The DNA of cultures that promote product innovation

By Avan R. Jassawalla and Hemant C. Sashittal

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Transparency and trust may be the ideal attributes of the well-governed corporation, but they also play a critical role in organizational behaviour, specifically in determining whether or not an organization's culture will facilitate - or impede - innovation. Just how do some managers and organizations prevent the formation of a culture that supports innovation? And, what can they do to change their behaviour? These authors have some key suggestions.

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Most managers in high-tech firms know that sustained competitiveness is closely linked with effective product innovation. The trouble is, creating new products from new technologies that excite customers is difficult; doing so consistently, and faster and cheaper than competitors, is even harder. For this to happen, participants in product innovation processes need to trust each other and collaborate. Since most managers seem to know this, one would expect these values to shape much of what occurs in the high-tech firms that live and die by innovation.

What, then, to make of the large swath of high-tech industrial manufacturers that act and organize as if they were afflicted by a deeply held sense of paranoia -in other words, by a largely unsubstantiated and irrational attribution of hostility to others? Or, what to make of managers who *say* they know better, but act and organize as if everyone "out there" is fixated upon them, and conspiring to hurt them?

A high-tech firm that is suffering from paranoia. is most likely structured for division of labour, that is into silos of like-minded, like-skilled individuals who distrust others. The walls between *us* and *them* are high: The production floor is wary of the white coats from R&D; marketing believes it can carry the weight because it raises revenues; and R&D views customers as a nuisance. Managers accept that interfunctional collaboration cannot occur naturally, and attempt structural retrofits such as cross-functional teams with representatives from important silos. The implicit message to participants in this "organization-within-organization" is: "If we liberate you from our paranoia and dysfunction, can you develop an island of collaboration, a microcosm of sanity, and deliver what we should deliver but can't?"

Sadly, this dystopian construct resembles the way in which many high-tech manufacturers act and organize for product innovation. In some instances, the paranoia infects the cultural DNA and mutates into forms so resilient that all the talk about trust, collaboration, risk-taking and innovation amounts to little more than blather. Of course, managers know that trust and collaboration are good things; they just seem powerless to institutionalize their insights and act that way. What explains the irrational paranoia of managers and organizations that seem to know better, but collectively collude to act against their own self-interest? This article probes the DNA of organizational cultures, identifies ways in which paranoid cultures can be changed to better support innovation, and offers a test for assessing the innovation readiness of organizational cultures.

The nature of culture

Culture refers to at least three important elements of

the social environment that participants create when they interact with each other, all of which shape behaviours in pervasive, change-resistant ways. First, it refers to the cognitive and emotional elements of people's collective consciousness -the implicit or explicit values, assumptions, belief systems and behavioural norms that guide their thinking and actions. Second, it refers to existing behavioural practices, including rituals and rites such as regularly scheduled meetings, socializing events and training programs that engage and focus people's attention on specific activities at specific times. Third, it refers to artifacts and symbols in the physical environment that signify the priorities and underlying value systems of the firm, and shape how people think and act.

The DNA of Innovation-Supportive Cultures: Cultures that develop highly successful product innovations -such

Trust-embedded, egalitarian cultural DNA is apparent when participants attribute high levels of integrity, competence, reliability, loyalty and openness to other participants; view others as equal stakeholders in the product innovation process; and define their own behaviours in light of these convictions

as processes that meet cost and time-to-market expectations, meet or exceed sales and marketing projections, and improve employee morale -are high-trust and egalitarian places to work. Innovation-supportive cultures emerge when social interactions generate an environment in which citizens share high levels of trust to the extent that it becomes strongly embedded in the collectively held beliefs, assumptions, values and norms. The feelings of trust are also strongly reflected in behavioural practices and artifacts, and clearly visible in the patterns of participants' behaviours. Trust-embedded, egalitarian cultural DNA is apparent when participants attribute high levels of integrity, competence, reliability, loyalty and openness to other participants; view others as equal stakeholders in the

product innovation process; and define their own behaviours in light of these convictions. We know that product innovation settings are trust-embedded when the dominant pattern of behaviours suggests that participants are (see Exhibit 1 at the end of the article for a paper-pencil test):

- Equally committed to the collective intents of product innovation, and hold equal stakes in its outcomes.

- More tolerant of ambiguity, and tend to award others the benefit of doubt when something inexplicable occurs.

- Sensitive toward, and appreciative of, the diverse orientations, aspirations and talents that other participants bring to the setting.

- Willing to develop collaborative agendas that reflect an amalgam of mental models and the collective creativity of the setting.

- Open to making their true thoughts known in formal and informal interactions with others, and to proposing risky ideas and innovative solutions, overcoming their fear of social censure, and making themselves vulnerable to the responses of others.

- Willing to engage in constructive conflict that stretches all participants, to the extent that the outcomes of their interactions produce more than a simple sum of individual talents.

The DNA of Innovation-inhibitive Cultures: Many innovation-inhibitive settings develop and market new products, but their success is diminished by overruns in costs and time-to-market projections, declining employee satisfaction and morale, and often slow customer acceptance of their technology at list prices. They emerge when social milieus of uncertainty, ambiguity and power disparities engender hierarchical, low-trust cultures and, in some instances, paranoid cultures. The DNA of their belief and value systems strongly and implicitly hold that:

- If left alone, the product innovation setting will

not develop new products as expected, at least not without cost escalations and time delays. People cannot be trusted to manage the complexity of new product processes, and therefore must be closely controlled.

- The world consists of *insiders* who belong, and *outsiders* who do not. The success or failure of the firm's product innovation process is *focal* in the consciousness of outsiders, who often hold adversarial agendas-and must therefore be separated from the product innovation settings.

- The processes and systems for new product development must be imposed on the participants because, if left to themselves, participants will create self-serving, detrimental organizations.

- Change is destabilizing and enervating, and results in an unfavourable distribution of power over resources.

Why they say and do different things

Strong cultures-where the central defining values are pervasive, deeply held and strongly reflected in the artifacts, whether supportive or inhibitive of innovation-can make people act viscerally, and can circumvent or override rational thinking. Strong cultures can produce *gut level* cravings, similar to those associated with peer pressure, hunger or physical pain, and can impel people to act in ways that are contrary to their cognitive deliberation. Psychologists tell us that while low-level visceral factors are unthreatening, intense visceral factors can produce behaviours that are unconnected with, or contrary to, those implied by rational thinking and logic. So, too, with strong cultures.

For instance, behaviours that are resistant to change and innovation becomes manifest when the underlying cultural values and beliefs are filled with hostility and distrust, and behavioural practices and norms favour some powerful constituencies. The gut-level responsiveness produced by this cultural DNA seems to circumvent rational thinking and deliberation. Participants know that protecting turf, obstructing

change and creating communication barriers get in the way of innovation. Still, they seem powerless to refrain from turf protection, short-term thinking, quick fixes and actions that make micro sense but macro nonsense. They don't intend to do what they do, but they do it anyway.

Similarly, in innovation-supportive cultures, trust-embedded beliefs and values are deep and pervasive, cultural norms supporting risk-taking are strongly felt, and cultural symbols promoting egalitarian values and connoting equality of participants are focal in people's consciousness. This cultural DNA appears to produce visceral responses that favour innovation. Participants know that pioneering bold ideas, functioning as change agents, challenging the status quo, and betting personal careers on a risky vision can result in social censure, ridicule and, worse yet, colossal personal loss. Yet many abandon the quest for personal recognition and credit when innovations succeed, and seem willing to take blame when innovations fail, knowing fully well that such behaviours are detrimental to their careers. The trust-embedded cultures seem to minimize or even eliminate people's concern for self-preservation and self-promotion, and produce episodes of intense creativity, risk-taking and collaboration. Participants don't intend to trust others out of naiveté or inexperience, nor do they crave the censure and ridicule that can come from championing risky, bold ideas in open forums -but they do it anyway.

What can be done?

Trust-embedded DNA is formed when participants collude to function as equal voting citizens. Citizenship in innovation-supportive cultures is a privilege of the few, and not the right of every employee. Participants are called to accept a new social contract characterized by interdependence and choice. Team leaders spend inordinate amounts of energy identifying talented people across the organization and inviting them to participate in the product innovation process. Once there, shared agreements about learning both technical and interpersonal skills become central features of social contracts. The logic of this is simple: Unless participants continually learn and acquire new skills, and offer these to others as compelling reasons for choosing to work with them, they offer others little basis for trusting them, or for making informed choices about working

collaboratively. In innovation-supportive cultures, people choose to work with other smart people who are getting smarter and better-and teams choose to include smart individuals who are getting smarter and better. These choices in our settings are almost always tacit ones, yet they are deeply held and strongly reflected in the commitment around education and training programs. For instance, in describing how he factored in the time to develop a process that fostered learning of new behaviours, the leader of a trust-embedded product innovation setting notes:

> *You can't do that [learn new ways of thinking and doing] while trying to work on day-to-day problems. You need to get off-site and spend some time away from the plant, and just get to know a little more about each other, personally. And so we did some team-building exercises [at an off-site retreat], and then some additional team-building things throughout the life of the program.*

In contrast, senior management who are associated with cultures that resist innovation-despite what they espouse-tend to act in ways that are hard to differentiate from a heightened concern for supervising participants, and for ensuring that the emerging product innovation settings fit existing structure, norms and resource allocation processes. The head of manufacturing in a culture that clearly resists innovation describes senior management's failure in this way:

> *Almost every new product development project is over budget by a significant amount, which, over the course of a year, means millions of dollars. . . over in just the engineering development budget, never mind the opportunity cost of lost sales, extra parts. So it costs us a lot of time and money to do those things haphazardly . . . .We have to have people who really are skilled project directors. And right now that's a weakness. [Team leaders] . . .don't know how to use all the tools properly, and their bosses aren't giving them the time or making them know that it's*

really important.

Less-innovative cultures persist because senior management fails in three important ways. First, they fail to factor in the time, resources and energies necessary for the learning of new technical and interpersonal skills. Their weak, half-hearted attempts to foster learning yield weak cultures that lack resilience and are easily subdued by the bureaucratic forces of the larger organization. Second, instead of selecting and training leaders, they exacerbate inequalities of status by letting the most dominant group appoint a leader. Third, they fail to change the existing structure of decision-making and resource allocation processes that hold a vested interest in protecting current technology, skills and power structures, as well as resource allocation processes. As a result, resources fail to reach the most innovative, risk-taking segment of the organization without energy-sapping political battles.

Of course, there is more to effective product innovation than culture -namely, technology, talents, organization, customers and the environment. However, even new knowledge may not be translated into consistent action unless the organization (i.e., its structure, systems, processes, leadership, talents) and its culture (the collectively held values, assumptions and belief systems, coupled with behavioural practices and physical artifacts) can support new behaviours. Perhaps the managers who are unable to implement their insights know this. Fostering trust-embedded cultures, and producing streams of visceral responses that foster leaps of creativity and innovation, are within the grasp of most firms. New ways of preaching to the choir are not enough. What is needed is a fundamental transformation of the components that make up the organization's cultural DNA-the fundamental beliefs, values, assumptions, artifacts and behavioural practices. **∎**

Exhibit 1

Assessing Cultural DNA
Circle the number that most closely reflects your environment's belief and value systems.
based on the statements above each continuum

Product innovation is more likely to succeed if participants are unique, and are provided the facility to develop their uniqueness.	Product innovation is more likely to succeed if participants are similar, and molded to conform to our notion of the "ideal employee."

10 — 9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

Participants can be trusted to act in the firm's best interests with minimal supervision.	People cannot be trusted to manage the complexity of product innovation processes, and therefore must be closely controlled.

10 — 9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

Participants are capable of defining and developing the infrastructure for the new product task.	The infrastructure, decision-making processes and workflow must be imposed on participants.

10 — 9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

Other constituencies (e.g., customers and suppliers) can be trusted to participate as insiders, and can be integrated within the product development process.	The world consists of insiders and outsiders. External constituents, including other departments, customers and suppliers, hold agendas that are not supportive.

10 — 9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

Conflict, disruption, chaos and uncertainty are natural and revitalizing features of new product processes.	Conflict is disruptive and harmful. It should be avoided at all costs-and by strict directives and guidelines when possible.

10 — 9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

Change can energize and refresh the organization, and unleash the creative potential of participants.	Change is destabilizing and results in unfavourable distribution of power and control over resources.

10 — 9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

Value is created when participants frequently question and challenge decisions and actions.	Once decisions are made, they should not be questioned. We should not rock the boat. Troublemakers and whistle-blowers should be carefully controlled.

10 — 9 — 8 — 7 — 6 — 5 — 4 — 3 — 2 — 1

Cont'd...

Exhibit 1 cont'd

Assessing Cultural DNA

Circle the number that most closely reflects your environment's belief and value systems.
based on the statements above each continuum

Team leaders are educators, coaches and resource facilitators. They forage for resources and information to aid teamwork and create opportunities for team members to develop their talents, enhance their interests, and ensure that their best judgment is reflected in the final product.

Team leaders are chief decision makers, and use information and resources to generate the right behaviour from participants.

10 —— 9 —— 8 —— 7 —— 6 —— 5 —— 4 —— 3 —— 2 —— 1
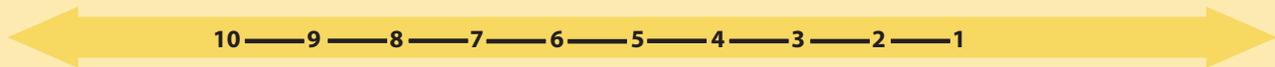
Participants are highly engaged and committed to continually improving their skills and capabilities.

Participants are less (or not) engaged and committed to improving their skills and capabilities.

10 —— 9 —— 8 —— 7 —— 6 —— 5 —— 4 —— 3 —— 2 —— 1

Participants continually reaffirm their free choice of belonging in the setting and participating in the product innovation process.

Participants frequently feel trapped, and rarely (or do not) exercise their choice of belonging in (or exiting from) the product innovation setting.

10 —— 9 —— 8 —— 7 —— 6 —— 5 —— 4 —— 3 —— 2 —— 1
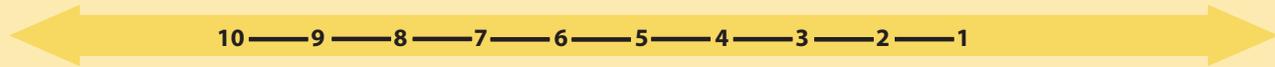
Other team members are competent resources, and asking for assistance (and assisting others) is the right way to develop new products.

Other team members are not as competent. Asking for assistance (and assisting others) is a sign of weakness, and represents a betrayal of departmental loyalty.

10 —— 9 —— 8 —— 7 —— 6 —— 5 —— 4 —— 3 —— 2 —— 1

Mistakes will occur, and signal the need for reflection, contemplation soul-searching and learning.

After mistakes have occurred, efforts should be made to assign blame (finger-pointing), and make culprits pay (find scapegoats).

10 —— 9 —— 8 —— 7 —— 6 —— 5 —— 4 —— 3 —— 2 —— 1

Information redundancy is important. Intense information sharing is critical for reducing errors.

All participants should operate on a need to know basis

10 —— 9 —— 8 —— 7 —— 6 —— 5 —— 4 —— 3 —— 2 —— 1

To obtain the Cultural DNA score, add the circled numbers. A score of:

110-130:   The culture is highly innovation-supportive.
78-109:   Strong signs that highly innovation-supportive culture might exist.
51-77:   Suggests that the culture is tinged with paranoia. Reconfiguration of structure, systems, process and rewards indicated.
Up to 50:   The culture is paranoid.