



## FUTURE THINKING BY MIDDLE MANAGERS: A NEGLECTED NECESSITY

BY MICHAEL SALES

This is a story about what happened to a group of technical managers working in a multinational corporation, the Big Can Corporation (BCC)\*, when they tried to influence the organization's strategy and structure. BCC has over 20,000 employees on several continents. The company manufactures and distributes containers of various sizes for the storage of all sorts of commodities. Sometimes these materials are stored for subsequent use; sometimes they are stored for introduction into the waste stream in some form. BCC's revenue growth and profit margins have been the envy of its competitors for many years.

BCC has dominated several sectors in the consumer waste con-

tainment business. Its cans and pails are found in many, if not most, American households, offices, and factories: under the sink, in the garage, in the laundry room, in home offices, near the toilet, in the garden, by the water cooler, in the copy room, at the vending machines, in the cafeteria, next to production lines, and so on. BCC has built and maintained its competitive advantage in its solid waste business through a strategy that focuses on distribution channel management, marketing and advertising, manufacturing processes, and materials science. BCC is a major center of knowledge about the various substances that make up its products, such as plastics.

In the domain of their consumer products, BCC's materials science managers work closely with engineers and others, throughout the company, on integrating materials science with the manufacturing process, how product ingredients support marketing, and so on. For example, BCC's waste pails are internationally renowned for their ability to withstand "punishment." That is, the user can mistreat them in all sorts of ways, and they don't break (for example, throwing them on the ground and banging them against hard surfaces, putting all sorts of substances in them, and/or placing them in locations where they are exposed to extremes of heat and cold for extended periods of time). The physical strength of its products is one of BCC's key competitive advantages.

Recently, one group of BCC's

experienced technology managers noted some disturbing trends, including:

- The materials used in the business have become more complicated and, therefore, more expensive;
- Waste management containers are beginning to be linked with information technologies in new and disruptive ways; and
- Recycling regulations are becoming ever more stringent and they are affecting the design of BCC's products.



While coming from different scientific and engineering disciplines, these technical managers were jointly responsible for the administration of the new product development pipeline. They had become more aware of the onslaught of the future when they faced

a period of accentuated conflicts and tensions during a recent product launch. Addressing a long-standing customer concern, the new product incorporated a deodorizing ingredient into the production of plastics for BCC cans. Required to mesh the work of their Intellectual Licensing, Basic Research, Prototype Scale Up, Manufacturing Design, Materials Procurement, and New Product Development Program Management units in a very tight frame, the managers of these Consumer Product Technology groups (about 100 people) found that:

- They disagreed over who was supposed to do what when (*role confusion*), and
- They would soon need to display excellence in various scientific, manufacturing, and managerial competencies

\* Under the terms of the author's confidentiality agreement, the case data presented here were deliberately designed to camouflage the identity of the company under discussion. However, the Big Can story remains true both to the issues faced by the client company and to the actions of the men and women discussed in this article.

### TEAM TIP

Looking into the future often seems like a luxury in the face of current priorities. Yet, unless teams take the time to explore both the trends that are shaping the context in which their organization operates as well as the shared vision to which they collectively aspire, they are destined to remain in reactive mode. Make a concrete plan for how your group is going to be proactive in creating the future you all desire.

that they hadn't even considered (*staffing issues*).

Although test market data indicate that the new product will be successful, this complicated innovation left feelings bruised among many members of this technical community and their managers.

Rather than accept this uncomfortable situation as a permanent reality, on their own accord, the managers of these units took the initiative to start meeting to discuss and plan for the future. They did not want a repetition of this experience. The importance of this self-directed act will be more fully discussed subsequently. At present, let us simply assert that it is unique for a group of middle managers in different technical organizations to take steps to analyze and manage a problematic situation confronting their units with neither their superiors nor their subordinates demanding that they do so.

With one member of the group, in particular, championing the effort, managers representing the Intellectual Licensing, Basic Research, Prototype Scale Up, Manufacturing Design, Materials Procurement, and Program Management units met periodically over the course of several months to address role responsibilities and technology planning. They found that conversations regarding the management of their independent processes led to a significant reduction in tension between both the managers and members of their teams. Furthermore, these discussions fostered experiments, such as the sharing of information and certain key personnel between units for the purpose of ironing out bumps that had traditionally plagued the sharing of information and material between functions.

The managers began to reflect seriously on the impact of prospective innovations on technology strategy and the implications of possible new directions for the staffing and structuring of their units. Specifically, they began to construct "capability matrices" projecting out 25 years. They came to feel that their own thinking about their future was being constrained by their living and working within particular frames

of reference. That is, their technical disciplines, their existence within Big Can, their age, their ethnicity, the ethnocentrism of their multinationals, etc. biased them in ways that they knew they did not know how to assess. One might say that they knew that they did not know how their existing mindsets limited them. They sought assistance from a consultant to open their eyes to new possibilities and to help them articulate a long-term technology vision.

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### The Futures Workshop

With an ostensibly enthusiastic blessing from the vice presidents for the various functions represented by these managers, the technical managers approved the design of a two-day planning workshop. The objective of the workshop was to generate a broad range of ideas about the forces that might be shaping the consumer product businesses in the future and to assess the possible organizational and structural impacts of these forces on the consumer products technical community.

The workshop moved through the following steps:

- A Metaphor Exercise in which groups of participants created a visual metaphor for the future of BCC's business. The graphic indicated the key forces on the minds of its creators as well as three key opportunities embedded in the situation and three threats or concerns. For example, one graphic showed a picture of a box that represented the traditional relationship between BCC's Materials Basic Sciences and its Engineering organizations, with an "outside the box" concept represented by bomb bursts coming from other scientific institutions, such as universities. The notion

of a paperless society was introduced into the drawing as a threat. This concern was counter-balanced with the possibility that waste containers would have a built-in bar scanner that would assess the monetary value of used electronic equipment and other household equipment via a wireless Web connection.

- The managers then built a 25-year timeline that surveyed their opinions and hunches about prospective development in six different domains ("STEEPA" categories):

- Societal changes
- Technological advances
- Economic developments
- Environmental considerations and regulations
- Political issues
- Aesthetic norms

Although this was not a rigorous investigation, every member of this intellectually curious group introduced a broad range of provocative ideas into this rich and vigorous multi-hour discussion. Here are a few of them:

- The prospect that pick-up charges for waste haulers will rise precipitously, putting garbage services out of reach for many current customers.
- The emergence of highly sophisticated recycling services that work best with increasingly complicated waste management equipment configurations, including containers that act on their contents in some way, e.g., weighing and prepackaging metal products.
- The introduction of containers that store hazardous wastes, such as certain types of batteries and lubricants, and track their value in the recycling market through wireless internet connections that can be read out through an electronic display on the storage device.
- An explosive growth of international opportunities linked to recycling.

Using an abbreviated version of a scenario construction technique, the team ranked the trends in each of the STEEPA categories and then chose two that represented the highest impact/highest uncertainty ("cost of capital" and "interaction with informa-

tion technologies”). They then mapped out four story lines, reflecting ways in which these trends could interact. Next, they chose their “preferred organizational narrative,” i.e., the scenario they most wanted to see happen in the future and, therefore, the one that they wanted to design their organization toward.

This discussion of the kind of world they would like to live in set up a multi-hour conversation about BCC’s structure: What was the most robust technical organization these managers could envision? That is, what structure might achieve the state of innovation and productivity desired by the managers, but would also be flexible enough to respond to whatever vicissitudes BCC would face?

Each member of the team laid out his or her response to these questions, and they discovered quite a bit of commonality. One member synthesized all the ideas into an elegant graphic. This was a far-reaching proposal that would change a variety of BCC’s long-standing organizational structures for the management of technology, but offered much to hope for in terms of new efficiencies and inter-unit collaboration.

At this point, the managers became quite excited. They realized they had developed a proposal that would change each of their units, but would also, in their opinion, secure the future of BCC’s consumer product lines to which they were very committed. Further, they felt that they were in an ideal position to promote these changes, since they knew the most about the actual workings of their particular technology groups. The scene had some similarities to one where the captains who will be most affected by a phase of a military campaign generate their own action plans rather than having them dictated to them by generals viewing the scene from some distant, and uninformed, locale.

### **Managers Get a Headache**

The meeting ended with the managers doing some initial planning about meeting with the vice presidents to whom they reported and dis-

cussing how to inform members of their group who had been unable to attend the meeting. Also, because of pre-scheduled commitments, two of the members of the group—including the champion of the entire process—had to leave the workshop early, even though they very much wanted to stay. Furthermore, the group itself was undergoing personnel changes. One of its members, the director for Basic Research, was leaving the company after 20 years of service and another going on to a position in Europe.

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The Director of Basic Research was being succeeded by a younger scientist who expressed concern during the workshop with the idea that he was going to have to advocate these changes to his superior. This was his first time meeting with the group as a whole, and he was unsure of the agenda coming in. Members of the group assured him that they would assist him in making the group’s case to his president, and he seemed comfortable with the product of the group’s work.

Things did not go as planned. In fact, almost from the moment the meeting ended, the managers’ hopes began to dissipate.

First, the timetable for their meeting with the vice presidents changed dramatically. As soon as their superiors heard that the managers had had a useful planning session, the vice presidents moved up the initial timetable for discussing the results. This conversation occurred more than two weeks earlier than anticipated. The managers had intended to spend a full day thinking through an approach to the important conversation because they realized that their ideas were highly innovative and, therefore, politically charged. They were all supporting significant change in their own work situation. They

were all willing to give up something in their units in order to achieve a higher degree of integration of BCC’s technology strategy. They knew that they were going to have to convey the importance of their strategy to their superiors. The eradication of their opportunity to prepare for the meeting made this impossible. However, no one thought that the group could say “no” to the vice presidents’ request for an early briefing.

Second, both anticipated and unanticipated personnel changes took effect. The seasoned manager of Basic Research retired, and the Program Manager representative attached to the Consumer Container Business took a new job as planned. Surprisingly, the member of the group who had captured the will of the team in a particular graphic was asked to stop participating in its deliberations because he was seeking a promotion that other members of the group would influence. The replacement for the manager of Basic Research was afraid to tell his vice president about the changes the team was advocating. And a new representative of Program Management struggled to become fully acclimated to the group, both because he had little background in the Consumer Products Business and he had no real connection to the other members of the group.

The meeting with the vice presidents was disastrous. The managers assumed the vice presidents would recall the background of the situation. Instead, they seemed to have forgotten a great deal about what was at issue in the managers’ meeting. Thus, the presentation was experienced as abstract and erratic. Even though the managers felt they had gotten a clear sign-off from their superiors regarding the purpose of the workshop, one vice president criticized them for “having gone beyond your charge”:  
*You were supposed to be looking at staffing issues for the immediate future and the next year. What is all this stuff about 10 and 20 years from now?*

Another was nearly livid in his complaint:  
*You’ve pushed yourselves into decision-*

*making domains that you have nothing to do with!* [He went on, essentially, to assert that the managers were trying to do his job.]

After the meeting, the managers beat a hasty retreat. They reworked their material to focus on the near term. The new member from Program Management took the lead in managing the “political interface” between the managers and their superiors by asserting that the group had misunderstood and mismanaged the political nature of their relationship with their superiors and that he should be the person to repair the situation; the other members of the group accepted this definition of the situation. The new manager of Basic Research distanced himself from the group. The “synthesizer” who had crafted the graphic that was so helpful to the group stopped attending meetings and spoke with excitement about other activities. The champion of the Futures Thinking project was humiliated by the entire experience. Feeling unsupported, he began looking for options outside BCC.

*Summary:* This team, which made such headway in understanding the future, decided to put the project on hold.

### **A Specific Example of a Generic Organizational Disease**

Particularism provides one lens on this story. That is, one could conclude that these particular individuals made mistakes. One can almost hear the chorus of critiques:

- “They should have waited for the personnel changes to take effect before holding the workshop.”
- “They should have said ‘no’ to the demand for an earlier meeting with their VPs.”
- “They should have gotten clearer up-front approval for the Workshop.”
- “They weren’t going to get anywhere without a greater commitment from the Basic Research guy, so why did they push ahead?”

On the other hand, this story can also be seen as an illustration of an all-too-commonplace system dynamic

called “The Failure of Middle Integration.” The human systems theorist, Barry Oshry, offers us this perspective. Oshry’s theory is based on hundreds of simulations of organizational life focused on the way in which the systemic dynamics created by social structure affect the power and efficacy of individuals and groups. Approximately 40,000 people have participated in these programs, and they overwhelmingly report a high level of coincidence between the generalizations of Oshry’s theory and their own experience in specific organizations. Interventionists, such as organization development practitioners and line managers who use these concepts to manage change efforts, also support the validity and utility of Oshry’s ideas.

Oshry contends that the systemic forces exert predictable impacts on groups at various levels of an organizational hierarchy. Unseen, these forces will almost certainly limit the effectiveness of any group and, therefore, the level of satisfaction people have in being part of it.

Using the terms “Tops,” “Bottoms,” “Middles,” and “Customers” to represent people who either spend most of their working lives in the strata of organizational life suggested by these terms or can be described as having that position on a particular project, Oshry—oversimplifying his argument—holds that:

- At the *Top* of a system (or any subsystem within it), specialization will emerge as a strategy for managing information overload (e.g., Vice Presidents for Research, Operations, Information, etc.). The consequence of over-specialization is, ultimately, competition over the strategic direction of an organization (or a subsystem) and rivalry over which particular function should have the highest organizational status and receive the lion’s share of the available resources. He refers to these Top dynamics as “turf” issues.
- At the *Bottom* of a system, solidarity and de-differentiation become preferred strategies for dealing with the inherent vulnerability of being in a system where others make decisions that affect Bottoms without the participation of the Bottoms themselves

(e.g., plant closures and changes in procurement policy). Bottoms organically unite in the face of these conditions, and they frequently resent individual members of their group who attempt to differentiate themselves from others.

- In the *Middle* of the system—our primary interest here—individual managers are pulled away from each other, physically, mentally, and emotionally. Oshry contends that this “alienation in the middle” results from both living and working within silos (functional, geographic, business line, etc.) and having to deal with issues that Tops and Bottoms in a particular silo have with each other. In other words, members of Middle groups disperse because they are kept at a distance from each other through the dynamics of the system. The more complex, the more bureaucratic, and/or the more hierarchical the system (as with BCC), the greater the level of dispersion in the middle management ranks. Dispersed Middles have difficulty integrating. They are “dis-integrated.”

There are multiple negative consequences for Middle dis-integration:

- Tops in a system have more issues and problems coming at them from all sides because Middles haven’t been able to pay attention to them.
- Bottoms are made more vulnerable because a seemingly functioning Middle team is not mediating arbitrary changes in their work and their level of security.
- Customers and suppliers get mixed signals because organizational functions aren’t working well together.
- Interpersonal distance between Middles separated by organizational boundaries tends to increase when managers and supervisors have both little contact with each other and regular experiences of being disappointed by one another.
- Middles—as illustrated in the BCC case—always have “something better to do” than interact with each other. They can’t find time to meet. They are continually pulled away

from these meetings when they do occur by “important phone calls that will just take a second” or other interruptions. Since something else other than being with each other is typically more important to individual Middles, it is easy to see why Middles may not feel very close to each other as a group.

- They are regularly being promoted, demoted, fired, or transferred without much regard to the impact of these changes on Middle groups or without much Middle input into the processes by which these decisions are made. These personnel shifts provide Middles with frequent reminders of their low power status in organizations, with all of the attendant results of such self-perceptions.

Not surprisingly, given these outcomes, Middles are frequently seen as weak, incompetent, unreliable, indecisive, and/or prickly by both their superiors and their reports. Thus, they are also seen as the most expendable if and when the time comes to cut back on personnel.

### Middle Integration

Oshry proposes “Middle Integration” as an antidote to these problems. Middle Integration occurs when the managers of various subsystems consciously make an effort to mitigate the effects of organic separation by meeting regularly to identify and address issues without their subordinates or their superiors being present. Middle Integration works best when it has the enthusiastic support of the superiors to whom middle managers report. Superiors demonstrate their encouragement for Middle Integration by refraining from “messaging down,” e.g., demanding to have specific information about the conversations occurring among Middles, which was not so of the Tops in the BCC case. It should be noted, however, that they did not act in a significantly different manner than most others in their position would have if presented with the same set of events. They were not “the bad guys.” In fact, given Oshry’s theory, one would predict that Tops would be (1) either unaware of the systemic and structural

conditions that make turf struggles, or aware of the conditions but unable to counteract them effectively; and (2) concerned about any integrative activity by Middles that would affect the “game of power” at their level in an unpredictable and unplanned for fashion.

For Middle Integration to occur, Tops should support the independence of Middles to meet, plan, and act without having to seek constant approval from their superiors. In turn,

**Operational issues have been identified earlier and handled better, and relationships among middle managers and their units became more positive.**

Middles should address the legitimate need that Tops have for information about Middle Integration activities by communicating regularly with Tops and aligning their integrating activities with the agendas, needs, and perspectives of their superiors. This sort of linking process fosters the empowerment of Middles, who are constantly threatened with being isolated in their silos, while also bolstering the long-range strategic activities of Tops.

In the BCC case, for example, the Tops might have pointed to the farsightedness of this Middle group as a reason to lower the cost of long-term credit, which is becoming an important issue to the whole company as international competition heats up.

Oshry outlines eight levels of Middle Integration:

1. **No integration:** The common condition, i.e., no awareness of systemic forces that pull Middles apart and no self-generated information exchange
2. **Sharing information:** The simple transfer of data about different parts of the system
3. **Working the information:** Diagnosing what the system (or its sub-components) needs
4. **Coordinating responses to issues identified**

5. **Problem solving:** Addressing identified needs through self-initiated experiments

6. **Mutual coaching:** Helping each other with issues faced by individual members of the group

7. **Sharing best practices:** Enhancing organizational learning

8. **Power bloc:** Uniting as a Middle team to affect organizational direction and policy

Compared with the preceding level, each degree of integration requires a higher level of commitment between Middle group members to their team effort. And, each higher level may entail greater political risk and, therefore, each demands a higher and higher level of encouragement and understanding from the Tops of the organization. For example, the Tops in the BCC situation could have expressed appreciation for their Middles’ work on the articulation of a technology management structure even if they, the Tops, were also considering the matter. Instead of punishing them for their initiative, the Tops could have treated the work of their subordinates as a valid option for their consideration.

Many organizations, including Microsoft, Ashland Chemical, Hewlett Packard, and Union Carbide, have been experimenting extensively with Oshry’s ideas. In instances where Middle Integration has been fully implemented, the results have been quite encouraging. Senior executives have been relieved of operational responsibilities and are more able to concentrate on larger strategic questions without sacrificing organizational efficiencies. In fact, operational issues have been identified earlier and handled better, and relationships among middle managers and their units became more positive with a variety of quantitative and qualitative results.

At BCC, however, there had been little explicit support for anything like Middle Integration. These managers were working against the grain of their system. In spite of their apparent endorsements early in the process, their superiors did not welcome the inventive initiative of these Middles. Instead, they saw the Middles’ behavior

as poorly organized or ill considered, at best, or, worse, as insubordinate. The middle management team thought it had a level of support for its initiative that it clearly did not have. Rather, their superiors criticized them for being late to do the job that they were supposed to do, adding to the docket of their vice presidents' responsibilities and implicitly criticizing them by stepping in to the vice presidents' "turf." As soon as they met this sort of resistance, the managers returned to their typical dis-integrated state.

### Middle Integration and the Survival of the Fittest

The collapse of the planning effort by the technology managers of BCC's Consumer Products Division constituted the loss of a unique opportunity for this corporation. A group of senior managers moved from hope to disappointment. In spite of the fact that the members of this group demonstrated real talent as in investigating the future, the likelihood that any of these managers would initiate (or even participate in) such an undertaking was diminished. As a result, BCC has become considerably more vulnerable to competitors who are in a position to capitalize upon vulnerabilities to which this company chose not to attend.

Clayton Christensen points out that most "disruptive technologies" (i.e., technologies that take an industry into an entirely different direction) were initially evaluated and passed over by the firms that dominated particular industries. If, 10 years from now, BCC has lost much of its dominance of the consumer products containers business to more nimble competitors, it may well be because it didn't have the capacity to learn from this group of forward-thinking, enterprising, and integrated middle managers.

This case may also be a cautionary tale for participatory theory at a general level. Interventions that bring multiple stakeholders and all levels of an organization together for visioning and problem-solving activities rely on the belief that highly stimulating and interactive processes can transcend the

boundaries and rigidities created by organizational structure. The BCC case indicates that such interventions may be short-lived, however, if they are not supported by a commitment to organizational learning activities that makes the players conscious of the forces impinging upon the systemic "space" they occupy. Without such "system sight," highly participative, short-term interventions may, in fact, become a foundation for enduring cynicism once people are again confronted by the Real politik of organizational life. ■

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### For Further Reading

Christensen, Clayton M. *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (Harvard Business School Press, 1997)

Oshry, Barry. *Leading Systems: Lessons from the Power Lab* (Berrett-Koehler, 1999)

Oshry, Barry. *Seeing Systems: Unlocking the Mysteries of Organizational Life* (Berrett-Koehler, 1995)

Schwartz, Peter. *The Art of the Long View: Planning for the Future in an Uncertain World* (Doubleday, 1996)

### NEXT STEPS

Once your organization has made a commitment to involving people from all levels in exploring the future, what tools or methodologies can be useful in doing so? Here are three possibilities:

- **Future Search:** Future Search is a planning methodology that brings together people from all areas of an organization—those with resources, expertise, formal authority and need—into the same conversation. This practice is called "Getting the whole system in the room." Participants generally meet for 16 hours spread across three days. People tell stories about their past, present, and desired futures. Through dialogue, they discover their common ground. Only then do they make concrete action plans. The meeting design relies on mutual learning among stakeholders as a catalyst for voluntary action and follow-up. People devise new forms of cooperation that continue for months or years. For more information, go to [www.futuresearch.net](http://www.futuresearch.net).
- **Scenario Planning:** Scenario planning is a group process that explores the most important, uncertain forces affecting an organization's future. Through the exchange of knowledge, research about key trends, and development of deep understanding of the factors that influence an enterprise, participants craft a number of stories of plausible futures. These scenarios help participants to link uncertainties about the future to the decisions they need to make today. Useful resources include *The Art of the Long View: Planning for the Future in an Uncertain World* by Peter Schwartz (Currency, 1996) and *The Sixth Sense: Accelerating Organisational Learning with Scenarios* by Kees van der Heijden, Ron Bradfield, George Burt, George Cairns, George Wright (John Wiley & Sons, 2002).
- **U-Process or Theory U:** The U-Process or Theory U stems from the work of Otto Scharmer and others on how we can "learn from the future." By moving from observing current reality to reflecting in order to allow inner knowledge to emerge to acting swiftly in order to bring forth a new reality, groups are able to create truly innovative approaches to complex problems. For more information, see *Presence: An Exploration of Profound Change in People, Organizations, and Society* by Peter M. Senge, C. Otto Scharmer, Joseph Jaworski, and Betty Sue Flowers (Currency, 2005) or go to <http://www.ottoscharmer.com/>.

—Janice Molloy