress. A leader is a man or a woman who by recognizing his/her Human Condition, by facing his/her own weaknesses overcomes the emptiness and enlightens the path to the future. Not afraid to ask for help, a leader will help people make better evaluations by avoiding both the tampering and the laissez-faire errors. The benefit he/she will generate through this help, materialized in self-behavior will inspire an enthusiasm, a loyalty, and a courage that no performance review or punishment/reward system could ever generate.

AUTHOR

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ACKNOWLEDGMENT

The author is in debt to all PMI staff for their help. Special thanks to Sam Pakenham-Walsh, Seignior Consultant with PMI for his support, and guidance.

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(2) Knowledge is a formulated theory that has been tested by experience and so far not rejected by the test.

(3) "An aggregate of tangible units of material of some kind, any or all of which may be selected and investigated". DEMING W. EDWARDS, "The Logic of Evaluation", Handbook of Evaluation Research, Struening Elmer L. and Brewer Marilynn B. pp. 91-106

(4) Also forecast, expected result, mean value or estimated outcome.

(5) GALL JOHN "Systemantics", the General Systemantics Press, second edition 1986.

(6) This Management Cycle is known as Shewhart Cycle, Deming Cycle or PDCA Cycle.

(7) Difficulties to define operationally this concept in an uncertain market lead most organizations to take the easy way out: approximate it with short-term profit. Since there is not such a thing as a free ride, this weakness in the design is paid later on, during the implementation phase of the strategic plan, with excessive costs of control.

(8) These factors control revenue generating activities; the functionality or the expected output of the strategic management process.

(9) These factors are called noise factor because, if not regulated at the design stage, they disturb the function of the process at the implementation stage. See GENICHI TAGUCHI, "Introduction to Off-Line Quality Control", Central Japan Quality Control Association, February 1985, p.25. See also KACKAR RAGHU N. "Off-Line Quality Control, Parameter Design, and the Taguchi Method", JQT October 1985 pp.176-207; or KACKAR RAGHU N. "Taguchi´s Quality Philosophy: Analysis and Commentary", Quality Progress December 1986 pp.21-29.

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