



The ingredients of innovation

When Americans think of innovation, we tend to think of Silicon Valley. We don't think about Israel or India ... but we should.

Recently a host of articles, in the [New York Times](#), in [Business Week](#), and elsewhere, have begun praising the new innovation-driven business cultures of up-and-coming countries like Israel and India. These cultures, and other smaller markets around the globe, are grabbing headlines and investment dollars for their ability to come up with creative solutions that their bigger competitors ... even in Silicon Valley ... are missing.

What happened? How did corners of the world once better known for conflict and poverty suddenly turn into champions of original thinking?

The same way Silicon Valley did, says Prasad Kaipa, a respected global consultant on business innovation who teaches Organizational Systems at Saybrook's Graduate College of Psychology and Humanistic Studies and is the executive director of the Center for Leadership, Innovation, and Change at the Indian School of Business in Hyderabad, India. Whether in Boston or Bangalore, the process for creating "clusters" of innovation is fairly similar across the board.

"You can't just order people to be innovative and expect it to work in a meaningful way," says Kaipa (who is also quoted in the Business Week article as an expert in India's culture of innovation). "You have to have an ecosystem for innovation, and that ecosystem has got several elements."

The first element is good academic institutions, where students can learn about the cutting edge in their fields. "It's important that these academic institutions be world class and help people to think critically, not just in a rote way," Kaipa says. "Good academic institutions are generally good research institutions, and the teachers the students talk to should be innovators themselves, who can challenge the students to go beyond where the books usually stop."

The second element is an employment environment where students can use those critical thinking skills once they graduate. "If students cannot apply what they have learned, and the organizations that they work for or that they create do not challenge them to bring out that level of critical thinking, then the students will generally go back to autopilot," Kaipa says. "There needs to be an immediate need around them to use those creative skills, critical thinking skills around them. This needs to be practical, a tangible problem to apply their skills to, not just theoretical."

With these items in place, you're much more likely to get modestly innovative companies. But there are still more elements that need to come together to form a Silicon Valley or an Israel. Counter-intuitively, one of the most important is a lack of resources. Because desperation is also the mother of invention.

"Certain kinds of innovative thinking are a lot more available when you are challenged with having to find fixes that don't involve a lot of money or resources," Kaipa says. "When you don't have as much money, or as many resources, but you have talented people committing to solving a problem, then

they go ahead and invent from scratch to get to where they need to be, and don't bother with the traditional solutions. The solutions they come up with are often so valuable because they are so cheap, and because they are so resourceful, and because they were forced to do things differently from the way everyone already was. In India, this kind of thinking focused on producing a quick and workable solution is called 'Jugaad.'

Now innovation is off to a running start – but to truly create an innovation hub, there are still more factors that are needed. They include:

- The ability to test new ideas through the development of rapid prototypes. “If they don't have this,” Kaipa says, “then by the time the resources become available to test it, it has been forgotten about.”
- Access to funding - angel and venture capital, and sometimes even small business loans. Without that, it's hard to make even a really good idea and prototype competitive in a global marketplace.
- Favorable government regulations. “If government can create special areas where people have support to be entrepreneurial, then that creates a larger number of entrepreneurial companies in a particular area, and that helps create a cluster,” Kaipa says. “When you have a bunch of people who have similar needs and are challenged by similar things, then cross-pollination of ideas takes place.”

It also helps, but is not essential, if employees of the various firms in a cluster move around from company to company. “If employees don't move around a bit, innovation tends to become stagnant over time,” Kaipa says. It used to be important to have an immediate customer base where the businesses are, who can provide feedback and support ... but now that the customer base has become global, that's a given almost anywhere.

It sounds complicated, but it's what happened in Silicon Valley, in Boston's Route 168, in North Carolina's Research Triangle ... and now in India, Israel, and across the world.