Why Diversity is Critical for the Future of Technology

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Northampton, MA | September 23, 2021 01:01 PM Eastern Daylight Time
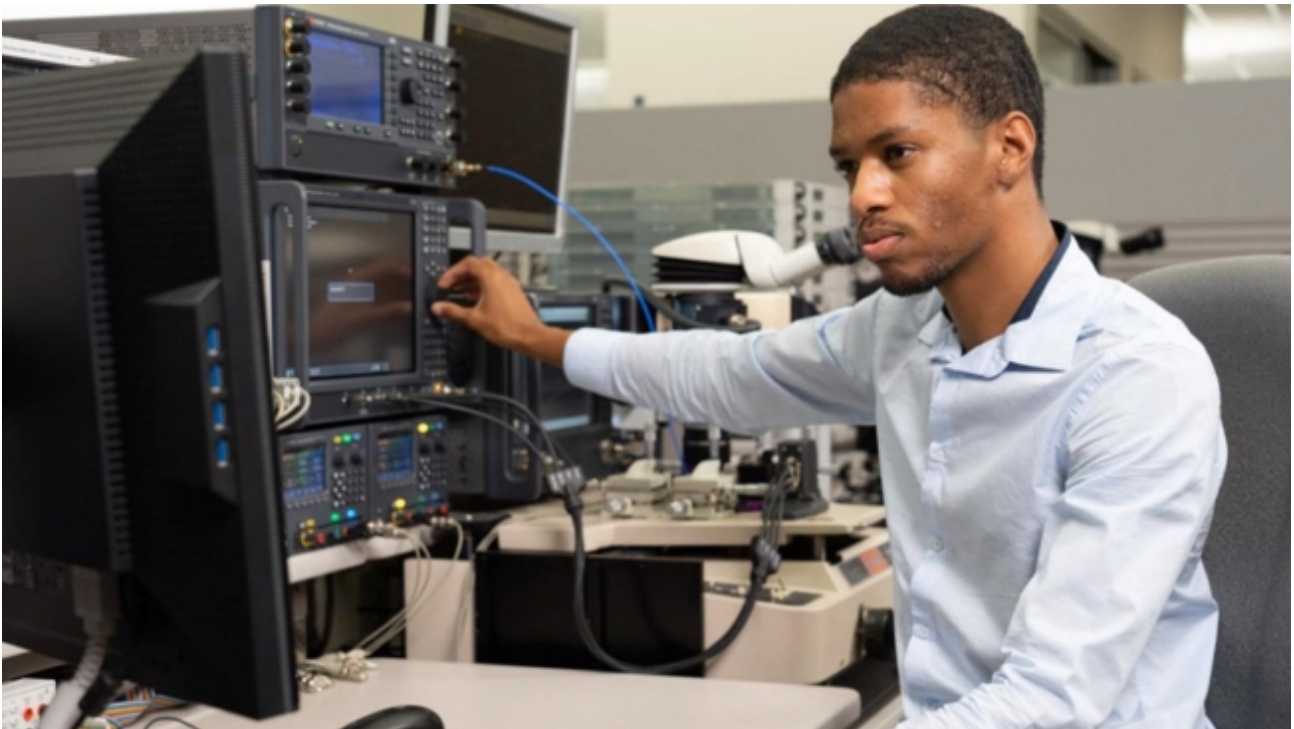
Countless studies have demonstrated how increased focus on diversity and inclusion boosts employee happiness and engagement while reducing turnover. But diversity impacts more than just workplace culture - it brings new (and profitable) innovation opportunities.

A recent **BCG study** revealed that companies with above-average diversity levels produce 45% of their total revenue from innovation (defined as products launched within the last three years). By comparison, companies with below-average diversity levels generated 26% of their total revenue from newly launched innovations. In other words, diverse teams drive first-to-market technologies that enable companies to stay ahead of competitors.

When teams are made up of employees from diverse backgrounds — and feel valued and encouraged to share ideas — innovation happens. In this article, we'll discuss how diverse perspectives are contributing to the biggest technology trends.

HOW DIVERSITY BOOSTS TECH INNOVATION

Technology innovations like 5G, autonomous vehicles, and the Internet of Things (IoT) will have major implications for how we live, work, and communicate. But overcoming the challenges of developing these technologies demands a new level of cooperation and collaboration between engineers.

For example, autonomous vehicles require expertise across disciplines such as cameras, radar, lidar, machine learning, mechanical engineering, cybersecurity, app development — and not to mention driver psychology. "It takes many areas of expertise to figure out how new technologies will work," said Ken Nishimura, Ph.D., who directs research and development at Keysight. "By definition, no one person or discipline is going to cover all the different aspects."

Following are just a few of the benefits that companies enjoy when they prioritize diversity in their innovation strategies:

GAINING A BETTER UNDERSTANDING OF CUSTOMER NEEDS

Deloitte research found that **today's consumer base is more diverse than ever**, with a varied set of demands and preferences. Having a diverse team in place gives technology companies the perspective needed to understand customers' evolving needs.

All engineers have preconceived assumptions about how users operate technology — which is why heterogeneous teams are crucial. "The way you view information and interact with machines depends on your culture and how you grew up," explained Ken. "In order to understand customer needs, we need to have a diverse set of people who think differently, have been trained differently, and can bring all different disciplines to the table."

ASKING QUESTIONS THAT LEAD TO NEW APPROACHES

Early brainstorming is critical when bringing entirely new technology to market. To tackle a complex new test system, Ken likes to convene not just the experts at the top of their field but non-experts who can raise questions others wouldn't think to ask. Queries as simple as "Why did you do that?" or "Why has it always been done this way?" can start discussions that pay off.

"It's not about rehashing basic principles, but fostering discussions on how to use tools and technology in subtly different ways to solve a new problem," said Ken. "That cascade of conversations is where the innovation happens and is a really powerful benefit of having a diverse team."

GENERATING A GREATER POOL OF IDEAS

When developing new technology, more options are better. "It's more advantageous to start with a broad base of ideas than to proceed with fewer choices and later say, 'Shoot, I wish I had thought about this,'" explained Ken.

Diversity brings the opportunity to explore new ideas that hadn't previously been considered. Deepty Chauhan, general manager of Keysight's Software Design Center in Atlanta, recalls an analogy she heard that demonstrates the importance of varied perspectives. "When you're in a house on the first floor, you see one view. When you go to the second or third floor, the view becomes different," she said. "When translated to innovation, these views are the different options that you should consider."

When Ken and his team started working on autonomous vehicle testing, he asked a number of people to weigh in, then tested three approaches before determining the final strategy. "I felt better with our choice because I knew we had considered multiple ideas and were able to weigh the pros and cons of each," he noted. "The more ideas you consider, the more confidence you'll have in your ultimate decision."

DEVELOPING ROBUST SOLUTIONS THAT APPEAL TO BROADER POPULATIONS

Bringing a range of perspectives into the development process strengthens your technology solution. "If you only have teams of white or Asian or male populations, you're missing a huge amount of talent out there," said Qi Gao, senior software manager at Keysight. "You get access to so much more brainpower and nonlinear thinking when you bring other perspectives into the organization."

Cars are a global industry, with distinct driving and traffic behaviors from one region to another. As a result, Keysight's goal is to develop a testing system relevant to autonomous vehicle developers worldwide. "Driving in Italy is different from India, which is different from Phoenix, so we need to develop a variety of test cases," said Ken. "Being able to draw from different backgrounds and experiences makes our product more robust."

FOSTERING INNOVATION THROUGH DIVERSITY

Our future depends on technology solutions built by diverse groups. As Qi explained, "We're not just a company, but part of society, so we need to mirror society to bring that perspective to innovation." With that in mind, Keysight is committed to fostering an inclusive environment where our global workforce can contribute equally to delivering on the promise of these game-changing innovations.

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