

# Russell L. Ackoff, iconoclastic management authority, advocates a “systemic” approach to innovation

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Robert J. Allio



Russell L. Ackoff – an outspoken critic of many best-selling management books, business schools, their teaching practices, and many widely accepted business theories – is Anheuser Busch Professor Emeritus of Management Science, The Wharton School, University of Pennsylvania (rlackoff@aol.com). He is equally famous for advocating that managers need to rethink how they approach problem solving in general and innovation in particular. He calls this process “systemic” thinking.

*In a recent Strategy & Leadership article, “On misdirecting management”, Ackoff and his co-authors Vincent Barabba and John Pourdehnad argued that there are two types of consultants: self-promoting gurus and educators. According to this typology, the gurus promote their proprietary solution as a fix-all instead of trying to increase managerial understanding of a particular corporate problem. In effect, they promote maxims and slogans as general prescriptions for management, but do not increase the competence of managers. In contrast, systemic thinking considers problems in terms of how the interactions of the parts, and the parts with the whole and its environment, create the properties of the whole.*

S&L contributing editor Robert J. Allio recently interviewed Russell Ackoff to obtain his specific suggestions for reinventing how managers learn to develop effective strategy and promote innovation. Robert Allio is a principal of Allio Associates, located in Providence, RI (rallio@worldnet.att.net). He is currently putting the finishing touches on a new book, *Seven Faces of Leadership*.

**Strategy & Leadership:** According to your recent indictment in *Strategy & Leadership* of management consultants who aggressively promote themselves as gurus with a prescription for change, most of them have only platitudes or tautologies to offer organizations that seek guidance on strategy. Why is it so easy for purveyors of platitudes to dupe managers?

**Russell Ackoff:** Because most managers don’t have the knowledge and understanding required to deal with complexity, they attempt to reduce complex situations to simple ones. As a result, they tend to look for simple, if not simple-minded, solutions to problems. For this reason managers are susceptible to management gurus pitching panaceas. When a panacea appears to work in one or two prominent business situations, it can quickly become a fad. The consultants relentlessly promote these fads and fantasies because they’re sources of business.

**S&L:** So these consultants simply respond to market demand for solutions?

**Ackoff:** Yes. There are exceptions of course. In my experience the larger consulting firms are the most guilty of promulgating fantasies like “down sizing”, “benchmarking”, and “process re-engineering”.

“ Creativity involves a three-step process: identify assumptions that you make which prevent you from seeing all the alternatives; deny these constraining assumptions; explore the consequences of the denials. ”

**S&L:** What responsibility do the business schools have for this condition?

**Ackoff:** A great deal. In general, I find that business schools tend to avoid the important complex strategic problems that corporate management is currently involved with. Not too long ago at a meeting of the deans of business schools I identified the set of six or seven corporate problems on which I was working. I asked them if any of them had courses that addressed such problems – not a single one of them was covered.

**S&L:** An example of these problems you are working on?

**Ackoff:** One is, “How can you plan to market a truly new product – one the consumer cannot conceptualize?”. Another is: “What kind of support is required to enable an organization to learn and adapt effectively to a rapidly changing environment?”

I have “endeared” myself to some faculty and business schools by identifying the three things that business schools do for students. First, they provide students with a vocabulary that enables them to talk with authority about subjects they do *not* understand. Second, they transmit to them a set of principles that have demonstrated an ability to withstand any amount of disconfirming evidence. Third, they provide a ticket of admission to a job where they can learn something about management and business. Around 95 percent of what managers use on the job they learned on the job. The most they get out of business school is connections. Attendance at a business is justified economically in terms of return on investment, but not in terms of providing an education.

**S&L:** Let me go back to the search by management for panaceas. Are the corporate managers ignorant, insecure, naïve?

**Ackoff:** They are not stupid. They are misinformed, incorrectly instructed, and do not understand what fundamental changes are going on in their environments. They are products of a defective educational system. Consequently, 50 percent of the corporations in the *Fortune* 500 of 25 years ago no longer exist. The average life of an American corporation is 14.5 years. Out of 23 new corporations created each year, only one survives the first year. We incorrectly characterize the American economy by the successful ones. We ignore the failures. The strength of the American economy lies in the fact that it can survive more inefficiency than any other economy in the world. If any other economy had the number of failures that we’ve had, it wouldn’t survive. We had almost 1,000 bankruptcies last year of major corporations and we are beating that this year so far. Imagine what our performance would be like if that inefficiency were decreased.

**S&L:** Are you suggesting that this is the consequence of inept management, a Darwinian survival phenomenon?

**Ackoff:** Yes, I am. Gary Hamel and other management observers identify the numerous failures and look for their causes in faulty management practices. But the one cause that dominates all others is management error.

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When I talk to managers, I usually start with a quote from Einstein, “Without changing our pattern of thought, we will not be able to solve the problems we created with our current patterns of thought”. Managers always agree with this. But when I ask, “What is our current pattern of thought?” they haven’t the foggiest idea. Because of this they cannot understand their failures.

**S&L:** Are you advocating that we do better research on failures as opposed to successes?

**Ackoff:** No. We have to educate managers on the nature of the fundamental intellectual changes that are occurring within our culture. These require a change in the way we think and what we think about.

**S&L:** What are some of the characteristics of this new paradigm?

**Ackoff:** One of them is the development of *synthetic* thinking, which provides better understanding of complex systems than analytical thinking does. Synthetic thinking is a way of thinking about and designing a system that derives the properties and behavior of its parts from the functions required of the whole. The whole has properties that none of its parts have.

Analysis of a system reveals how it works but synthetic thinking is required to explain why it works the way it does. Systems thinking integrates the two.

Analysis breaks a system down into its parts, tries to explain the behavior of these parts, and then attempts to aggregate this understanding into an understanding of the whole. It cannot succeed because when a system is taken apart it loses all its essential characteristics and so do its parts. A disassembled automobile cannot transport people and a motor taken out of it cannot move anything, even itself.

Analysis, applied to systems, and therefore corporations, can only yield knowledge of how the system works, but never an understanding of why it works the way it does.

**S&L:** You’re making the important distinction between knowing a system and understanding it.

**Ackoff:** Yes. Knowledge is transmitted through instructions, which are the answers to *how-to* questions. Understanding is transmitted through explanations, which answer the *why* questions. Herein lies a very fundamental difference. Corporations and corporate managers do not understand the importance of this difference. They tend to have a lot of knowledge but little understanding of the complex systems they manage and the environments in which they operate. To echo Peter Drucker, they tend to manage things right rather than manage the right things. The righter (more efficiently) they managed the wrong thing, the wronger (less effective), they become.

**S&L:** Where can executives get reliable advice on how to run their organizations, if not from consultants or the business schools?

**Ackoff:** Don’t start with books on strategy, with alleged experts, or so-called educators. Instead, start with iconoclasts – individuals who can help others acquire understanding about the changes taking place in the way we think, and what we think

about. Once managers understand the changing paradigm, to use your term, then they can ask: “What are the implications of strategic thinking?”. The approach I suggest seems terribly complicated compared to what most consultants advise. When someone asked Peter Drucker what he thought of the solutions proposed in the 1990s by Peters and Waterman’s best selling book *The Search for Excellence*, he said, “I wish it were that simple”. Complex problems do not have simple-minded solutions.

**S&L:** Can you cite examples of corporations that manage systemically?

**Ackoff:** Yes, there are a number – Hermann Miller, Fed Ex, Westinghouse Furniture Systems, SAS, and Gore-Tex, to mention a few.

**S&L:** In order to think systemically, I need to understand the relationship between the parts and the whole. Doesn’t that mean I need to have data that show the causal relationship among those parts?

**Ackoff:** You have to understand how the interactions of the parts, and the parts with the whole and its environment, create the properties of the whole. Cause-effect is about actions, not interactions. Most managers currently manage the actions of their organizations’ parts taken separately. This is based on the false assumption that improving the performance of the parts separately necessarily improves the performance of the whole, the corporation. That is a false premise. In fact, you can destroy a corporation by improving its individual parts. Try putting a Rolls Royce engine in a Hyundai.

**S&L:** So your premise is, if we are going to have more effective corporations, then we need to understand the system that comprises the organization. When you give that prescription to a manager, what are you telling him to do?

**Ackoff:** He has to re-conceptualize the corporation. The origin of the word “corporation” is “corpus”, a body, an organism, a biological entity. According to the law a corporation is a person. Organisms, unlike mechanisms, have purposes of their own. But, in an organism, the parts have no purposes of their own. They are mechanisms. It is only the whole that has a purpose. So, the current conception of a corporation involves thinking that its parts exist only to serve the purposes of the whole and the whole has no obligation to serve the purposes of the parts – only to keep them, as organs, healthy and safe. And this is the wrong metaphor for a modern corporation.

We should no longer treat a corporation as a biological system. We should treat it as a social system. A social system has purposes of its own, so do its parts, and so do the systems that contain it and the other systems they contain. A social system floats in a sea of purposes at multiple levels with some purposes incompatible within and between levels; and its management must concern itself with all of these. It is for this reason that we are becoming aware of the need to know how to manage complexity. There is a growing need to think of the corporation as a *community*, not as an organism.

Now, the implications of re-envisioning a corporation as a community are huge. First, ownership becomes irrelevant. This notion that stockholders own a corporation is in decline. They are investors and shouldn’t be treated as owners. No one owns a nation, state, city, or neighborhood. But each must take into account the purposes of all its stakeholders.

Communities have an obligation to facilitate the development of its members, to contribute to their quality of life and standard of living, and to enable them to pursue their objectives as well as they know how.

The third fundamental characteristic of a community is that it is not a hierarchy but a “lower-archy”. In a community, those in a position of authority are selected by the people below them, not above them. Authority does not flow from the top down as it does in most corporations; it flows from the bottom up, and so do resources. So the task of turning a corporation around into a community and a lower-archy is really huge.

**S&L:** What about leading such a transition?

**Ackoff:** This requires more than management; it requires leadership. The thing that leaders do that managers don’t is articulate an inspiring vision and guide the formulation of a strategy for its pursuit. Good or bad, you look at a Lenin or a Churchill, and what they did is produce a vision shared by others. In Churchill’s case, he produced a vision of victory for the allies and helped formulate a strategy for getting there.

To lead requires different skills than to manage. Some unique individuals combine those two skills, but generally not. Churchill was a magnificent leader in WWII. He was not a good manager, but he had enough sense to pick people who were. He surrounded himself with people who could do what he couldn’t do, and who couldn’t do what he could.

**S&L:** Let’s talk about how to formulate effective strategy – not by listening to consultants, not by going to business school, but by understanding the system.

**Ackoff:** First by understanding what’s happening inside and outside the organization, then by developing a vision of what the organization could be within the emerging culture and environment. Next by preparing a strategy for reaching or moving closer to that vision.

For example, our healthcare system is a mess. We are the only developed country in the world without universal coverage; about 42 million people are uninsured. It is estimated that excessive testing, excessive surgery, or excessive prescribing of drugs that interact adversely causes at least half of the illness in the US. The federal government recently found that about one million people per year are seriously infected while in hospitals and approximately 100,000 die from these infections. *The fact is that the US doesn’t have a healthcare system. We have an illness and disability care system. Why? We or our surrogates pay the system for taking care of us when we are sick or disabled. Therefore, the greatest threat to the existence of the system is pervasive health! Little wonder that the system accepts and encourages practices that preserve, maintain and create illness and disability.*

The time is ripe for somebody to see the real problem and say, “Let’s design a healthcare system, one that that has incentives for producing and maintaining health, not illness and disabilities”.

**S&L:** Let me ask you to advise the individual who sees such an opportunity and creates a vision. The manager wants to develop a strategy to implement that vision. How does the manager develop effective strategy?

“ There is a growing need to think of the corporation as a *community*, not as an organism. ”

**Ackoff:** This requires design, and designs that lead require creativity. Creativity involves a three-step process. The first step is to identify assumptions that you make which prevent you from seeing the alternatives to the ones that you currently see. These are self-imposed constraints. The second step is to deny these constraining assumptions. The third is to explore the consequences of the denials. Creativity of individuals can be enhanced by practice, particularly under the guidance of one who is creative.

**S&L:** As opposed to learning creative strategy from case studies?

**Ackoff:** Case studies usually provide examples of uncreative solutions to problems. Learning a business principle from a case may help one practice that principle, but it doesn't show you how to creatively solve problems.

**S&L:** What's a good alternative to the case method?

**Ackoff:** The best way to learn is through apprenticeship and neither the educational system nor education within corporations is built on apprenticeship.

**S&L:** How do you implement the concept of apprenticeship in the corporation?

**Ackoff:** I lived in England for a while and I was tremendously impressed by the concept of a shadow cabinet. Years later, working with the brewing company, Anheuser-Busch, I asked the CEO, August Busch, III, and each member of the executive committee (all 11 vice presidents) to pick one up-and-coming young person to serve on a shadow policy committee for the corporation. Each issue that goes to the top for solution first goes to this group and they make their recommendations to the top group. Members are replaced every few years. They are exposed to a real education and learn how to think strategically through continuous interaction with top management.

In the organizational design called a *circular organization* or *democratic hierarchy*, every manager has a board consisting of him/herself, his/her immediate subordinates and his/her immediate superior. These boards have responsibilities similar to those of parliament and congress while the manager has those of an executive office. This too has turned out to be a very effective educational process and way to raising morale and productivity. Furthermore, it simplifies succession planning.

**S&L:** Give me an example of a creative systemic thinking process that resulted in an important new product.

**Ackoff:** An urban automobile. Before we could start to redesign the automobile for urban use, someone had to ask, "What is the most basic assumption we make that affect the design of our current automobiles?". The answer: we currently design automobiles to serve in a variety of environments, to serve many purposes. Is this a correct assumption? When the automobile was developed it was so expensive relatively that only the most prosperous families could only afford one. Therefore, the initial need was for a general-purpose vehicle. But today, most households in the US contain two or more cars, enabling us to divide their use between urban and inter-urban trips and between use at rush hour or off hours. So, this gives us an opportunity to design an urban automobile for workday and work-time use. On the average, how many people ride in an urban automobile? It turns out to be 1.2, more than 80 percent of the cars in the city contain just one or two people. So, we can design a two-passenger automobile for urban use. And what is the speed at which you get the maximum density of people on a highway all moving in the same direction? It turns to be between 35 and 40 mph. So we build the car with a maximum cruising capacity of

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40 mph. The car, currently available only through custom production, goes more than 80 miles per gallon, is non polluting, and would, if in general use, eliminate all urban congestion until well into this century.

These examples answer the question you asked earlier: “How do you work out the means strategically?”. First, we decided we wanted an automobile that will avoid pollution congestion and maximize comfort and convenience. To design one from scratch creatively we had to identify the assumptions on which the design of the current automobile is based, deny them, and explore the consequences. The need that remains is for a strategy that will lead to progress toward realization of such a vehicle.

**S&L:** You are describing the process of critical thinking.

**Ackoff:** It’s more than just thinking critically; it’s a process of rethinking constructively and creatively.

**S&L:** So, in the management arena, does research have a role – for example to suggest enduring relationships or natural laws? How would you critique the Boston Consulting Group research on the experience curve that led to the market share hypothesis?

**Ackoff:** Experience is a dynamic concept, isn’t it? Without experience, learning would not be possible. Therefore, to say that experience results in learning is to say nothing. Then to add that performance improves with learning is also a tautology. How could performance improve without learning?

**S&L:** But it quantifies the impact.

**Ackoff:** No, it doesn’t quantify, it gives you the shape of the curve, and that’s trivial. It just says you become more efficient with practice.

**S&L:** The PIMS research resulted in a multivariate regression equation from which certain conclusions were drawn. The PIMS apostles would argue that those equations could explain profitability.

**Ackoff:** They’re wrong. They don’t explain anything. They are not explanatory; they’re descriptive. The PIMS model operates on the assumption that regression has something to do with causality and that’s absolutely false. The most that regression can do is formulate a causal hypothesis that can be tested. It cannot establish any causal relationships.

**S&L:** What are some other strategic management “predictors” that are misused or misunderstood?

**Ackoff:** In his book about corporate longevity, Arie de Geus postulates that all companies that have lived for more than 100 years have certain characteristics. By studying such companies he identified properties to which he attributes their continuing survival. But he didn’t show that all the companies that don’t live for 100 years don’t have those characteristics. His inferences may be correct, but they are not justified by his argument.

**S&L:** Lack of a “control sample” is also a problem with Jim Collins’ research for his influential business books *Good to Great* and *Built to Last: Successful Habits of Visionary Companies*, and many other best sellers too.

**Ackoff:** But, that’s the kind of simple-minded stuff that’s being bought.

**S&L:** What’s your advice to a practicing manager on how to become a more effective strategist and leader?

**Ackoff:** First, to get educated on what’s happening in the culture and the new world, to become aware of the nature of the fundamental intellectual transformations taking place and what their implications are for the future of business and management generally. Second, to attach themselves to people who show creative thinking and engage with them in the process of redesigning, from scratch and with no constraints, the systems they manage.

*Russell L. Ackoff, photographed by Omer Yonel, CEO and President of North Coast Energy, Inc.*

In honor of Russell L. Ackoff, now an emeritus professor, The University of Pennsylvania has established the Ackoff Center for Advanced Systems Approaches (A-CASA), a think tank dedicated to education, academic research, industry research and outreach programs in the field of systems approaches.

In January 2003, in recognition of Dr. Ackoff’s contributions to management and systems science, the Wharton School of the University of Pennsylvania announced the creation of the Russell L. Ackoff Endowment. Funded by the Anheuser-Busch Charitable Trust, the \$1.2 million endowment will promote research and practice in risk management and systems science.

Dr. Ackoff has authored over 20 books and more than 300 articles and has conducted research for more than 500 corporations and government agencies. His most recent book is *Re-Creating the Corporation: A Design of Organizations for the 21st Century*, Oxford University Press (1999).