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Digital Transformation

Internet of Things: The Gold Rush for Talent

Part 3

Editor's note: The Internet of Things (IoT) is the next wave of rapid revolution for companies across industries. Seizing the IoT opportunity will rely on a small pool of in-demand talent and organization-wide readiness for change. This series will explore the people side of IoT — the types of leaders and skill-sets needed, the role organizational structure and culture play in fully maximizing IoT's potential for the business, and how senior executives across industries are addressing these issues in their own organizations.

Arguably, one of the most challenging aspects of seizing the IoT opportunity is finding and attracting the highly sought-after talent who can make the organization's ambitions reality. The gold rush is on for leaders with the range of skills required for IoT success, making for a fiercely competitive talent landscape. IoT's relative newness compounds the talent challenge. The limited pool of proven IoT leaders with customer orientation, software development and agility, among other key skills, tends to cross sector lines. Companies must be prepared to tap sources outside their sectors and adapt their cultures in order to attract and retain this talent. In addition, many organizations are finding themselves striking up new, sometimes unconventional partnerships across industries to bolster their IoT capabilities, even collaborating with competitors. An openness to going outside the organization's comfort zone will help secure talent for initial IoT efforts. But to ensure they have the talent necessary for the long term, companies will need to invest heavily in building the talent pipeline now.

CROSS-POLLINATION AND COLLABORATION ACROSS INDUSTRIES

To develop IoT solutions for complex issues, there is and will continue to be significant cross-pollination of talent across industries. Silicon Valley will still be perceived as a "Holy Grail" of leadership and expertise, especially in the hardware, software and product engineering areas. Yet, IoT dispels the misconception that technology expertise conquers all. "You cannot go it alone" has been the motto shared by the leaders we've spoken with about the talent needed to truly harness the IoT opportunity. IoT requires strategic

This series features insights from:

Chip Adams
Board director at Under Armour

Bernie Anger
General manager at GE Intelligent Platforms

Raj Batra
President of the digital factory division at Siemens USA

Don Butler
Executive director of connected vehicles and services at Ford

Dave Chase
Founder of Rosetium and former CEO and founder of Avado

Phil Gerskovich
Senior vice president of new growth platforms at Zebra Technologies

René Hartner
Vice president of corporate business development at SanDisk

Ulf Henriksson
President and CEO of Dematic

Kevin Ichhpurani
Executive vice president and head of business development and strategic ecosystem at SAP

Dirk John
Partner with McKinsey & Company and previous head of innovative technology at Siemens

Kurt Mueller
Chief innovation officer of PulseCX

Maria Thomas
Chief consumer officer of Smart Things

vision, deep IT expertise, agility and customer orientation — all acknowledge one skill-set will not be enough.

Silicon Valley companies and traditional tech experts will also need leaders from other industries who bring an understanding of specific sector trends, processes and products. For example, without firsthand knowledge of how oil pipelines work, it is more difficult for tech firms to create devices that track their activity. "You can't do it all yourself," said Bernie Anger, general manager at GE Intelligent Platforms. "We constantly partner to complete pieces of the puzzle and make our knowledge available to other OEMs [original equipment manufacturers] in other industries working on device solutions." Kevin Ichhpurani, executive vice president and head of business development and strategic ecosystem at SAP, says the organization is hiring talent with an understanding of traditional manufacturing companies who can communicate the benefit of IoT offerings to agriculture and automotive clients.

In the IoT world, talent with seemingly unrelated backgrounds will increasingly collaborate on the design of solutions. René Hartner, vice president of corporate business development at SanDisk, expects this collaboration will mirror his own earlier experiences working across industries to solve a problem."I started in aerospace engineering, but one of the things I did was specialize in material science," he said. "My organization worked with a medical center in Munich to build a new prosthesis for hip implants. We were trying to figure out how to build a new device that didn't rust, that didn't emit any poisonous metal into the bloodstream, and we were using everything we knew out of aerospace engineering and material science to build a better hip replacement part. For IoT, you have to do similar things where you bring people from software and hardware and maybe very unique fields like agriculture or medicine together and they have to operate jointly to build a new solution."

"Your competitors are potential collaborators."

Maria Thomas
chief consumer officer of Smart Things

Companies will likely find themselves collaborating with unconventional partners as a way to bridge skill and knowledge gaps. Partnering with or acquiring companies with specific offerings outside the organization's industry, such as enablers (e.g., sensor providers or simple hubs) or enhancers (e.g., data analytics) allow access to new talent pools. For example, industrial, telecom and private equity players are all competing to invest in and make acquisitions in the home automation space.

According to Don Butler, executive director of connected vehicles and services at Ford, organizations will need to become comfortable working with non-traditional external partners. The automotive company is putting that principle in action, collaborating with Apple and Google in order to deliver connectivity to customers. Under Armour is ensuring its apps and IoT-driven products are even compatible with competitors' devices and products in order to reach every customer. "Your competitors are potential collaborators," said Maria Thomas, chief consumer officer of Smart Things, which was sold to Samsung in 2014.

It is important to note that this cross-pollination of talent can result in a "culture shock" and both the leaders and organizations must be prepared for the adjustment. At times, the cross-pollination is not successful. "We took people from other processing industries and they could just not adapt to the speed of change we're driving here," said Ulf Henriksson, CEO of Dematic, a global engineering and logistics company.

BUILDING THE PIPELINE

As new possibilities continue to arise from IoT, the need for talent will continue to outpace the current supply, and organizations will need to play an active role in building the talent pipeline.

Organizational culture will be a key factor in attracting and retaining sought-after talent, especially when seeking leaders from other industries and dynamic startup environments. Does your organization's culture encourage innovation and experimentation? Is it flexible and open to change? While new talent must help infuse the organization with new thinking, the organization must be receptive and willing to act upon these ideas — or risk losing newly hired innovators. As part of the interview process, IoT leaders should meet with as many colleagues across functions as possible to lay the groundwork for future collaboration and gain support for the IoT vision. Additionally, communicating to the entire organization early on about the roles of new leaders — particularly if they are brought in as change agents — and the impact of IoT on the overall strategy can ensure everyone is aligned on how to move ahead.

Raj Batra, president of the digital factory division at Siemens USA, advises organizations to start early by reaching out to schools and offering internships to test future talent. "Organizations need to take a proactive approach to talent cultivation," he said. "Some college sophomores are doing better work than full-time employees." Some leaders recommend that organizations invest in education, even to the extent of funding specific academic tracks in product engineering, hardware and software development.

Hartner believes how we educate future talent needs to shift in order to groom leaders with more broadly applicable skills. "You need people to become more cross-functional," he said. "Here's where our education system will ultimately need to change in the long run in order to make sure we're not just educating an electrical engineer or software engineer and so on. I foresee people specializing later in their careers and getting trained on the very specific things that they actually do instead of becoming an expert right when they are coming out of school."

Looking beyond national borders is also vital to building the pipeline as well as ensuring a valuable diversity of perspectives. Hartner attributes some of Silicon Valley's success in innovation to its diversity of leaders educated in different countries bringing unique views and approaches to problem-solving. In addition, the combination of younger tech talent and tenured leaders of IoT brings well-rounded experiences to IoT pursuits. Those who lived

Four Truths of the IoT Talent Landscape

1 Talent with unrelated backgrounds **will collaborate** on the **DESIGN OF** solutions.

2 Companies will need to work with **UNCONVENTIONAL PARTNERS** — possibly even *competitors* — to bridge skill gaps.

3 **ORGANIZATIONAL culture** will be a key deciding factor for **sought-after talent.**

4 Building a **talent pipeline** **WILL REQUIRE INVESTMENT** **in IoT-related** academic tracks, **leadership programs** **and ongoing learning opportunities.**

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RAJ BATRA
PRESIDENT OF THE DIGITAL FACTORY DIVISION AT SIEMENS USA

through the tech bubble of the '90s have insight into the implications of rapid growth on the sustainability of business models; the younger generation brings hands-on experience with cutting-edge technology and an affinity for fast iteration.

There are also measures that can be taken within the organization itself to help cultivate IoT talent. Establishing formal leadership development programs focused on services connected with IoT can help build capabilities that align specifically with the organization's IoT strategy. Providing exciting learning opportunities for younger talent can encourage them to stay and grow with the organization. Some companies allow top performers to choose their own projects and functional rotations with the goal of retaining and grooming them for bigger roles. Others are appealing to the workspace preferences of the startup talent pool; Zebra Technologies has found that opening an office in an urban environment has been beneficial in attracting talent versus its previous suburban location.

CONCLUSION

Leaders need to define what the IoT opportunity means specifically for their organizations and strategies. At the broadest level, organizations need to have structures ready to encompass these new capabilities and talent as well as a culture that is flexible enough to fully embrace both. Organizational structures and cultures that are designed to foster IoT efforts are integral in attracting and retaining in-demand talent with agility, core competencies in software, data analytics and user experience, collaborative skills, among others. Given the scarcity of dedicated IoT leaders, companies need to plan on seeking talent in unconventional places. To ensure long-term success, organizations must also aggressively build their own talent pipeline. Companies that grasp the connectedness of the IoT world and the collaboration it requires both within and outside the organization will be best positioned to maximize the opportunity.

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Part 1 of the series explores the role of organizational structure and culture in IoT-readiness. Part 2 examines some of the leadership skills that are vital to seizing IoT opportunity.

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