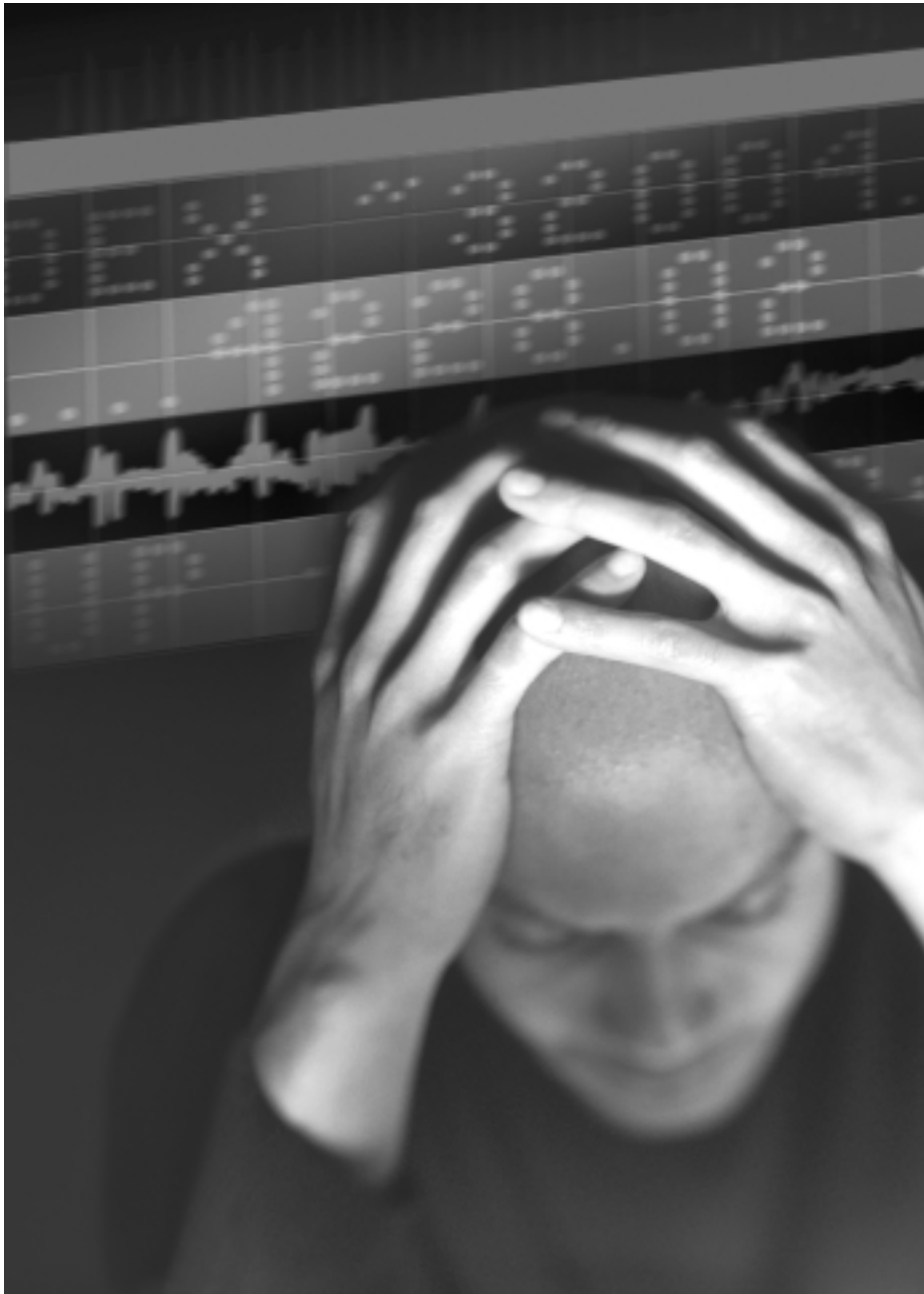


Reflections

The SoL Journal
on Knowledge, Learning, and Change



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Confronting the Tyranny of Management by Numbers

How Business Can Deliver the Results We Care About Most

By H. Thomas Johnson



H. Thomas Johnson

Is focusing on results the best way to achieve results? In this article, award-winning author and accounting expert Tom Johnson presents his notion of performance management – “management by means” – and examines our misguided cultural enchantment with “management by objectives” and its consequences. His premise will be easily recognized by anyone with production experience: physical systems have physical limits on the quality and quantity of what they produce. Setting production objectives that exceed the system’s means may

produce short-term results but inevitably degrade the system itself. Johnson challenges us to see the full range of consequences when we treat our organizations as disconnected abstractions. Roger Saillant, a CEO who has successfully implemented a similar approach, and Jay Bragdon, an investment analyst, offer their perspectives on the practical value of managing by means. Together these pieces offer a compelling new vision for the work of managers.

— C. Sherry Immediato, *Publisher*

It’s easy to talk about the changes wrought by today’s global economy. But most such discussions fail to address the real impact of business practices in the twenty-first century. The growth of industrial societies during the past 150 years – and particularly the aggressive corporate growth strategies of the past 50 years – have done unprecedented damage to the environment and created unsustainable performance pressures on companies. The threat to our natural and organizational systems flows from a view of business that most CEOs accept without question, but which is at odds with thousands of years of human economic activity.

Our response to this threat must go beyond anything commonly proposed in policy or regulatory debates. What’s needed is a vision of the future that recognizes the potential and the constraints that govern all natural systems. The first glimmerings of that vision – evident in some unlikely places, as we’ll soon examine – embody a way of managing that speaks to the higher aspirations of people throughout an enterprise. Such a vision offers a hopeful alternative to the mindless pursuit of growth for growth’s sake that threatens the health of the planet.

The Perils of Financial Abstraction

Humans, alone among all species, have the ability to consume resources far beyond the limits of Earth’s carrying capacity. Two radically transformative developments have made that possible. First, the capacity to extract and use enormous quantities of fossil fuels, a form of

stored solar energy, enabled the human economy to consume Earth's fixed budget of water, air, minerals, and habitat at a geometrically increasing rate. Driving humans to consume so relentlessly was a worship of "economic growth," propelled in the past half-century by the second transformative development: a new tendency to view economic activity exclusively through the lens of financial quantities, rather than in terms of human livelihoods and economic needs.

For thousands of years, humans paid little attention to measuring or quantifying economic activity. Business was viewed in terms of serving customer needs by employing human talents. Nevertheless, specialized and complex organizations evolved to facilitate the

The gap between consumption and environmental limits remained fairly small as long as people viewed business primarily in terms of providing for human livelihoods. That view prevailed as recently as 50 years ago.

economic activity associated with agriculture, manufacturing, and trade. Eventually such organizations evolved into the businesses and trading institutions that increasingly dominated the human economy after the late nineteenth century. But the gap between consumption and environmental limits remained fairly small, and grew slowly, as long as people viewed business primarily in terms of providing for human livelihoods. That view prevailed even as recently as 50 years ago.

But, increasingly after World War II (coinciding with the growing influence of business schools and management consultancies), business-

people came to discuss their organizations in terms of abstract quantities, not concrete human affairs. They spoke, for example, of *providing for customer needs* in terms of "revenue" and *employing human talents* in terms of "cost." Profit, the quantitative difference between revenue and cost, was increasingly viewed as the primary goal of business, especially as more widespread share ownership steadily separated the ownership of business from the activities of running business operations. By the 1970s, maximization of shareholder wealth became widely accepted as the one and only goal of business, particularly in the large, publicly traded corporations that control the commanding heights of the economic system.

This rapid and widespread reconception of economic activity – defined exclusively in terms of quantitative abstractions – is a classic example of what philosopher Alfred North Whitehead called "the fallacy of misplaced concreteness."¹ The virtual reality of quantitative abstractions such as revenue, cost, profit, spending, income, investment, and shareholder wealth became "more real" than the lived reality of relationships, human value, and the concrete activities that provide for human livelihoods. Today, this confusion has gone so far that people speak of the "hard stuff" (the numbers) versus the "soft stuff" (human relationships and value), reifying the "lesser" reality of relationships versus numbers even though no one has ever actually seen or touched "a profit" or "a revenue."

The consequences for managerial work of the growing abstraction of business are profound. Senior managers of large corporations now are viewed exclusively as agents of the shareholders. Their only task is to meet, at all cost, the financial targets for growth driven by the market. The financial spreadsheet has become the focal point of top management's attention – so much so that CEOs now view the organization almost entirely through the lens of financial (and other) quantities, nearly oblivious to the concrete operations from which the financial results emerge. Indeed, "operations" in most large businesses today has come to

mean the electronic coordination and integration of myriad financial and supply-chain activities around the world, including design, order fulfillment, logistics, and production. These operations do not exist primarily to produce products or services, but to meet cost and revenue targets.

When businesses regard economic activity as if it involves only the manipulation of abstract quantitative variables, they miss what is really happening to the people, the communities, and the natural world that surround them. Although activities that involve consumption and production are necessarily constrained by Earth's finite limits, abstract quantities, by definition, can grow without limit. By viewing economic activity increasingly and exclusively in terms of abstract quantitative variables, people have come to believe that consumption and production can grow without limit, and managers have succumbed to the illusion that physical limits to economic growth do not exist. Acting on this illusion, the modern business system has reached a point where continuing to operate in its present manner for another century seems unlikely, if not impossible. Human beings are currently extinguishing between one-half and one million species every 10 years. We have subverted "the basic biological law that every lifeform shall have . . . conditions that limit its expansion, so that no single lifeform . . . should suffocate the other lifeforms. The power of our technologies is now such . . . that nature cannot prevent us from doing whatever we decide in diminishing the splendor and vigor and variety of life upon the earth" (Berry, 1988: 10–11).

Is there a solution to this crisis? If there is, it must bring the human economic system to operate, somehow, at a pace that ensures all other species their place in Earth's ecosystem, while it provides decent livelihoods for all humans. In this economy, mindful businesses would seek to *produce only enough* to satisfy the needs of consumers who seek to *consume only enough*, all within the limits of each day's solar energy and the needs of all other species. Creating such businesses and consumers will surely require a complete rethinking, especially among the so-called "developed" societies, of why and how humans conduct economic activity. People will focus more on the genuine value derived and the consequences of their purchasing decisions, and businesses will no longer see their sole purpose as maximizing the financial wealth of shareholders or owners by any means, regardless of damage to society or the biosystem. At a minimum, businesses will view their primary purpose as enabling people



to fulfill their innate creative talents by meeting the economic needs of genuine human customers without impairing the operation of Earth's biosystem.

Management by Means

Transforming the economic system will require transforming the system of management that drives it. I call the new thinking and practices of such businesses "management by means," or MBM (Johnson and Broms, 2000). The assumption underlying MBM is that a business is properly run only if it operates according to principles like those that guide the operations of natural systems – as opposed to the "managing by results" approach that dominates today (see table below). The principles that guide natural systems in the universe are well docu-

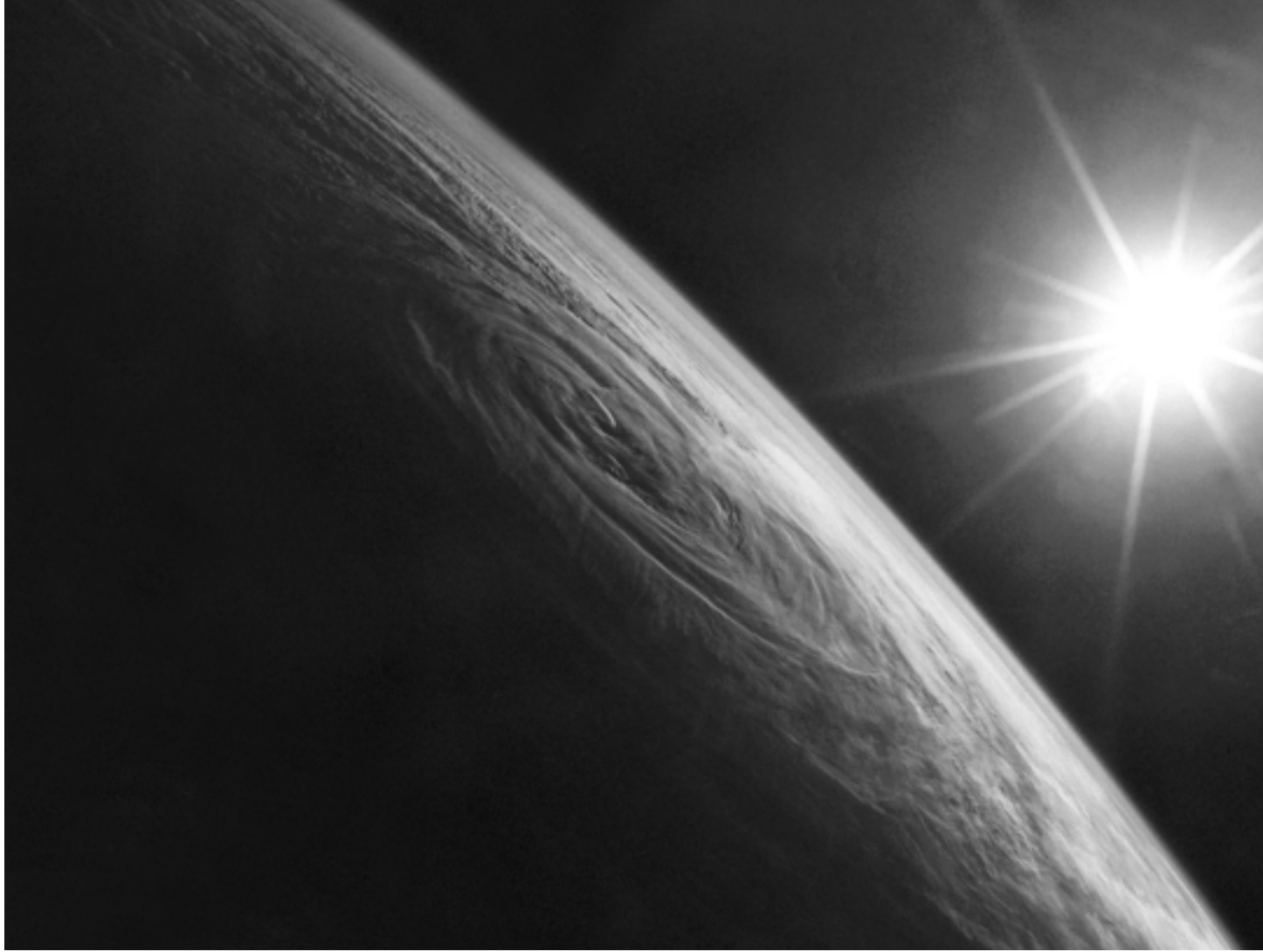
mented in modern scientific accounts of cosmic evolution, sometimes referred to as "the universe story" (Berry, 1988: 10–11; and Swimme and Berry, 1992). Two conclusions derived from that story are pertinent to the new thinking and practices that must guide the operations of mindful business in the future. The first conclusion is that all natural systems operate according to three broad principles:

Modern businesses operate the system so that it produces a desired result, no matter how the system is designed or what consequences its operation has for other social and natural systems.

- everything that exists is related, ultimately, to everything else that exists
- everything that exists is self-organizing
- constant interaction among all self-organizing entities produces a continual unfolding of more diversity and complexity

Managing by Means or Results?		
	Managing by Means	Managing by Results
Process	• Focus is on the means by which goals are met. • Means are seen as "ends in the making."	• Focus is on the performance of separate parts of the organization. • Ends are seen as top priority in and of themselves.
View of the Organization	• The company is a network of patterns and relationships connecting people with each other, and with customers, the community, and the ecosystem.	• The company is a machine that can be made to perform better overall through optimization of the performance of its separate parts.
Parts/Wholes	• Focus is on how the whole system performs.	• Focus is on how each separate part performs.
Assumptions about Profit	• Profit is necessary for the company's survival, but is not the company's reason for being.	• Profit is the overall goal and purpose of the organization. • The company must maximize profit above all else.
Control	• Emphasis is on local decision making and responsibility; parts of the system have their own wisdom.	• Emphasis is on centralized decision making and goal setting; parts of the system will respond only to external force.

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The second conclusion from the universe story is that the *system* of interactions defined by those three principles is primary. The *results* produced by the system – that is, the outcomes that evolve from the process – are subordinate. In other words, the results are an emergent byproduct of the system's process, and cannot be ordered or predicted.

The principles underlying the universe story account for the evolution of all natural systems, from hydrogen atoms to human organizations. However, because humans, unlike any other species on Earth, have developed the power to design and operate systems according to principles other than those that guide natural systems, those underlying principles have been rendered invisible in modern business and economic systems. Thus, humans operate their economic system as though they can ignore the principle of interrelatedness and pursue limitless growth with impunity, even though such growth reduces diversity in the natural and social systems in which the economy is embedded. Moreover, modern businesses posit economic growth as primary and the system that produces such growth as subordinate. In other words, they operate the system so that it produces a desired result, no matter how the system is designed or what consequences its operation has for the other social and natural systems with which it interacts.

This behavior would be tolerable if humans had reason to believe that the principles guiding their business and economic systems were as sustainable as those that guide the operation of all natural systems. But the evidence does not support this belief. Indeed, the Earth's looming eco-crisis suggests strongly that the human economy and its modern business institutions are guided by woefully inadequate principles. By contrast, the central theme of the universe

story – a continual emergence of ever-more diverse and complex outcomes from a fixed budget of matter and energy – suggests a system that is guided by robust and effective operating principles. MBM provides a template for applying those natural system principles to the operation of modern business organizations.

Key Principles of MBM

How can managers begin to apply these principles to their own organizations? I believe that an enterprise will thrive to the extent that its managers view the business as:

- a natural system that provides for human livelihoods by linking the creative talents of suppliers with the economic needs of customers;
- part of a web of relationships that includes other businesses, the community to which the business belongs, and the biosystem that sustains the larger social and economic systems; a system in which financial results follow from nurturing the system of relationships, not from setting arbitrary targets; and
- maintaining a balanced energy budget over the long run. That is, energy expended on resources, measured by financial costs, must be balanced by incoming energy from customers, measured by revenue. The goal is to assure viability, not necessarily to maximize profit, which is subject to the often-unrealistic expectations of the market.



Are there examples to show us how we might develop an economic system in which companies achieve healthy long-run results by following the precepts of MBM – by managing relationships instead of driving operations with quantitative targets? Two examples come to mind. First is a single business organization, a well-known, publicly traded company that stands apart from others in its adherence to MBM principles, even though the company's overall impact on the community and the Earth still leaves much to be desired. That company is Toyota. The second example is the concept of the "local living economy," in which businesses grow to serve the needs of people in a coherent bioregion.

The Elusive Lessons of Toyota

People who write about Toyota often begin with two observations. One is that, for more than 40 years, the company has far surpassed the performance of all its industry competitors in terms of product quality, reliability, design-to-delivery lead times, customer satisfaction,

employee morale, productivity and cost, and overall financial performance. If there are objectives that automakers seek to fulfill, Toyota has managed to excel at not just some, but *all* of them.

The second observation that Toyota-watchers make is that it takes a long time and many visits to its plants to begin to see what is different about Toyota's operations. For more than 25 years, countless consultants and academics touring Toyota plants have "seen" many things – "zero" inventory, clean, well-marked floors and work areas, spotless machines, fast changeovers, teamwork, continuous flow, line workers identifying and solving problems as they occur, mixed models on the same line, standardized work, and much, much more. Still, no company seems to have matched Toyota's performance. Companies are better for having studied and implemented in their own plants what they see in Toyota's plants, but it appears that no one has seen the whole picture.

So what explains the persistence of this "knowledge gap?" After more than a dozen years spent studying Toyota operations, I believe that people – Americans and Europeans, especially – are hindered in their efforts to understand Toyota by their tendency to see business operations through the lens of abstract quantity and the mechanistic worldview of seventeenth-century science, rather than through the lens of concrete relationships and the holistic worldview of twenty-first-century science. Again, Whitehead's "fallacy of misplaced concreteness" helps explain why we fail to "see" what matters at Toyota. Our interpretation of reality is colored by our preconceptions.

Relationships are the reality that makes the difference at Toyota. Financial results and quantitative outcomes matter, of course, but Toyota seems to understand that how relationships are orchestrated between people – particularly between shop floor workers – determines how good those results will be. A Toyota plant has the same materials and parts, the same machine technologies, the same workforce, and the same types of customers as one would see in any of its competitors' plants. What is different in the Toyota plant is how work is organized. Material always flows in direct, simple pathways, and workers always are linked through unambiguous "supplier-customer" connections. Every production worker is guided by one aim: to meet the needs of his or her direct customer – the person to whom the work flows next. That relationship permits a worker to know at any moment if something is abnormal and, if it is, to stop, correct the problem, and act to prevent it happening again. As a result of these carefully orchestrated relationships, each person's work, at any moment, is focused on only one order at a time, with features in place to insure, as much as possible, that no more resources than are necessary are consumed to complete that one order.

The relationships created by this way of organizing the work virtually guarantee that every step in the process is performed at the highest level of quality and at the lowest cost. This efficiency is evident in the use of time, as well. Moreover, the design of the work also insures maximum flexibility to vary the types and volume of product made in the plant. And every step in the work, every moment, embodies hypotheses for continual testing, leading to continual awareness of opportunities for change and improvement. If one observes the overall

Toyota has far surpassed all its competitors in terms of product quality, reliability, design-to-delivery lead times, customer satisfaction, employee morale, productivity and cost, and overall financial performance.

scene in a Toyota plant long enough and carefully enough, one begins to see a pattern that resembles the working of a self-organizing natural system.

In that regard, it is interesting to note a couple of things one does *not* see in a Toyota plant. One is the use of quantitative targets to drive operations. The only external signal that enters a Toyota plant's system is customer vehicle orders. Those orders are, in a sense, all that "drives" operations. Information about how material will be released to the floor and how the work will be done (to transform material into finished product) comes only from the work itself, not from any source external to the work, such as a computer information system. The material is pulled through the system one cell at a time, like the blood and the lymph flowing through an animal's body, and it flows everywhere at the same rate, like the beat of an animal's pulse. No material requirements planning (MRP) system directs the flow of material in day-to-day operations, nor do any standard cost targets motivate the pace and volume of that work.

In effect, a Toyota plant admits no entry to either external production controls or external financial and cost accounting controls. Everything happens under the guidance of the Toyota Production System, the inherent pattern of operations that permeates all work throughout the company. Production costs are low and quality and variety of output are high because of the way the operating system itself is designed, not because people are responding to top-down, quantitative targets.

Local Living Economies

How might an economic system look that is comprised largely of business organizations that exist primarily to sustain human livelihoods in balance with human communities and natural systems? Briefly, it would consist of businesses that focus on providing employment and meeting customer needs in a fairly localized regional economy – perhaps as defined by the boundaries of a watershed such as the Columbia River-Puget Sound watershed in the Pacific Northwest, the San Francisco Bay area, or the Rhine River Valley. This kind of system can be called a "local living economy" – a second example of a viable economic system organized on the principles of MBM. One key point is that consumers and businesses would satisfy most of their needs with resources available in their local region. Global supply chains would all but disappear. As much as possible, material replenishment and final product shipments would occur within the local region (Shuman, 2000).

Some might argue that a world economy of diverse local bioregions would cause consumers' standards of living to fall because it would reduce the economies and efficiencies of large-scale production and distribution systems that we ostensibly have in the world today. Herein lies the importance of understanding the fallacies of scale-economy thinking. In reality, production systems designed along the lines of Toyota's turn scale-economy thinking on its head: they make it possible to build manufacturing capacity on a much smaller scale than ever before thought possible, yet produce at unit costs equal to or lower than those of large-scale facilities now thought so necessary for cost-effective operations.

An example of this is found in Toyota's organization. Compare the plant that makes Camry and Avalon models in Melbourne, Australia with the plant that makes the same models in Georgetown, Kentucky. Located within or nearby each plant are complete facilities for engine build, axle build, plastic trim and bumper production, stamping, body weld, seat build, and final assembly. According to Toyota, these two vertically integrated plants

are equally efficient and effective on all dimensions that matter to Toyota customers. However, the Melbourne plant currently produces about 90,000 vehicles per year, primarily for the Australian market, whereas the Georgetown plant produces about 500,000 vehicles per year.

If a fivefold difference in capacity yields no unit-cost differences between these two plants, then what is to be said on behalf of scale economies? In fact, Toyota people have said they probably will not build another plant as large as Georgetown in the future. The company currently is building new plants, smaller in scale and located as close as possible to customer markets. Carried to its logical extent, Toyota's example helps show how bioregional economies of 10 to 30 million people could support high-variety and low-cost manufacturing facilities for a wide range of products. Indeed, the relatively isolated Australian economy, with about 20 million people and a vast land area, supports several auto manufacturing operations in addition to Toyota's, as well as facilities producing a wide array of other products just for Australian consumers.

There are now ample technologies available to support efficient small-scale operation of almost every commercial activity. Some examples among many include the continuous-casting, mini-mill technology that transformed steel making in the last 30 years, small-scale refineries and chemical plants for almost all current petroleum and chemical processing, and Japanese paper-products plants that efficiently produce on a much smaller scale than American papermakers, for example, might think possible.²



Especially interesting are eco-designer Amory Lovins's paradigm-breaking examples of how the industrial economy can flourish at a much smaller scale than ever thought possible by rethinking, for example, the design of automobiles (with carbon composite bodies and hydrogen-cell power trains); the design of buildings (with better insulation, use of solar power, and absorbent roofs to obviate the need for drains and storm sewers); and the design

There are no serious technological constraints to organizing human economic activity more along regional lines, in greater harmony with the resources and regenerative capacities of the Earth's major watersheds.

of power systems. In the latter context, Lovins convincingly shows that now is the time for the world to free itself from large-scale power generation and vast power transmission grids. Solar, wind, water, conservation, and cogeneration all play a role in this transformation. An important rallying cry of the bioregional economy could be "off the grid!"

Underlying so many of the smaller-scale, but more efficient, processes that Lovins talks about are capital items that often raise initial project costs, but have incredibly fast and long-lasting paybacks (e.g., solar panels, better insulation, bigger diameter pipes that require smaller pumps, better lighting,

and heavier refrigerators). Thus, it would seem there are no serious technological constraints to organizing human economic activity more along regional lines, in greater harmony with the resources and regenerative capacities of the Earth's major watersheds, and less in alignment with the current march toward scale, global homogeneity, and eco-destruction. The constraints to local control of smaller-scale enterprises are political, social, and intellectual rather than economic; they are constraints imposed by old thinking. The sorely needed "new thinking" is informed by a worldview that recognizes interconnected systems and arises from the modern science of evolutionary cosmology. Efforts to transform the current "global" economy into a system of sustainable bioregional economies will require an approach to business school education that is grounded in this new worldview rather than the worldview of seventeenth-century science.

Only by shifting its attention from pursuing abstract quantitative goals that call for "optimizing" individual pieces of an organization, and moving it toward the kind of interactions in the system that make the whole greater than the sum of the parts, can the world of commerce stop, and hopefully reverse, its separation from the natural systems that sustain all life.

Endnotes

1. Whitehead defined the term as “neglecting the degree of abstraction involved when an actual entity is considered merely so far as it exemplifies certain categories of thought.” *Process and Reality*, Corrected Edition, D. R. Griffin and D. W. Sherburne, eds. (New York: The Free Press, 1978), 7–8. In practical terms, this means confusing an abstraction drawn from the real world with the concrete reality from which the abstraction was drawn. Abstraction is essential to rational analysis, but it necessarily omits many features of the real world from the analysis that follows. Forgetting such omissions and treating the abstraction as if it were the whole of reality can lead to actions that have damaging consequences in the concrete world. In *For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future* (Boston: Beacon Press, 1994), ch. 1, Herman Daly and John Cobb show how economists are especially prone to commit this fallacy. For example, if the economy is seen as the Gross National Product (GNP), a monetary abstraction, then the idea of money balances growing forever at compound interest leads to the belief that real GNP, pigs, cars, and haircuts can grow similarly (*ibid.*, 37). Serious environmental damage results, of course, from such belief.
2. These technologies and more are discussed in many places, but two good examples are the recent book, *Natural Capitalism*, by Paul Hawken, Amory Lovins, and Hunter Lovins (Little, Brown, 1999), and the somewhat older book, *The Soul of the Enterprise: Creating a Dynamic Vision for American Manufacturing*, by Robert Hall (HarperCollins, 1993).

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ABOUT THE AUTHOR

H. Thomas Johnson is professor of quality management at Portland State University. He co-authored *Relevance Lost: The Rise and Fall of Management Accounting*, named one of the most influential management books of the 20th century by *Harvard Business Review*, and *Profit Beyond Measure: Extraordinary Results through Attention to Work and People*, awarded the 2001 Shingo Prize.

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Commentary

By Roger Saillant



Roger Saillant

Editor's Note: We asked Roger Saillant, a seasoned executive and long-time contributor to the SoL community, to describe how the principles of managing by means apply to real-world business practice. Highlights of the conversation appear below.

What "Managing by Means" Looks Like in Practice

Managing by means is a useful way to think about leadership, especially in setting goals and defining what's important for an organization. But as a senior manager, I always worry about the bottom line, as well. You can't run a business without a positive financial outcome, and by no means does Tom Johnson's work suggest otherwise. As he notes, Toyota is hugely successful financially, and in about every other way. Companies have to manage themselves differently at each stage of the life cycle. If your boat is not yet seaworthy, you have to plug the holes before worrying about your destination. But when you have some stability, MBM-like processes become crucial for dialogue and interaction to identify – as Tom suggests, a *state* – the quality of performance that you seek.

For me, the process always starts with four questions:

Where do you want to go?

Where are you now?

Why do you want to go there?

How will you get there?

The first two questions get you a description of your current state and your desired state, in several dimensions. For example, you may want to be admired, to have top quality, to provide a good value proposition for customers and an

exciting environment for employees – *and* be profitable. All of this becomes meaningful when you look honestly at where you are; then you start to see how much work you have to do. *Why you want to get there* has to do with establishing at least one attribute for the company that is inspirational. If your goal is simply to be the low-cost producer, you won't inspire much passion or commitment. But if you want to be a company that is solving one of the great dilemmas of the world – energy, food, quality of life, health, some form of human benefit – people will be a lot more likely to commit themselves to work and perform at a higher level. It's a much different quality than simply managing the financials. Making money *allows* you to have a company – but it's not the *reason* you have one, if you want a great company. Finally, *how will you get there* begins a discussion about the nitty-gritty operational details that, as Tom points out, are treated as an afterthought in many large companies.

What Determines Whether Quantitative Targets Are Effective

Ownership of goals is key. You create that sense of ownership by jointly creating goals that make sense and matter to people. I set about five goals a year, including a long-term goal of 5, 10, or 20 years, or even more. So if you asked me what I had to do this year,

I would talk about a financial goal, reducing cycle time, building relationships with our supplier base, improving customer satisfaction and retention, and building a company that has a warmth to it. And I could tell you how we'd measure each of those.

Goals have to be woven together in a complete picture. For instance, in conversations over several weeks' time with all of our employees, we might see that reducing defects by 20% could improve sales by 50%. Or, to take another example, you almost always need a metric around speed. Toyota does things fast because everybody knows it's important and sees how it benefits the whole system. When I was running the plastics division at Ford Motor Company – a \$4 billion operation in a lot of trouble – it took 18 weeks to get a prototype of an instrument panel. We got it down to less than five days through rapid prototyping – doing all our design and testing on software, and then creating a part. But we improved over time, not all at once, and we did it not by just laying down goals but by talking together about the *whys* and *hows* of getting there. Goal setting has to be a collaborative, iterative process, at the end of which people understand where the target numbers come from and that they're not arbitrary. Quantitative targets that do not arise from real, collaborative goal setting divide managers and employees, and usually create a "gaming culture" in which people figure out ways either to undermine targets or to meet them by distorting a system through shortcuts and other quick fixes, with no regard for the side effects.

The point, as Tom says, is that results will flow from a natural system – and that includes organizations. I am an amateur beekeeper. I've never given my bees a honey production goal. But I

am very aware that I am part of the "community" formed by them and me. If I adjust my pace, follow a pattern, and work smoothly, I can sense that they merge with me, and we act in sync. My best moments in business occur when I feel the flow of ideas, emotions, and work blending harmoniously and creating a "field." It is a concerto, a musical experience.

None of this should suggest that companies can forego quantitative goals altogether. People in businesses can and should form bonds that reflect the interdependencies of natural systems. But this occurs within the context of an *economic* system, which is fundamentally *unnatural*. Toyota has gone to great lengths to operationalize MBM-type principles – but it is a fierce competitor and one of the most goal-oriented companies I know. Its goals, in addition to speed and reliability, include profit and growth targets.

The Power of Relationships

Conversations about the business help build relationships – and relationships are at the heart of managing by means. I've seen how managers who form relationships with their subordinates, and with people in other units inside and outside the company, generate enthusiasm, create deeper understanding of important projects, and build trust and shared commitment. Those relationships come through exploration and the testing of ideas, and they take time to build.

One of the processes that I use combines what is called the "camp meeting" with the organizational hierarchy. At a camp meeting, people sit in a circle telling the war stories of industry – what folks are doing in supply, in manufacturing, in human resources, or in marketing and sales. The stories that go around the circle build understanding and

rapport. After that, we ask the four questions again – where are we, where do we want to go, why, and how – and we come to agreements about things each function can do to assist other functions. This is much like the internal supplier-client relationships that Tom describes at Toyota. Then, when we return to the hierarchy mode – that is, the execution mode, where people are doing things and are formally accountable – we work together differently based upon our commitments to one another. The camp format serves to build emotional ties that facilitate the execution of the work.

At a Ford plant in Mexico, we used to take a half-hour each day on the manufacturing floor for everyone – line workers and engineers – to come together in a camp meeting and talk about problems they were having on the line. Then we could go back to work with an understanding of what everyone needed to do. At the next camp meeting we'd talk through the reasons behind any commitments that were missed. We looked at our processes and our thinking, and our delivery against commitments would get better. You can make these kinds of exchanges happen formally or allow them to happen informally, but you need to provide some time and opportunity for them.

How to Move Others Toward New Ways of Managing

In leading any change, you have to be very clear about your motivations. You have to be doing it because it's important to you, personally. You've got to be totally committed to it. If you are a manager, you're at the top of a pyramid below you. You have the most influence over that space. But this is also true if you are not a manager – you still have influence within some arena, even if it is with just a few people. You

don't have control-ling influence over the adjoining pyramid or space, or over your boss. Before you begin, the boss, at whatever level, needs to know that what you're going to do will achieve what she or he wants. And once you begin, you will be tested by others who don't want to change. If you're not tested, I'd suggest you haven't shown the necessary commitment to the process. That test not only anneals you, but gets people to tell you what their real truth is, and a lot of it will be emotional.

You'll find that some people will want to be told exactly what you want them to do; they're just conditioned to working that way. Some will be hostile to all change, and in fact to all organizations. And others will love the idea of change. You need to identify them in your conversations about the four questions and have them coalesce around you. There will be many leaders in the change effort – and you have to be very willing to give way to them. As long as the conversations are good, you can trust that the organization will move in the right direction over time, even if it appears to be drifting off course. This is where MBM becomes real, and you place priority on creating the right systems of interactions. But this doesn't mean that there are no goals and no problems in losing sight of them. There often comes that right moment when you can step in and say, "We seem to be getting off course from where we wanted to be. What are we going to do about it?" It's the type of question that people who are experienced at this will learn to ask. And, by the way, you shouldn't be afraid to use consultants or facilitators to get those conversations started.

The outcome is never predictable, but, in my experience, it's always an improved state. I've never seen it fail. Once people start talking to each other

they form relationships that compel them to be better at what they do. It's what the military does: Soldiers don't fight a war for George W. Bush; they fight it for their buddy in the next foxhole.

How to Move Others Toward New Ways of Managing

In his work with executives, Tom Johnson sometimes suggests the following exercise: Pretend that you wake up in a world where we no longer can use numbers or quantitative measures. How would you define the purpose of your organization? What would you tell people is important?

The exercise reminds us that purpose must always be defined in spiritual or emotional terms, not in quantitative terms. What's important are legacy, sustainability, stewardship, learning. I think about the investigation of the Challenger space shuttle disaster in 1986. The panel kept pressing the

engineer responsible for the O-rings for quantification of very specific temperatures at which those seals would fail. At some point all he could say was, "I knew that it was moving away from *goodness*." I believe that inside, each one of us, if we really understand ourselves, knows when we're moving toward or away from a better state. I would just ask people to look inside themselves, see what their sense of "goodness" tells them, and use it as the gyroscope to set a course.

I'll trust that personal test, and watch the numbers fall into place. Yes, it's a leap of faith, but I've never seen it not work.

Roger Saillant led turnarounds at several Ford Motor Company operations from 1970–2000 while serving as a vice president and general manager at Ford's parts subsidiary, Visteon. He now is CEO of Plug Power, a start-up developing fuel cell technology.

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Commentary

By Jay Bragdon



Jay Bragdon

I am drawn to Tom Johnson's theory of "management by means" (MBM) because it amplifies my theory of "living-asset stewardship" (LAS).¹ The central premise of LAS is that living assets (people and nature) are more valuable than nonliving (capital) assets – in large part because living assets are the source of capital assets. This radical premise challenges the orthodoxy of the traditional, mechanical model that values capital assets above people and nature. Once accepted, however, this reversal points to a sustainable way forward. As Tom suggests, businesses can better serve their communities, the environment – and their shareholders – by taking a more holistic, organic view of their operations. Corporations that adopt LAS cultures place a higher value on life than on profit because they know that profit cannot exist without life. Management by means describes how such cultures operate in the real world of business. Like LAS, MBM draws on the wisdom of complex, natural systems.

Despite the environmental costs associated with prevailing business activities, there is evidence that investors implicitly recognize the value of MBM and LAS practices. For the past seven years I have tracked 60 global companies that are leaders in living-asset stewardship with the Global Living-Asset Management Performance (LAMP) Index.[™] This index tracks companies in every major industry sector by using multiple measures of their environmental, social, and workplace practices. It corresponds to the industries tracked by the Standard & Poor's 500 (S&P 500) and the

Morgan Stanley Capital International World (MSCI) indices, and its weightings are roughly the same. As such, it is a useful comparator of the organic model that Tom and I are mapping with the mechanistic one.

Individually and collectively, LAMP companies have gained market share on their more traditionally managed peers over the past two decades, and the valuations of their common stock reflect this. In 2003, a recovery year following a deep bear market, Global LAMP Index[™] returns averaged 38.3%, compared with 26.4% and 30.8%, respectively, for the S&P 500 and the MSCI. Such performance has been remarkably consistent in both up and down markets. As this evidence becomes more deeply and widely understood, I believe the capital markets will become more discriminating in deciding which businesses get access to capital and which do not.

Consider, for example, the capital markets' valuation of Toyota stock. Although Toyota is the third largest auto company by size, its stock is worth more than that of its three largest competitors combined (General Motors, Ford, and Daimler-Chrysler). In fact, at year-end 2003, the valuation of Toyota stock was about 76% of its revenues per share – about five times that of GM. Consequently, Toyota has access to capital on much better terms than do its competitors.

As the capital markets see more clearly the biospheric stakes and the critical distinctions between the holistic and mechanistic models of the firm, I think we will see similarly large valuation gaps open up. The premiums on companies that

1. See Jay Bragdon and Richard Karash, "Living-Asset Stewardship: How Organizational Learning Leads to Exceptional Market Returns," *Reflections* 4, no. 1 (2002).

practice LAS and MBM will widen. Traditionally managed companies will be forced to adapt or die.

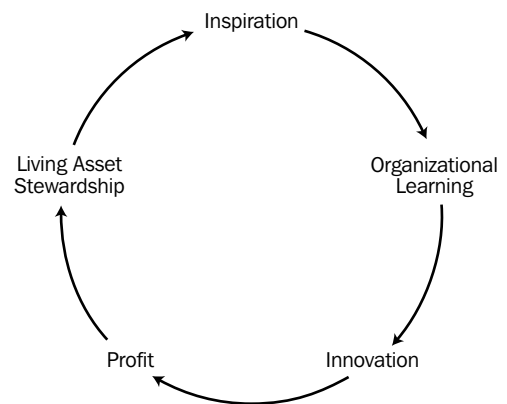
I'm not saying the transition from one business culture to the other will be easy, nor that Toyota or other LAMP companies are without fault. Large organizations can be frustratingly complacent. The longer our free market system continues on its current path, the more likely it is to suffer from an exogenous shock – catastrophic events linked to global warming, toxic waste, financial collapse, and other negative feedbacks. We can only hope that emergent new cultures based on LAS and MBM will be strong enough to withstand the breakdown of the old.

Thoughtful practitioners, consultants, and investors can improve the chances of the emergent new system by taking every opportunity to reveal its advantages. We need to show not only that companies with LAS cultures and MBM practices are gaining market share, but why they are gaining. Tom Johnson puts it succinctly: "Relationships are the reality that makes the difference at Toyota." More broadly, I believe that the reinforcing cycle of living-asset stewardship and organizational learning supports this observation (see figure). Good stewards of human and environmental resources inspire employees by offering a more compelling way forward – one that reinforces their most enduring humanistic values and love of life. Employees at LAMP companies are more effective because they work with their hearts as well as their minds.

Effectiveness, in this context, means an ability to produce more desirable goods with fewer adverse impacts on nature and society – and to do so profitably. In LAS cultures, such as Toyota's, good ideas synergistically beget more good ideas. They fly off the factory floor and from every corner of

The Reinforcing Cycle of Living-Asset Stewardship (LAS) and Organizational Learning (OL)

Living-asset stewardship (LAS) inspires employees to learn because it reflects their values and excites their imaginations. As organizational learning (OL) increases, so do the possibilities of innovation and profit. This keeps the cycle running onward and upward.



the company by the thousands each year. It should be no surprise, then, that stewardship companies attract and hold not only the best employees, but the most committed customers, strategic partners, and investors. Twenty-first-century businesses can reverse the 50-year dash toward "growth at any cost," which Tom Johnson describes, and indeed can save themselves and the planet from irreversible damage. Given the power of today's capital markets, I believe substantial progress toward this shift can be made in the next decade. Let's hope so – we may not have another 50 years to get it right.

Jay Bragdon is a director of the Sustainability Institute, and a general partner of Conservest Management, where he has researched corporate stewardship for more than 30 years.

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