

Viewpoint

Discontinuous Improvement: Five Catapulting Ideas

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National and regional economies, like individual enterprises, cannot maintain positions of leadership by conducting business as usual. Nor can they, once they've slipped, regain leadership by imitating the current leader. Imitators seldom if ever catch up to those they imitate. While they are busy incrementally improving their own activities and copying their more innovative competitors, the latter make quantum leaps that increase their leads. To maintain or regain a position of economic dominance, both economies and companies need nothing less than large discontinuities to catapult them ahead.

Over a number of years I have worked on the development of at least five catapulting ideas. They are the product of an approach to organizational problems that I first formulated in 1974 under the name „idealized redesign of the corporation.“ Rather than merely solving problems, this approach dissolves them. To solve a problem is to change the effects of one or more undesirable causes; to dissolve a problem is to eliminate the causes and thus also eliminate the effects. For example, inoculations against yellow fever constitute a solution to the problem; eliminating the mosquitoes that bear it constitutes a dissolution of the problem. Implementation of these catapulting ideas requires radical transformation of corporations, not mild reform. They are: interactive planning, the internal market economy, the circular organization, the multidimensional organization, and decision support (learning) systems. Unfortunately, a complete exposition of each of these catapulting ideas would require more space than is available here. Therefore, I must engage in an intellectual striptease, revealing just enough to make the reader want to see more.

Interactive Planning

Very generally speaking, there are two fundamentally different kinds of planning in common use, *reactive planning* and *proactive planning*.

Reactive Planning. Reactive planning consists of identifying threats and opportunities, designing projects to minimize or eliminate the threats and maximize the opportunities, prioritizing these projects and allocating resources to them so as to maximize the expected benefit. This kind of planning has two fundamental deficiencies. First, much if not most of the effort (like much continuous improvement) is directed at getting rid of what one does not want. Unfortunately, when one gets rid of what one does not want, one does not necessarily get what one does. This is apparent when we turn on a television set and get a program we do not want. We can get rid of it by changing the channel, but in so doing we have a high probability of getting something we want even less. Effective planning must be directed at getting what one wants, not at getting rid of what one doesn't.

Second, an organization's competitive situation consists of a set of interacting threats and opportunities – a system of problems. Disaggregating such a situation into individual threats and opportunities and treating each one separately is antisystemic. Efforts to improve each part of a system taken separately seldom improve the system taken as a whole, because a system loses its essential properties when taken apart. An automobile, for example, is a system whose essential property is that it provides transportation. But a disassembled automobile cannot transport us. Furthermore, even the individual parts of a system lose their essential properties when separated from that system (e.g., the engine cannot move even itself when removed from the automobile).

The performance of a system depends on how its parts interact, not on how they act taken separately. This is why an all-star sports team is seldom as good as the best „real“ team that has played together for some time. If the all-stars were to remain together long enough to become the best, not all of its members would remain all-stars.

Reactive planning does not address the systemic properties of a corporation's situation. Changes that may improve the performance of each part taken separately can and often do harm the overall performance of the system.

Proactive Planning. Proactive planning consists of predicting the future, defining where one would like to be at some specified time in that future (that is, preparing a vision), and selecting means by which to realize that vision. Unfortunately, as Toffler and others have argued, the context in which we function continues to change at an accelerating rate and to become more complex because of improved communication and transportation. As this happens, our ability to forecast the future deteriorates.

Some people defend proactive planning by arguing that although we cannot predict the weather perfectly and do not prepare for it perfectly, we are better off for doing both. This argument misses the point. In the case of the weather, our preparations – contrary to what many believe – have no effect on it. However, the whole objective of corporate planning is to affect what has been forecasted, for example, customer, supplier, investor, and

government behavior. Moreover, even if we could predict the weather and prepare for it perfectly, most of us would rather work in a building than outdoors, at least in Philadelphia.

A building is an artifact created by man to control the weather. In a sense, it makes forecasting the weather unnecessary. The function of planning should be – so to speak – to build buildings to control those variables that affect a corporation's future, not to accept them as uncontrollable and adapt to them. Planning should be viewed as a way of creating a large part of an organization's future.

Interactive Planning. Recently, a third type of planning has emerged that avoids the deficiencies of the two traditional types. Known as *interactive planning*, it consists of designing a desirable present and inventing or finding ways of approximating it as closely as possible. Such planning has six interacting phases, all of which go on simultaneously because the process is continuous.

Formulating the Mess. This consists of determining what future is in store for the organization if it continues to behave as it is doing, and if its future environment is what it expects. Such a formulation necessarily reveals how the organization will destroy itself by not adapting to its changing environment, even though these changes are expected. Mess formulation reveals the Achilles' heel of the organization, the future it is now heading toward.

Ends Planning. This means determining what the organization wants. The planners assume that their organization was completely destroyed the night before, but its environment has remained unchanged. Then they determine what they would replace the „destroyed“ system with if they could replace it with any system they wanted. There are only two constraints imposed on this exercise. First, the design must be technologically feasible. Second, it must be operationally viable, that is, capable of surviving in the current environment if it were brought into existence. *However, it need not be capable of being brought into existence.*

The justification for this exercise is: How can one know what one will want to be in the constrained and uncertain future if one does not know what one would do right now if one could do whatever one wanted? Once this „idealized design“ is completed, it is compared with the current organization. The differences between the two are the gaps that the rest of planning aims to close.

With this approach, planners create the future by continuously trying to close the gap between where one is now and where one wants to be now. Obviously, where one is and where one wants to be change over time.

Means Planning. Here the organization chooses ways of approximating the ideal as closely as possible: the policies, programs, projects, practices, and courses of action to be taken.

Resource Planning. Here the organization determines which resources will be required to employ the means selected and when they will be required. Five types of resource are involved: money, people, facilities and equipment (capital expenditures), consumables (materials and services), and information. Planners then estimate the amount of each resource that will be available at the designated times. The differences between what will be needed and what will be available at the designated times have to be reduced, either, in case of an oversupply, by getting rid of excesses or finding a constructive way to use them, or, in case of an undersupply, by downgrading the plan or finding ways of acquiring the additional resources required.

Design of Implementation. Who is to do what, where, and when? When is it to be completed? What resources will be allocated?

Design of Controls. How will the organization monitor implementation and the expected effects of the plan? How will it monitor the assumptions on which these expectations are based? Where assumptions are found to be wrong or expectations are not met, how will the plan be corrected?

As discussed below under the heading „The Circular Organization,“ every organizational unit should engage in all six interactive planning phases, with their plans coordinated and integrated by their boards.

The Internal Market Economy

The economies of most Western corporations are like those of the former Soviet Union before its recent downfall, and their poor performance is due to the same reasons. First, they have relied heavily on „business units“ that in reality are far from being such. For example, many of them do not know how much capital they employ and/or do not pay for it directly. They do not control many of their costs. They have little or no freedom of choice among servers and suppliers, many of which are bureaucratic monopolies operating within the firm. Like all monopolies, they have little regard for the users of their services. Their regard is reserved for their subsidizers.

Second, transfer pricing is common between units in many corporations, despite the fact that this practice is inherently unfair and inevitably produces conflict and ill will between the units involved.

Third, it seems ironic that benchmarking has recently become popular as a way for one corporation to compare itself with its competition. Why have they failed to do so continuously? Episodic benchmarking is more a symptom of corporate deficiency than a cure for an illness.

Finally, why should so many nations employ one economic theory – that of a minimally constrained market economy – while most of the corporations within their borders have centrally planned and controlled economies? Size cannot be the answer, since several corporations are among the 20 largest economies in the world.

In a company that functions as an internal market economy, every part of the corporation that has at least one internal and one external customer operates as a profit center. All other parts operate as cost centers, each of which is part of a profit center. (This does not mean profit centers must be profitable. Most corporations maintain unprofitable units for various reasons, such as prestige.) Profit centers are free to buy whatever goods or services they want from whatever sources they want at whatever prices they want. Similarly, they are free to sell their output. These purchasing and selling decisions may be overridden by higher-level authorities who, when they do so, must pay the additional costs involved in case of a purchase, or compensate the units involved for lost profit. These higher-level authorities must themselves operate as profit centers whose income derives from a tax used to cover only the cost of their operations and from income generated by the capital they provide to, or invest in, their subordinate units.

An internal market economy provides managers with the information they need to run their businesses efficiently and effectively. It makes benchmarking unnecessary and avoids the need for the massive downsizing now so common among large corporations. It creates opportunities for internal synergy and provides a measure of its costs and benefits. It reduces internal conflict, because those who associate by choice tend to get along better than those who have cooperation forced on them. It allows inefficient parts of a corporation to go out of business, thus enabling a corporation to make effective make-buy decisions on services as well as goods. It also enables efficient parts of the corporation to grow profitably by selling their output externally as well as internally. And it enables the corporation to decide when one of its units would be better off outside than inside the organization. Finally, contrary to popular rationalization, it reduces accounting, because while each profit center is required to provide only a P&L statement and a balance sheet to higher authorities, those authorities must pay for any other information they want. It should be noted that in such an economy, most managers become general managers.

The Circular Organization

Today, in contrast to the beginning of this century, most employees working in companies can do their jobs better than their bosses can. Nevertheless, most of them use only a part of their relevant knowledge in their jobs. People are generally the most underutilized resource in corporations. To capture the underutilized potential of educated workers, managers must learn to rely less on „power over“ (the boss’s authority) and more on „power to“ (the transmittal of power, authority, and inspiration from the boss to the people he or she manages). „Power to“ is a matter of leadership, not command.

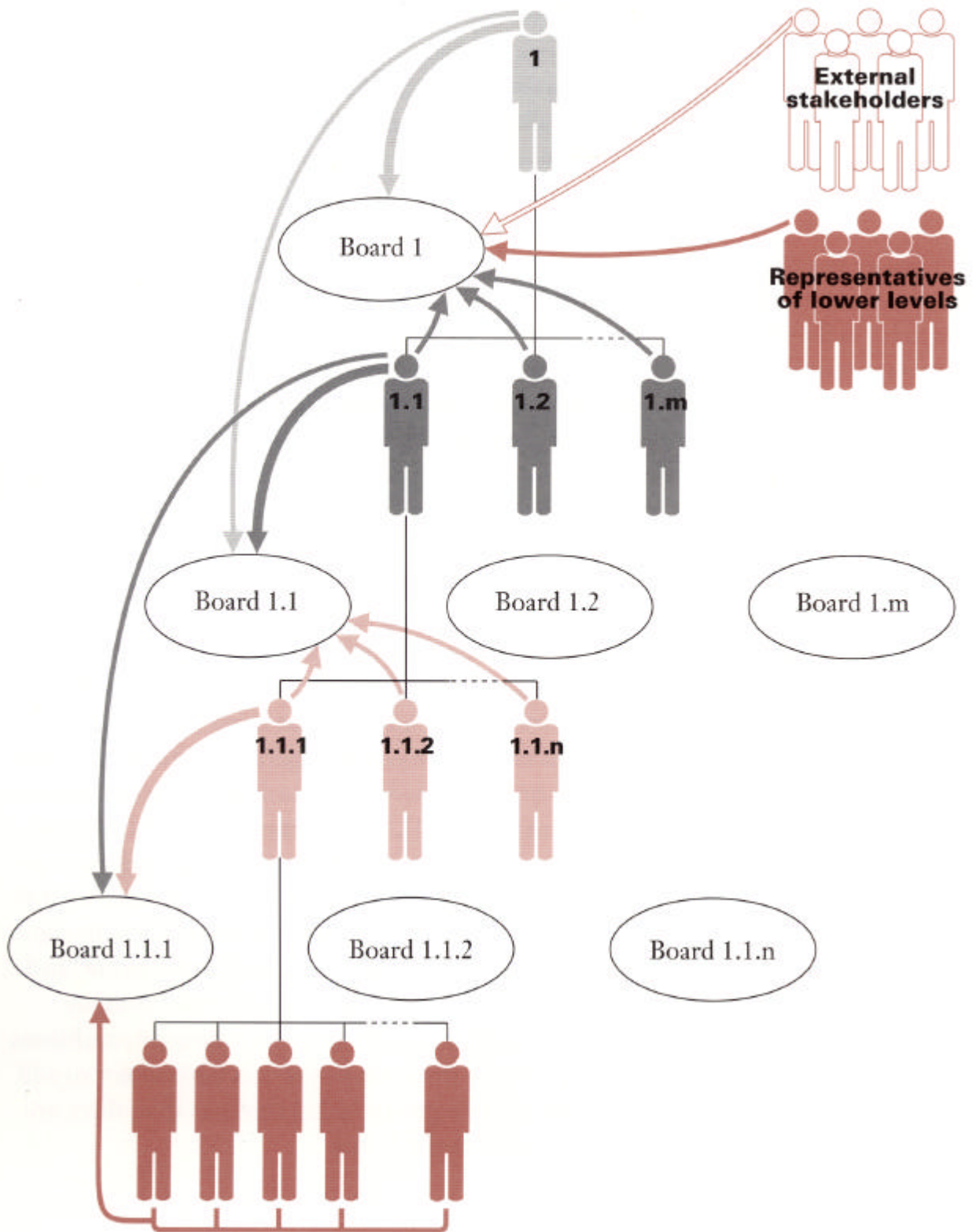
Furthermore, the better we understand the nature of systems, the more we realize that the performance of the whole is equal to not the sum of the performances of the parts, but the product of their interactions. Unfortunately, the organizational structure and processes of most corporations preclude the effective management of interactions; they are structured for the supervision of actions.

For instance, many managers act as though the quality of a corporation’s output can be improved continuously without improving the quality of the work life of those who create the output. Not so. Employees who resent their work and working conditions will not produce high-quality outputs, even with programs such as TQM. And quality of work life depends most on the amount of autonomy one has and the extent to which one can participate in decisions that affect one directly.

Finally, we live a hypocrisy when we pursue democracy in the public sphere but accept autocracy, often fascistic, in our corporations. Democracy has two essential properties: first, there is no ultimate authority; everyone who has authority over others is subject to their collective authority. Therefore, no one can hold a position of authority for long without the approval of those over whom he or she has authority. Second, in a democracy everyone has an opportunity to participate directly or indirectly in decisions that affect them.

All these problems are effectively addressed by what is called a circular organization. In such an organization, every manager has a board that consists of that manager, his or her immediate superior where there is one, and his or her immediate subordinates where there are some (see Exhibit 1). This means that all employees have an opportunity to serve on their immediate superiors’ boards. Every manager comes in contact with at least three levels of employee, and most come in contact with as many as five – two above, two below, and their own level. Each board is free to add as many other members as it sees fit under whatever conditions (e.g., voting or nonvoting), but it is advised not to add more of any one group of stakeholders than there are subordinates on the board.

Exhibit 1
A Circular Organization



The boards have six functions.

- They plan for the units whose boards they are.
- They make policy for those units. Policies are decision rules (regulations and laws), not decisions. Managers

continue to make decisions and execute them.

- Each board coordinates the planning and policy making of the level below it. Note that since the managers of the units coordinated are the largest group on the board, this is largely a matter of self-coordination with the participation of two higher levels of management (in all but the top two levels).
- They integrate their plans and policies with those of higher-level boards and see to it that those of lower levels are similarly integrated. Note that boards in the middle of an organization contain participants in boards two levels up and two levels down, making such integration possible. No board is permitted to implement a plan or policy that is inconsistent with a higher-level plan or policy or that affects another organizational unit without agreement of that unit or, in the absence of such agreement, the approval of the lowest level board at which the boards involved converge on the organizational ladder.
- Each board can make decisions affecting the quality of work life of its members, but no others. Finally, each board evaluates the performance of the manager whose board it is and is responsible for advising him or her on how to help his or her subordinates do their jobs better. Managers are not permitted to hold their positions (in contrast to their jobs) without the support of both their subordinates and their immediate superior, but only their bosses can fire them.

Each board establishes its own procedural rules, including the frequency of its meetings. In general, the existence of these boards reduces the time managers must spend in meetings, because most meetings they had to attend before the boards were established are consolidated into the boards. In general, board decisions are made by consensus. Consensus means agreement to act, not necessarily agreement in principle. That is, all board members must agree that to do a specified thing is better than not to do it – not that it is the best that can be done.

The Multidimensional Organization

Many corporations – particularly in America – engage in almost continuous reorganization. This consumes considerable energy and resources and often decreases morale (hence productivity) significantly. Why are such frequent reorganizations necessary? The answer lies in the nature of organization.

Work must be divided when no one person can do the entire job – for example, build a skyscraper. Once labor is divided, it must be coordinated. If there are a large number of coordinators, they too must be coordinated, hence hierarchy. Labor is divided in only three ways, whatever the nature of the organization involved:

- By *inputs*, or functions, that is, activities whose outputs are consumed primarily within the organization. Examples include finance, accounting, personnel, R&D, building and grounds, purchasing, and so on.
- By *outputs*, that is, activities whose products or services are primarily consumed externally. Examples include General Motors' Cadillac, Buick, Oldsmobile, Pontiac, and Chevrolet divisions.
- By *users*, or markets, that is, those who purchase and/or consume the outputs of the organization. Examples might include a firm's North American, Central American, South American, European, Asian, etc. divisions.

All three criteria for dividing labor are used in most organizations, but usually at different levels. The higher the level, the more important the criterion is taken to be. If those reporting to the CEO are defined by the products they produce, we have an output-oriented organization. If an organization has only one type of product, it is likely to be organized at the top either by function or by market. Reorganization occurs when the environment of an organization or the organization itself changes in such a way as to require a reordering of the criteria used to divide labor. For example, when AT&T was deregulated, it had to be converted from a functional to a market-oriented organization.

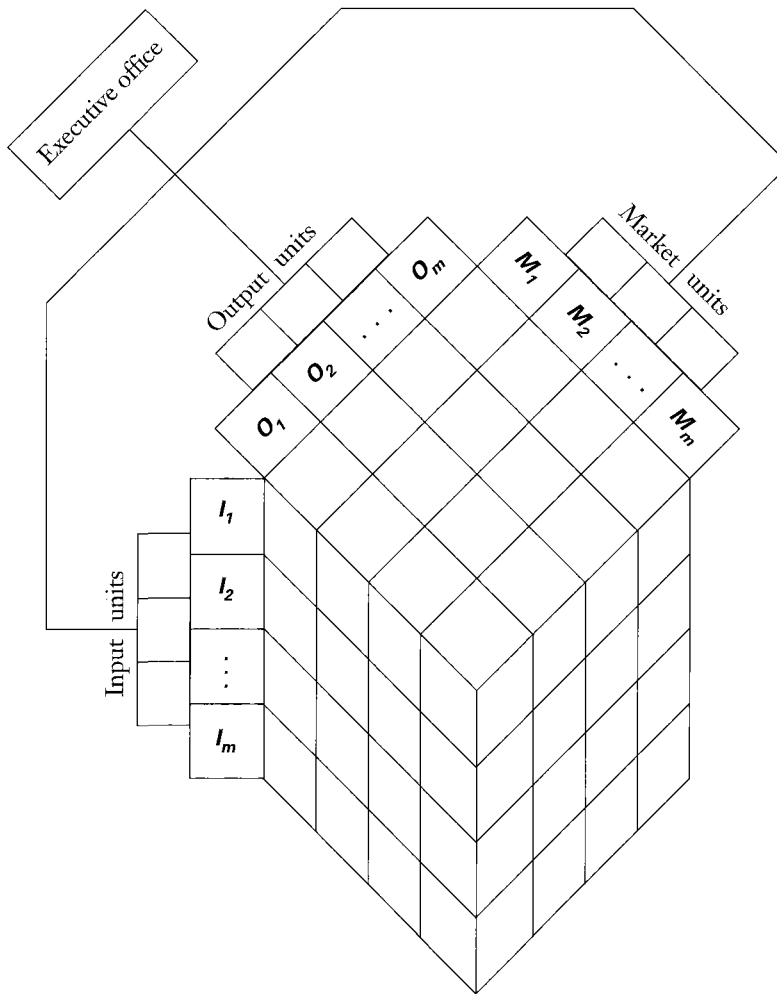
However, it is very costly and disruptive to reorganize every time there are shifts in the relative importance of the criteria used for dividing labor. To avoid too-frequent reorganizations, companies should create all three types of unit at every level of the organization, or at least at the upper levels (Exhibit 2). Then, as the relative importance of the criteria needs to be changed, the firm can just reallocate resources among the units. For example, if market-defined units move up in importance, management can increase the amount of resources allocated to development of their activities.

Decision Support (Learning) Systems

A great deal of attention is currently being focused on learning organizations. To a large extent, this attention focuses on psychological, social-psychological, and sociological aspects of learning. Although these aspects of learning are very important, they are not all there is to it. Learning requires the detection of error. We learn from making mistakes, not from doing things right. When we do something right, the most we get out of it is confirmation of something we already know. But when we make a mistake we have an opportunity to learn something new by finding the cause of the error and finding out how to correct or avoid it.

Exhibit 2

A Multidimensional Design



Unfortunately, most organizations operate in such a way as to conceal both errors of commission and errors of omission. Unless errors of both type are identified, diagnosed, and corrected, learning is very much restricted.

To maximize organizational learning, the organization needs a decision support system that first, makes a record of:

- Every situation requiring a decision
- What was decided, even if nothing
- The information and assumptions on which the decision was based
- The expected effects
- When the affects are expected

Next, the system must monitor the assumptions and expectations. When a deviation is detected between what was either assumed or expected and what actually occurs, the cause should be found and corrective action taken. When the corrective action works as expected, learning has taken place. The corrective decision itself is recorded and treated like the original decision, thereby making it possible to learn how to learn.

To learn under changing conditions is to adapt. Therefore, the system must also detect unexpected changes in the organization or its environment. These changes, in effect, define situations in which decisions are required to keep plans and policies current and effective.

Conclusion

Whereas any one of the five design concepts presented here can be applied individually, they are most beneficial when used together, as they reinforce each other a great deal. None is easy to implement. Radical transformations are seldom easy. But for most corporations, nothing less than radical transformations will offer a chance at a leadership position in global markets.

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