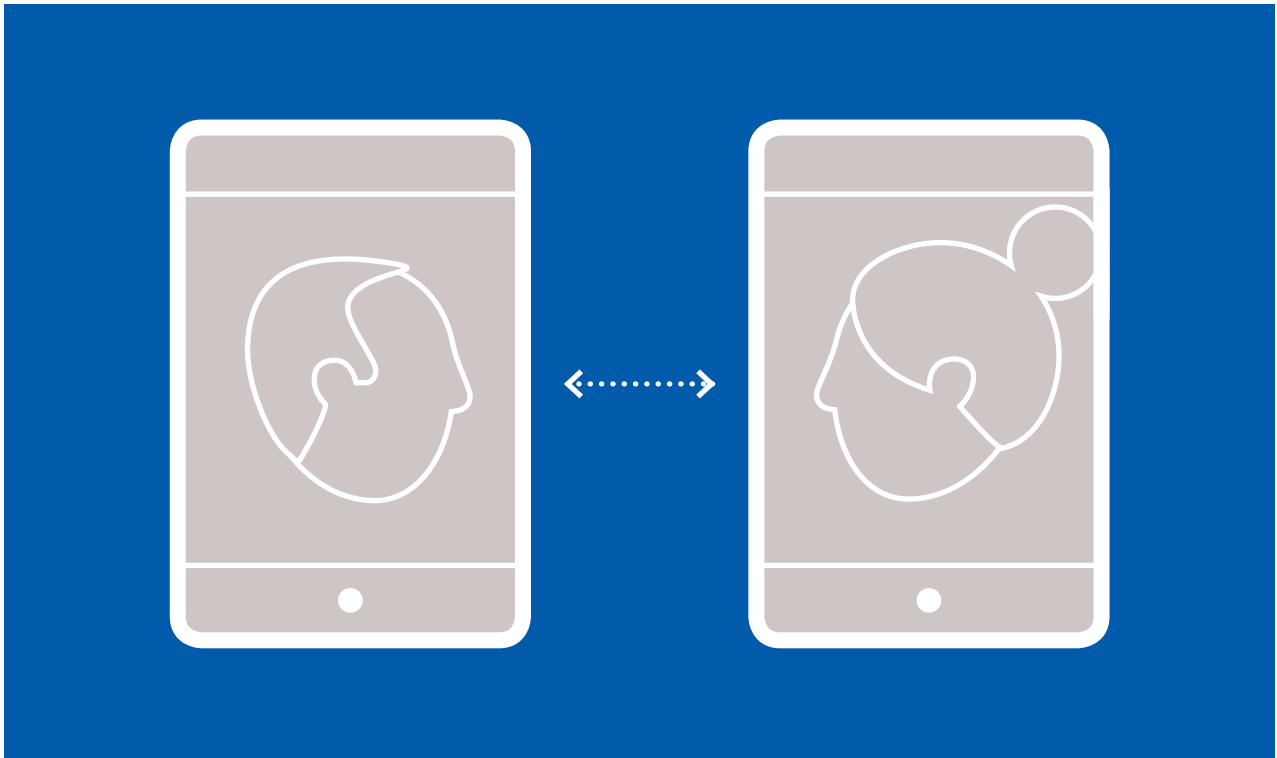




New Technologies, New Behaviors



Key Points

- **Smart devices, unified communications channels, and natural forms of interface are creating new behaviors in the workplace.**
- **Studying these behaviors is key to creating physical environments that allow technology to work for people.**
- **Creating these environments requires professionals in several disciplines—real estate, human resources, and especially facility management and information technology—to collaborate early and in new ways in the planning of a facility.**

There are few examples of unencumbered use of technology in the office. An outlet is rarely convenient when your device needs charging, and devices *always* need charging. The dynamite presentation you developed on your new MacBook Air can't be shared with the roomful of people it was designed for because the room's display is set up for PCs, and your seventh-grader has the adapter. In the middle of an important video conversation, someone carrying five lattes bumps into the table on which you had precariously propped your tablet in order to attain a comfortable Skyping angle and distance. When it comes to using new technologies, it is certainly easy to feel unsupported.

Organizations are searching for better ways to connect new technologies and the physical environment. But with the rate of change of technology and the daily appearance of new apps and devices, it is difficult to get a clear picture of the current scene, let alone plan for the workplace of the future.

For the past five years, a group of designers, engineers, and researchers on Herman Miller's Insight and Exploration (I&E) Team has focused on emerging technologies and how they are changing social behaviors at work. "Our goal has been to identify the technology trends that are most relevant to the office and, more importantly, to understand the emerging behavioral patterns," says Ryan Anderson, director of Future Technology. "From there we can establish new design principles and solutions."

Particular areas of interest for the team include smart devices, unified communications channels (new types of software that enable people to connect with each other in real time), and natural forms of interface, e.g., voice and gesture.

Herman Miller's goal is to identify technology trends in the office, understand the emerging behavioral patterns, and establish new design principles and solutions.

Smart Devices

Globally, smartphones in use outnumber portable PCs by two to one, according to estimates by Deloitte.¹ By January of 2014, 90 percent of the U.S. population carried a mobile phone, and 42 percent of American adults owned tablets.² Worldwide tablet sales grew 68 percent in 2013, according to Gartner.³

This revolutionary rate of consumer technology adoption has had an unexpected effect on the corporate workplace: People are increasingly using their own devices, like tablets and ultrabooks, for work. While some corporate AV teams have embraced this new pluralization of technologies, most have found supporting it a challenge. With new devices that connect via apps over the IT network rather than through AV cables, traditional cabled approaches to AV integration no longer make sense.

Furthermore, companies like Microsoft and Google have begun solving many room-based connection issues (such as how to connect groups on video or how to share content on a display) through apps and desktop software platforms, which are simpler and more intuitive than traditional AV products. Rather than leaving workplace technologies to the AV team, IT and facility leaders will benefit from sharing their strategies with one another, collaborating directly on how personal devices can be enabled for use in group work settings, and cooperatively piloting new tools and spaces.

The trends driving the increased use of smart devices in the workplace are only expected to gain traction in the near future. Gartner predicts that by 2017, half of employers will expect employees to supply their own device for work, requiring them to offer "appliance-level support" and network connectivity.⁴

What this means for knowledge workers is unprecedented amounts of choice in where to use their technology. What it means for workplace professionals is reconsidering how and where work gets done. The office is one choice and it needs to become relevant in new ways.

Unified Communication Channels

Not too long ago, the only way to communicate with someone in a different location, within the workplace or outside of it, was to pick up the phone, dial a number, and hope that the person at the other end of the line picked up.

Today, there are a myriad of options for connecting with coworkers, including use of a landline, cell phone, web cam, instant messaging, email, telepresence, SMS text, and direct message via Twitter or Facebook. What's the best way? That depends on the recipient's preference. When trying to communicate with someone, says Anderson, "I may not know how you prefer to communicate, and if I call your landline when you're at the coffee shop browsing Facebook on your laptop, you won't know that I'm trying to get in touch with you."

Workplace professionals like facility managers and IT experts need to plan for the different ways in which people in a facility will communicate with others at or outside of work using audio, video, and social platforms. "We need to get used to the fact that interpersonal interactions can happen almost anywhere," says Anderson. "We shouldn't limit virtual participation to something that happens in a dedicated room or booth."

Corporate offices should be designed for work patterns that assume both virtual and face-to-face interaction. They should also be designed in such a way that they can adapt to a variety of future possibilities that enable people to extend an activity to those not in the room. Doing so will provide a level of support that workers will not be able to find at the corner coffee shop.

Virtual participation should not be limited to a dedicated space; it should be something that can happen almost anywhere.

Natural Forms of Interface

For more than a century, our primary mode of interacting with office technology has been some form of the QWERTY keyboard. The introduction of mousing devices and graphic user interfaces nearly 30 years ago represented a breakthrough in the way we work with digital information. More recently, technology developers have launched an exceptional number of new interfaces for human/computer interaction.

Natural user interfaces allow people to interact with technology in many of the same ways they interact with people: through speech, gesture, and touch. Apple's Siri for the iPhone and Android Voice introduced intelligent electronic agents that respond to natural voice commands. New operating systems such as IOS and Windows 8 allow us to access and control software through touch, and we can control technology through gesture with technologies such as Leap Motion and Kinect.

The ways in which these new interfaces are incorporated into the physical environment can also affect human behavior and social interaction. For example, studies show that simply changing the orientation of a shared screen from vertical to horizontal creates significant changes in the social dynamics of control and collaboration.⁵

Because of these new technologies and the behaviors they engender, it's important to think about what a workstation or team area might look like when people are interacting with devices through speech, touch, and gesture, as well as talking to each other.

Implications for Workplace Design

Workplace design that's based on behaviors will remain relevant for longer than design based on the latest technology. The three trends introduced here provide a solid starting point for facility management, real estate, technology, and human resource professionals to think about how people work differently when using technologies. Productive questions that IT and Facilities in particular can be asking include: What are the approaches each is taking to support new ways of working? How can these approaches be brought together? Can they be piloted together so they can inform each other's strategic direction? When behavior drives workplace design, the result will ultimately be better connections between new technologies and physical spaces.

1. Deloitte, "The State of the Global Mobile Consumer," 2013, p. 5, <http://www2.deloitte.com/content/dam/Deloitte/global/Documents/Technology-Media-Telecommunications/dttl_TMT-GMCS_January%202014.pdf> (accessed May 9, 2014).
2. Pew Research Internet Project, "Mobile Technology Fact Sheet," January 2014, <<http://www.pewinternet.org/fact-sheets/mobile-technology-fact-sheet/>> (accessed May 9, 2014).
3. Gartner, "Gartner Says Worldwide Tablet Sales Grew 68 Percent in 2013," 2014, <<http://www.gartner.com/newsroom/id/2674215>> (accessed May 9, 2014).
4. Gartner, "Gartner Predicts by 2017 Half of Employers Will Require Employees to Supply Their Own Devices for Work Purposes," May 1, 2013, <<http://www.gartner.com/newsroom/id/2466615>> (accessed May 9, 2014).
5. Nicola Yull and Yvonne Rogers, "Mechanisms for Collaboration: A Design and Evaluation Framework of Multi-User Interfaces," Transactions on Computer-Human Interaction (TOCHI), March 2012.