Vol 2: Workplace design has a strong and definable impact on business results.
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Workplace design has a strong and definable impact on business results

As evidence mounts, this is a topic worth exploring. After all, the workplace is the most immediate, visceral communication of corporate culture. Peter Drucker, the esteemed 20th-century business theorist, observed that strategy is all but meaningless compared to a company’s culture, remarking, “Culture eats strategy for breakfast.”

For this report, the second in our Design Leveraged series, the International Interior Design Association (IIDA) and the Business + Institutional Furniture Manufacturers Association (BIFMA) commissioned a study from Brandware Research to examine the role of design in the workplace.

The research found that—at statistically significant levels—employees who are more satisfied with their workplace are less likely to quit; are more engaged at work; have higher job satisfaction; make better co-workers; and show more support for corporate goals.

This wasn’t a casual survey. By using previously validated models, and holding all other variables constant, the findings carry a greater than 99% probability that they aren’t due to coincidence.

Another insight from Brandware: Only about half of U.S. employees are “highly satisfied” with their workplace. Comparing that group’s responses to the other, “less-satisfied” respondents is eye-opening. In this report, we take a close look at where they diverge and how great the divide.

To demonstrate the impact of this research, you’ll also find case studies that illustrate how smart enterprises—businesses, educators, hospitals—are rethinking their workplaces. Included are such companies as Boston-based Wistia, which preserves a link to its energetic start-up roots through its workplace design. Harry’s, the direct-to-consumer shaving company in New York, finds that its workplace communicates to potential employees that it’s far cooler than its commodity product. IBM’s Design Center in Austin unleashes creativity and teamwork from a super-flexible workplace. And with Delos, Mayo Clinic is launching a ground-breaking experiment in how workplace, materials, and space affect health and well-being in real time.

The research makes an undeniable business case for good design, which means it’s worth taking another look at your company’s workplace. How could a redesign impact your organization?

Read on to find out.

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Workplace
design matters
(We know this)

But how much does it matter? Can we quantify the benefits of a well-designed workplace as well as we can add up the costs?

Corporate managers need real data to help them make choices that satisfy employees and spark innovation without imperiling profits. Just for starters: Are high-end chairs worth the cost? How does lighting influence productivity? Is it better to spend more for sit-stand desks or an inviting lounge space? Is the noise in your open plan office just annoying, or is it driving your team straight into the arms of your competitor?

We set out to impose some economic rigor on these and other design dilemmas, and what we found surprised us. Good design, a new study shows, is profoundly and quantitatively linked to the “people” issues—employee retention, engagement, and productivity—that keep executives awake at night.

This is no minor revelation. Labor, after all, is the number one cost for nearly every business, and a scorching war for talent is being waged around the globe. According to the Center for American Progress, it costs about 20% of an employee’s salary to replace them, and that number is even higher for top executives.

Should your CEO weigh the value of an office redesign against the costs of employee turnover?

If so, we have the data. In spring 2015, Brandware Research of Atlanta devised a survey to reveal how American workers view their workplace and jobs.

At highly statistically significant levels, Brandware found that employees who are more satisfied with their personal workplace:

— are less likely to quit
— are more engaged at work
— have higher job satisfaction
— make better coworkers
— show more support for corporate goals
JUST HOW STATISTICALLY SIGNIFICANT ARE THESE RESULTS?

By using previously validated models for survey questions—to ensure the study measures what it intends to—and by holding all other variables constant, the findings carry a greater than 99% probability that they aren’t due to coincidence.

“It told us,” says David Krysiek, president of Brandware Research, “that workplace satisfaction actually contributes to overall employee satisfaction and engagement—that it doesn’t occur simply as a result of it.”

The survey queried 1,206 respondents employed full-time in the U.S., who spend most of their working time in an office leased or owned by their employer. Respondents were employed at companies of varied size and location with more than half in managerial or professional-level positions, and nearly 70% with college degrees.

But beyond illustrating the importance of workplace design to America’s workers, the study also shined a spotlight on how far American businesses have to go to seize this opportunity.

Methodology:
Confirming the link between design and behavior

The goal of the Brandware study, “The Relationship Between Workspace Design and Employee Engagement,” was to understand the statistical relationship between workspace design, employee engagement, and desirable employee behavior. The analysis was conducted by Brandware’s director of analytics Tom Gruca, MBA, Ph.D. in Decision and Information Sciences.

The study, a 15-minute online survey of 1,206 full-time office workers, utilized respondent scales validated in academic research regarding satisfaction with personal workspace, employee engagement, and behaviors associated with engagement.

The survey collected data on the design of each respondent’s workplace. The survey also posed questions regarding his/her job engagement and organizational engagement, which have been shown in previous academic research to be drivers of organizational performance (Harter, Schmidt and Hayes, Journal of Applied Psychology, 2002). It also collected data on employee behaviors, including intention to seek other work, and organizational citizenship behaviors, such as assisting other employees or offering ideas to improve the organization (Saks, Journal of Managerial Psychology, 2006).

While holding all other variables constant, and through multiple regression analyses of the data, Brandware found statistically significant links between workplace satisfaction and organizational engagement. It also found significant links between workplace satisfaction and employee behavior.

The study found “a great deal of variability pertaining to workspace satisfaction, suggesting that organizations can use workspace design as a lever to build greater employee satisfaction.”

Responses to survey questions were given on a 1-7 scale, with 7 being the highest. Unless otherwise noted, when this report says that a group of respondents “agreed” with a statement, we are saying they gave a score of 6-7. When we say “strongly agreed,” the response was a 7.
The data makes clear: Workplace design is a vital card to play

Fifty-four percent of the sampled workers are “highly satisfied” with their workplaces, meaning they rated their workplace design as a 6 or a 7. The remainder are “dissatisfied” or “marginally satisfied.” Nearly half of American workers could be more engaged, long-term employees if their employers gave serious thought to their surroundings. So we conducted a subgroup analysis separating these two groups and examined how they differed in their attitudes toward their work, their view of their employers, and their plans to seek other jobs, among other things. Brace yourself—the disparities are undeniable.

<table>
<thead>
<tr>
<th>Highly satisfied with their workplaces</th>
<th>Less satisfied with their workplaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>“My organization cares about my opinions.”</td>
<td>“If I have my own way, I will be working here a year from now.”</td>
</tr>
<tr>
<td>■ 63% agreed</td>
<td>■ 47% strongly agreed</td>
</tr>
<tr>
<td>■ 20% agreed</td>
<td>■ 17% strongly agreed</td>
</tr>
<tr>
<td>“My organization is innovative.”</td>
<td>“I frequently think of quitting.”</td>
</tr>
<tr>
<td>■ 61% strongly agreed</td>
<td>■ 40% strongly disagreed</td>
</tr>
<tr>
<td>■ 21% strongly agreed</td>
<td>■ 15% strongly disagreed</td>
</tr>
<tr>
<td>“How often do you willingly give your time to others who have work-related problems?”</td>
<td>“How often do you take action to protect your organization from potential problems?”</td>
</tr>
<tr>
<td>■ 29% always</td>
<td>■ 28% always</td>
</tr>
<tr>
<td>■ 13% always</td>
<td>■ 10% always</td>
</tr>
<tr>
<td>■ 47% strongly agreed</td>
<td>■ 17% strongly agreed</td>
</tr>
<tr>
<td>“In general, I like working here.”</td>
<td>“My managers are receptive to big ideas that might change how we do business.”</td>
</tr>
<tr>
<td>■ 80% agreed</td>
<td>■ 57% agreed</td>
</tr>
<tr>
<td>■ 33% agreed</td>
<td>■ 19% agreed</td>
</tr>
</tbody>
</table>

These findings are especially noteworthy now, as a strengthening economy shifts recruiting from an employer-driven market to a candidate-driven market, according to the Society for Human Resources Managers (SHRM).

“At a certain level, some degree of better design attracts the best people,” says Adam Davidson, who follows work and economic issues for NPR’s Planet Money. “And that’s worth millions.”

How does this emerging research play out in the real world of workplace design? The following case studies exemplify how businesses across the U.S.—from start-ups to established corporations, companies large and small in an array of industries—are reaping big benefits by harnessing the power of design.
Adam Cutler, IBM’s Design Practice program director, has a plan: Provide a basic architecture, unleash employees to hack the surroundings as they please, and let it evolve over time. If they repaint hallways to feature Godzilla—and they have—or pull furniture from the reception area to create their own lounge space—they’ve done that, too—he’s fine with it.

That doesn’t mean design is random. Furnishings must be sturdy, stylish—and portable. “Everything is on wheels, or is moveable by five-feet-tall people who weigh 90 pounds,” he says, gesturing to the mix of whiteboards, state-of-the-art chairs, and video monitors in the Austin, Tex., IBM office.

Cutler relishes the day in 2013 when IBM CEO Ginni Rometty toured the bright, open design studio space, observing the pods of buzzing workgroups. “She took one lap around, and then said, ‘This is the way that IBM will work,’” he recalls. “We are becoming the new norm.”

Cutler’s office design is the physical embodiment of the vision that Rometty has articulated to the company’s nearly 380,000 employees. IBM is shedding older businesses—many hardware and services lines—while applying design thinking to cloud computing, data analytics, and artificial intelligence products. IBM is hiring 1,500 designers of all specialties, and is putting IBM executives across the corporation through “design bootcamp” in Cutler’s offices. Here, they imagine they are the end user of a particular product or service, and toss around novel approaches, with no preconceived limitations.
“This isn’t a showroom,” says Cutler, gesturing to the whiteboards plastered in colorful sketches, Post-its, and critiques of ideas scrawled by colleagues. Thinking is displayed everywhere.
Just a couple floors below, Cutler’s team provides a glimpse of the bland, conforming culture of the old IBM: Executives toiling in silence at heavy desks in interior offices lit with oppressive greenish hues, blocked from the natural light pooling in perimeter hallways. “I call this American Horror Story lighting,” says Cutler, waving a hand upward, barely suppressing a shudder.

His plan started with the idea of “pods,” work groups that change with new assignments. Each pod has six to eight desks with computers, a large 60-inch video TV monitor and two to three mobile, wall-sized whiteboards to display work in progress. Desks might face each other at the planning phase of a project, and away from each other at a later phase. Each pod includes a mix of comfy chairs and other “lounging” elements, which Cutler considers a “must have.”

It’s true, Cutler says, that planning space with IBM’s buttoned-down facilities managers bearing three-ring binders had its fraught moments. Their first meetings, he said, “were not pleasant.” Goals of practicality—the right number of people, the location of power outlets, dealing with glare and temperature—would inevitably clash with the ultra-adaptable space Cutler wanted, and the maker culture that is a by-product of design thinking. Still, the space of an IBM Selectric typewriter. In an elegant, open meeting corner, a pair of iconic, mid-century loungers sits before a wood-paneled wall bearing the word, “THINK,” a nod to the 100-year-old corporate slogan.

But not all is corporate history. After constructing prototypes of sleek, black mainframe doors, someone noticed that their beveled lines brought to mind Batman’s cape. The doors now hang in a room dubbed The Bat Cave, and soon a rack of Batman comics and other paraphernalia began appearing around the room, painted in Batman shades of ebony. Likewise, a sound-proof media studio where podcasts are produced became known as Superman’s Fortress of Solitude.

Cutler is no longer surprised at how his IBM colleagues hack their workplace. He recalls that a few years ago, a new crop of designers gathered in a conference room for executive training. One popped out of the door and asked him for a tool box. Cutler thought a chair had broken, but later discovered the designers on their hands and knees, disassembling the bulky conference table, reconfiguring it into something they could use. To this day, a piece of heavy, elegant glass sits atop an artfully arranged stack of moving pallets, a little monument to the maker culture there.

Cutler, standing amid the vibrant surroundings, admits to one regret. “I said, ‘Please treat this as your home,’” to encourage designers to riff and create freely. Now he wonders “how to get people to clean up their half-eaten bowls of granola.”

For Cutler, office design is always evolving; it’s as much a process as a place.
Harry’s finds that a workplace makeover attracts the best

Harry’s, the retro-cool shaving company, has a new German factory, a new logo, new products, a new round of financing—and a new headquarters as well-groomed as its customers.

The style and layout of its workplace, a former factory in New York’s Soho neighborhood, is vital to the success of Harry’s, asserts Scott Newlin, the 32-year-old industrial design director for the company, and especially necessary to attract the top-drawer talent it seeks in order to continue its ascent.

Indeed. Razors and blades—the classic textbook commodity products—would hardly seem a magnet for millennial job candidates. But anyone entering the open, light-filled space where Harry’s woolly mammoth mascot pops up here and there, senses an enterprise with hustle, savvy, and humor—not a soulless factory cranking out shrink-wrapped shavers for the local big box store.

“Spending money on this is so important,” says Newlin, striding around the office wearing a blue-knit watch cap. “It’s all about retention and getting the best talent.”

In a global LinkedIn survey, 42% of small business leaders cite “recruiting highly skilled talent” as their “most important priority” for their organization; followed closely by 38% who cite employee retention.

The importance of Harry’s workspace became painfully clear two years ago, says Newlin, when a recruited job candidate visited its former site. The applicant admired Harry’s product design and its stylish, anti-corporate marketing. But he also observed the company’s cramped dark space. “He said, ‘I can’t work here,’” recalls Newlin. That marked the moment when the start-up had to get serious about its headquarters if it was going to compete for the best recruits.
“We try to take the broad approach,” says Newlin. “We know that everything you do affects others—if you are too loud or too messy, be aware.”

The space avoids the tech design fads—no foosball table, no ball pit, no Lego rooms. “It seems contrived,” Newlin says. “We didn’t want it over-designed. We aren’t Silicon Valley here.” That doesn’t mean it lacks fun. Harry’s goofy woolly mammoth mascot hangs from the wall in an open, well-used kitchen, and appears throughout the space in photos and little sculptures.
Harry’s moved to its new quarters in early 2015, and approached the workspace plans as methodically as the company honed its five-blade razor design. Gone were the piles of product samples and meetings hosted in stairwells. Instead, a new recruit walks off the old factory elevator into an expanse of clean, white work tables and glass-walled conference rooms. The company refinished the wood floors—old oak in a herringbone pattern—warmly reflecting the natural light from the original factory windows. The original brick walls remain. “We wanted it simple, open, honest, transparent,” says Newlin. Harry’s founders Jeff Raider and Andy Katz-Mayfield espoused those same straight-forward principles in the business. They envisioned “a great shave at a fair price,” targeting men who prefer hipster cool over corporate hard-sell, and who appreciate the lower prices Harry’s can charge by eliminating retail overhead. Its direct-to-consumer model— products sold only online and

in the occasional pop-up shop—attracted $286 million in outside investment, enabling its purchase of the $100 million German blade manufacturer Feintechnik. (Katz-Mayfield also a founder of Warby Parker eyeglasses, which operates on the same model.) Harry’s is currently valued at $750 million.

Perhaps it’s surprising that Harry’s founders don’t have their own desks, let alone private offices. “We wanted them to be accessible, to keep the culture front and center,” says Newlin. Instead, library tables in the middle of the room operate as a sort of “landing zone” for the company leaders.

But there are times when a closed-door huddle is necessary, as on a recent afternoon when the founders, along with others on the Harry’s team, gathered around a table in a conference room. As Newlin walks by, the face of Katz-Mayfield looms on a video screen over the group as he talks to them from their German factory site, holding up a product prototype. The company’s team is necessarily spending more and more time there, says Newlin.

The enclosed meeting rooms (11 in total of various sizes, many with glass walls) are one way to contend with the noise and bustle of an open-plan office. The space also includes two war rooms, which can be completely enclosed with sliding panels—no windows, no visibility. Whiteboards and screens hang around the conference tables in all the private rooms. In another corner of the vast headquarters, an array of sound screens that look like giant iPads keep the chatter from the “customer experience” group from dominating the room.

Sleek, high-end tables serve as desks. Practical white laminate tops are edged with a plywood veneer, echoing the warmth of the oak floors. Table legs were painted the same slate blue that is used in Harry’s products and packaging. “We didn’t want it to feel like it came from a catalogue,” Newlin said.

A TV, mostly used for gaming in the evenings, awaits players on a tall, open, free-standing bookshelf, which separates the expanse into two big sections. On one side sits the engineering group, where hanging screens display site analytics and similar data. On the other side is customer support and product design. Big sofas create a living room-type space facing the bookshelf.

The Harry’s team continues to refine its workplace, sending around monthly surveys to its roughly 150 employees. They found, for instance, that people used the sofa area less than expected. “We found we need more café-style tables. People really just want to get to work,” says Newlin. Since opening the office, they’ve decided that the glass conference rooms are “too echoey,” and have added sound-proofing and more whiteboards. They will soon be adding more high-top tables, where people like to perch with laptops and coffee.

In all, Harry’s headquarters has tipped from being a job candidate repellent to a reason to fight for a place with the company. “Turnover here is basically zero,” says Newlin, “Our HR people are very happy with the quality of our job candidates.”

47% of the group that is highly satisfied with its workplace strongly agreed with this statement. Just 17% of the group that is less satisfied with its workplace strongly agreed. Money spent improving workplace is likely to pay off in lower employee replacement costs.
Wistia’s workplace retains its start-up vibe, even after 10 years

How does a business hang on to its start-up, hacker vibe after a decade of growing strong?

In the case of Wistia, a video hosting company, it pays a lot of attention to its buoyant culture—and especially how it’s reflected in its workplace. “We try to make sure things aren’t too polished, too fancy,” says Joe Ringenberg, design lead for Cambridge, Mass.-based Wistia.

Not to worry. On a recent Friday in its sprawling former warehouse space, an engineer worked out on gymnast rings hanging from the towering ceilings, while beneath him, two colleagues lounged on couches, tapping into their laptops as yet another engineer rolled by on a hoverboard that was used in a recent corporate video. “You’re pretty good on that,” one engineer says, glancing up from his laptop.

It’s a more laid-back scene than one might imagine given the ambitious plans and recent growth of Wistia, which is a YouTube for corporate video marketing and analytics. Its current space, two open floors totaling 14,000 square feet, with windows surrounding the perimeter, represents its fourth place of business since launching in 2005. The company anticipates a workforce of 100 next year, up from just 20 in 2013.

On-boarding dozens of engineers and designers is tricky for any growing company, but especially for one that eschews administrative trappings. Wistia’s design team believes that its highly-curated space—gymnasium bleachers for meetings, a deeply-rigged disco ball-bubble machine-speaker system to herald new customers and other victories with a Pearl Jam song—communicates its culture to new employees in a more visceral way than a dozen HR meetings or formal training sessions ever could. You don’t just learn the culture. You feel it in the design.
Notably, Wistia rejects the workplace dogma of Silicon Valley darlings like Facebook, where every meal, nap, and massage is offered in a wraparound cocoon of work. “If your product is built by people in full-service barracks, seven days a week,” says Ringenberg, “you are missing out on an outside perspective.” Instead, Wistia’s executive team wants employees to eat lunch out, immerse themselves in Boston’s thriving tech community, and enjoy their time away from the office.

Ringenberg concedes that Wistia spends more time and money on its workplace than other companies might. But its atmosphere helps attract the brightest people, even as it has evolved beyond its start-up stage thrills.

They are already shopping for their next, bigger space and planning for 250 square feet per person—far above the industry average of roughly 176 square feet per person, according to CoreNet Global, the commercial real estate association that tracks the statistic. “We are asking for 250 because people are happy to come here every day,” says Laura Powell, head of operations. When the company worked in tighter quarters, she says, too often employees “were sick or working from home.”

Similarly, Wistia doesn’t scrimpf on specific grown-up, workplace features, such as the best in ergonomic office chairs. “Good chairs are so worth it,” says Powell. “Our old ones had to be replaced in eight months.” Moreover, the chairs come in handy for chair dancing, or “chancing” as they call it, which occasionally breaks out when music is playing.

Powell and Ringenberg agree that what Wistia spends on space, it recovers in other costs associated with personnel.

For instance, Wistia has no dedicated sales team. “We don’t like the hard-sell,” says Powell. Instead, potential customers interested in video marketing tend to find Wistia’s own amusing marketing videos, and its space has become a meeting hub for millennials. The first floor, with an open kitchen alongside a set of bleachers and a giant, pull-down screen, is perfect for hosting meet-ups, movie nights, and community events, such as “drunk user testing,” where hackers gather to decide if a new interface is intuitive enough to manage after a few beers.

Part of the culture is embracing workspace experimentation. In the early days the company held a periodic “desk lottery,” where everyone drew numbers to see where they would sit in the coming weeks, promoting instant, organic communication among engineers and customer service people on the fly.

Having outgrown the desk lottery, Wistia now organizes teams into engineers, customer service, and marketing, within an open plan on its second floor. To deal with noise and distractions, they rely on an IM program, Slack, to seek an OK before interrupting anyone under headphones. Many meetings are “walking and talking” in a park across the street, which offers open-air privacy. The downstairs floor features various living room-style areas, along with nooks and a few conference rooms. “We very heavily use our communal spaces,” says Ringenberg.

The adroit mix of sleek office chairs and mismatched lounge furniture conveys a scrappy corporate aesthetic in a space that’s at once cozy and clean. An office assistant is constantly removing clutter that accumulates from video shoots, while striving to leave on display the stuff that resonates as a story. “When does something kitschy and fun become garbage?” she ponders as she considers a party piñata wearing a little hat. She decides to leave Señor Hamburgesa on his shelf.
In the Brandware study, 63% of respondents who are “highly satisfied” with their workplace agreed with the statement, “When I get up in the morning, I feel like going to work.” Of the group “less satisfied” with their workplace, only 24% agreed with the statement.
Sleek, open space powers productivity at AMC Entertainment

It was ironic that for many years the workplace of AMC Entertainment, a company in the business of selling movie magic, projected all the excitement of a blurry training video.

That changed in 2013. AMC packed up its 450 employees and moved to a newly designed, light-filled building in the Kansas City suburb of Leawood. It marked a turning point and sparked a cultural overhaul. The striking new facility helped launch a highly productive period in its corporate history—completing an initial public offering on the New York Stock Exchange and culminating with a $1 billion acquisition this year to claim the status of the nation’s largest theater chain.

“We are more effective here,” said Michele Mattoon, head of Office Services for AMC, who has been with the company for 17 years. “We are more accountable to each other. Nearly all of those little silos have gone away.”

Today the very architecture of the new four-story building conveys transparency, with floor-to-ceiling glass throughout and three large balconies. Inside, a central atrium holds a giant screen in front of stadium seating, where on a recent day, a group of executives observed a lively debate about food and beverage options at a meeting of 585 theater managers held in Dallas.

From the start, AMC’s executives wanted the new space to promote a new way to work. To save space and ease communication, AMC slashed the number of private offices to 49 from 120, based on “job function, not hierarchy,” says Mattoon. The executive offices were shrunk too—mostly to 9-by-11. With executives willing to give back space, says Mattoon, “the rest of the company got on board” with the mostly open plan.
Mattoon believes the building projects the spirit appropriate for a company built on entertaining millions. “It’s welcoming,” she says. “It speaks to what we do as an industry.”
Before they moved into the space, Mattoon and other space planners tested layout and furniture options, using the marketing team as guinea pigs. Based on six months of testing, they could make “smart decisions,” says Mattoon, such as upgrading to sturdier desk components, but reducing the number of overhead shelves in workstations. They also displayed a mock workstation “for two days only,” so employees could glimpse the future, “but not over-analyze,” she said.

Those tests and surveys allowed AMC to target its spending for greatest impact.

For instance, utility lines run through a raised-flooring system with under-flooring air. Though initially pricier, Mattoon estimates it saves about 30% annually on utilities. Even better, the system allows personal temperature control when employees dial the vents open or closed at their workstations, solving the most vexing U.S. workplace complaint in the Brandware study: employees who have no control over their work zone temperature.

Restrooms were another splurge. Rather than one sink partnered with a half dozen toilet stalls, each of the 40 stalls is a self-contained “half bath” with its own sink and countertop. Recorded Zen-like water sounds and soft light radiate a spa ambiance. “Bathrooms come up so much” in discussions with employees, says Mattoon.

They found savings elsewhere. They reupholstered their fleet of existing high-end chairs. They’re durable, and it cost $250 per chair vs. $800 for new ones. “People were attached to their chairs,” Mattoon observed.

To promote communication, designers placed elevators in Treadmill work stations, she adds, “are used all the time,” providing employees a workout and change of scenery.

Some 14,000 square feet—they did the math—of whiteboards act as dividers and temporary walls in the open space. Acoustic circles hanging from the ceiling help to absorb sound, as do carpet squares printed in subtle pixilated movie images at workstations.

Rather than spend money on corporate art, AMC played with the rich culture of movies. Digital screens rotate the posters for the year’s top 10 movies. Bathroom walls display movie trivia. One central wall is covered by the names and locations of every theatre manager across the U.S. “The general managers come in for training, and they find themselves on the wall,” says Mattoon. “It reinforces that we exist to support them.”

“Ease of interaction with co-workers” was cited by 63% of all respondents in Brandware’s study as the most positive feature in their work environment—the highest ranking of the 19 variables Brandware measured.

However, among the group of respondents who were less satisfied with their overall workplace, only 44% were as positive about ease of interaction. Ditch the silos!
A college redesign inspires a neighborhood

Portland Community College is a story of design leading the transformation of an institution, a neighborhood, and upwardly striving members of the workforce.

Community college students are disproportionately older, poorer, less educated, and include a high percentage of first-generation college students, many immigrants. Forty-eight languages are spoken among the roughly 12,000 students at Portland Community College’s Southeast Campus.

And while the city of Portland is famously flourishing amid high-tech manufacturing and craft beer-drinking tourists, its lower-income residents view education as crucial for better jobs, particularly as the boom has pushed housing costs up 12% last year alone. “You have to recognize how high the stakes are for these students,” says Southeast Campus President Jessica Howard.

The previous campus projected all the educational spirit of a big box store. No surprise there: Since 2004, its two main classroom buildings were a former Builders Square and an Albertsons supermarket linked by a parking lot. The “library” consisted of a few shelves and a system to order books from other campus branches. “Lab space” meant a classroom with a sink. The “student center” was a booth that sold soft drinks. “The first time I went there, I drove past it,” says Nita Posada, IIDA, a designer from SRG who worked on the redesign. “I thought it was an office park.”
“My organization really cares about my well-being.”

In Brandware’s study, 64% of those who are highly satisfied with workplace strongly agreed with this statement, compared with 19% of those in the group less satisfied by their workplace design. What transformation could result from a design that communicates empathy and encouragement?
Following approval of a bond issue, a plan recognizing the particular needs of the Southeast students emerged—space for more onsite computers, inviting nooks to study, areas to huddle with tutors, working science labs, a true library. Adjacent land was acquired and a time-worn restaurant came down to make way.

The process didn’t lack drama. Battles over parking and preservation had to play out. Five different neighborhoods abut the campus, requiring three years of regular meetings with community stakeholders. Designers recall the day during construction when a hard-hatted worker tackled a robber from the nearby bank and held him until police arrived.

But when the new space was unveiled in 2014, it was “transformational,” says Howard.

Two new, three-story buildings—a library and a student commons with a bookstore—arose in place of the demolished restaurant. They form a perimeter that screens the campus from the heavy Division Street traffic, but with entrances facing the neighborhood, inviting nearby residents to benefit from the buildings. In the middle, the former parking lot is now a green, campus-style quad, where students recline on the grass, books in hand. A small business development center offers free advice, and the hipster Old School Coffee purveys food along with the requisite cold-brewed coffee. The space that previously passed for a student bookstore is now a faculty conference room.

As with the best design, function ruled, but a few jaw-dropping elements offer grandeur. Starting from the roof of the library, four circular skylights dominate the room, with strips of painted aluminum extending down through the space to the floors below forming a naturally-lit conical sculpture of metal ribbons. The ribbons act as screens, radiating the light down through the second and first floors. The natural light, as well as industrial-style ceiling fans, reduce energy costs, just as the highly polished concrete floors in the common areas retain heat in winter.

Students work at sleek office tables divided by modern upper shelves, a stylish improvement over bulky study carrels of the past. Groupings of soft chairs and couches invite quiet conversation. In the student commons, modular screens and desks shift and regroup depending on activities.

Rising three floors in the open stairwells are towering world map sections, with each time zone painted a different primary hue. The bright color scheme is incorporated into panels throughout the buildings, and visible from the street in the evenings. The imposing maps nod to the immigrant journeys of so many Southeast students.

“The students were really, really excited to have study space,” says long-time librarian Erin Petrequin. When she walks through the library at 4 p.m.—when day students are leaving and evening students are arriving—“this place will be packed. You rarely see an empty chair.” A neighborhood resident herself, she adds, “It feels good to see it make the neighborhood better.” The space is so appealing, she says, that a group of women in their 80s meet there regularly.

The impact of the inviting design at Southeast, says Howard, the campus president, reverberates far past its new facility. She believes the students “carry themselves differently,” adding, “What does it mean for them to see this, and imagine the possibilities?” It was a satisfying moment, she said, when the school unveiled its new campus in 2014, and she could walk around with students. She recalls one young man talking excitedly to a friend on his cell phone, saying, “You’ve got to come and see this!”
Deeplocal maximizes employee innovation in an unexpected space

Sometimes, the simplest act of design can have the biggest business impact.

Ask Nathan Martin, a founder of the Pittsburgh company Deeplocal, which calls itself a “post-digital shop that helps brands create remarkable experiences.”

When Martin, 39, a former punk rocker and artist, created Deeplocal in 2006, he envisioned it as a ‘90s art collective with his creative, tech-obsessed friends and fellow alums from Carnegie Mellon University working at his side. They create cool things, like the hydraulic robot they built for Nike, which sprayed Twitter messages in chalk on the pavement at the Tour de France, linking the riders to social media.

Not surprisingly, Deeplocal’s workplace, a converted loft in a former flour mill in Pittsburgh’s Strip District, exudes tech firm nonchalance toward office decor. Painted brick walls and big windows surround 3D printers and half-built product prototypes sitting on rough wood floors. In the office area, butcher block tabletops on hairpin legs frequently shift around in the open space to accommodate the latest project. Low-volume music plays in the background.

But Deeplocal’s greatest workplace design innovation lies in a vacant industrial lot a few blocks down the street. There, Deeplocal created an outdoor hang-out space called the Bayardstown Social Club. Decidedly low tech and surrounded by a construction pallet fence, it could be an Austin barbecue joint or someone’s backyard gone to seed.

Around the club, little pennants inscribed with an illustrated rat honor the Bayardstown Rats, an early 1900s Pittsburgh street gang. A hand-lathed wooden sign lists “rules,” such as “No fights in the lot. Take it outside.” At once gritty and artisanal, the lot quickly became a summer night gathering spot for the local hipsters who’ve flocked to Pittsburgh in recent years amid its tech boom.
As if it were a grand, exclusive venue, Deeplocal gave its employees “VIP passes” to the club (others can pay $5 to visit). The team gathers there for events, including their intern appreciation party. They chill in 1950s lawn chairs around a fire pit and listen to music from a rigged-up stage or mixtapes from retro boomboxes. They bring their own beer and sit around picnic tables illuminated by strings of hanging lights. Electricity comes from “the guy next door.”

But more than a place to kick back with food truck tacos, Bayardstown communicates the hacker resourcefulness so prized by companies fighting their way through the digital jungle. Martin makes it a point to bring employee recruits, as well as prospective clients, to Bayardstown, and it no doubt contributes to its growth.

Today, Deeplocal has amassed a client list any small business would kill for—Google, Netflix, San Pellegrino, Old Navy, Hallmark, among others. The employee recruits include a half-dozen former Manhattanites who liked Pittsburgh’s up-and-comer vibe, as showcased by Bayardstown and Deeplocal. The company now employs 27, and plans for further growth are underway.

One of the former New Yorkers, Julia Covelli, joined Deeplocal last year after visiting the site on the advice of a friend. “It’s way cooler than anything you can go to in New York,” she says of the Bayardstown club.

Covelli especially admires it as a low-tech marketing tool that stands out like the authentically cool kid surrounded by wannabes.

“It’s just a vacant lot,” she says, “with a lot of design.”
A prescription for smart workplace design

Examining, really scrutinizing, the details of how your employees work and the space where it happens can lead to big changes in productivity and happiness—that’s what Mayo Clinic learned after implementing changes that tapped into what their employees already know. It sounds simple, but strikingly few companies consider the potential benefits of well-informed tweaks of space and process. One size does not fit all in workplace design.

Mayo Clinic, recognized worldwide for medical excellence, created its Center for Innovation (CFI) in 2008 to re-imagine the nuts-and-bolts of healthcare. The Center’s motto—think big, start small, move fast—underscores the broad, high-impact results available from considering discrete, deliberate changes in process and design.

While evidence accumulates that workplace design impacts business results, the influence is especially vivid in healthcare, where the line of work is saving lives.

“If you are not paying attention to details, you could be killing people,” says Matthew Moore, design researcher at Mayo’s CFI. “So stakes are very high for design.”

About 70 clinicians and designers work on these advances at Mayo’s CFI today. While much of the CFI’s work involves Mayo’s information systems, space design is a necessary component. Dr. Doug Wood, a soft-spoken cardiologist who spends part of his time overseeing CFI, believes healthcare lags business in space design. He evokes rueful laughter at conferences when he shows slides of medical exam rooms from 1927, 1954, and 2004. Aside from a bit of medical accoutrements, “They are the same,” he says, “except the room from 2004 no longer has a window.”
So for one project, CFI considered the humble exam room, arguably one of the least thrilling components of healthcare, but one with wide potential impact.

Following lengthy observations of physicians at work, CFI designed a “Jack and Jill” exam room, which acknowledges that the actual physical exam is typically a brief part of a doctor visit. The design carves away the exam area, and places “conversation rooms” that can be used simultaneously on either side of the exam space. Conversations—the crux of the visit—can be longer, without tying up an exam bed, the doctor and patient sitting at a small table together, in front of a computer screen visible by both. The hospital saves space, and the patients report richer, more relaxed interactions.

The design is now among the building options going forward for clinicians across Mayo Clinic campuses. “The built space has a lot to do with how things actually happen,” says Dr. Woods.

CFI also reconsidered a more fraught space, the setting where cancer patients receive chemotherapy, typically a room with a line of comfortable chairs for patients hooked-up to IV poles. Should they be in private rooms or would they benefit from interactions with other patients? How much square footage and how many chairs should be allotted for family members? CFI researchers found cancer patients differed greatly. New patients, who feel vulnerable and anxious, value privacy the most. Longer-term chemo patients benefit from social space, and want to roll their IV poles to couches and soft spaces to talk with other patients as they pass the time or perhaps engage in group therapy.

On the other side, healthcare professionals wrestled with how changes in the space would influence their work methods.

What changes in design might introduce infection risks? How would they accommodate emergencies, such as a heart attack? The CFI designers made life-sized mock-ups of chemotherapy treatment rooms that included everything from the wastebasket to the IV pole, and caregivers walked the designers through possible treatment situations again and again.

As a result of the mock-ups and patient interviews, CFI hit upon a flexible space design that accommodates a patient’s journey through cancer treatment, allowing for both privacy and social space, while scrupulously attentive to the needs of nurses and other caregivers. “The needs changed as the patient’s journey changed,” says Diane Klein. “As a design principle, you need that flexible environment.”

Today Mayo’s cancer facilities in Rochester, Minn., and Phoenix include the new chemotherapy treatment room designs.

It’s a vivid example of how digging into details of workplace and process can impact results in healthcare and beyond. “Just looking at the space,” says Klein, “helps us think and work differently.”
A look at the future of evidence-based design

The Well Living Lab represents a giant step from workplace design theory to the world of hard, medical science.

A cluster of beige desks and cubicles could be any drab office in any industry anywhere. But the deceptively generic scene is the site of cutting-edge research into how indoor life and work affect human health.

The collaboration between Mayo Clinic and Delos will allow researchers to calibrate every element of the lab’s model “office”—air quality, temperature, lighting, noise, and furnishings—while real workers, wearing bio-sensors, go about their usual daily tasks.

The data derived from how human beings react to the changes in noise level, for instance—are they stressed? fatigued? invigorated?—will translate into rigorous, high-impact guidance for design.

The Lab represents a leap forward from soft assumptions and self-reported information to quantitative data showing how workplace, materials, and space affect human health.

“We’re doing real, scientific validation,” says Barbara Spurrier, chief strategy officer of the Well Living Lab.

She foresees the Well Living Lab, located adjacent to Mayo Clinic in Rochester, Minn., tapping into Mayo’s vast health expertise. “We are playing a catalyst role in the movement combining health science and building science,” she says.

The lab allows for a seemingly infinite number of study possibilities, thanks to its modular design. The ceiling, floors, walls, furniture, plumbing, lighting, window-shading, and HVAC can all be swapped out, to create experiment conditions.

Embedded sensors and cameras will supplement the data generated from the wearable sensors, the better to assess impact on its human subjects. Given the cloud-connected infrastructure, research can be extended to settings outside of the Lab, like homes, schools, and offices.

Behind the scenes, Dana Pillai, President, Delos Labs and Executive Director, Well Living Lab, will work with colleagues to recalibrate the surroundings according to the specific experiment. “The data and analytics infrastructure is incredibly sophisticated and robust,” says Pillai, peering at the bank of monitors backed by cloud servers.

To study lighting effects, they will re-tune fixtures to mimic halogen or incandescent bulbs. Through hidden speakers, they will ramp up the ambient office noise. They might alter the transparency on the “dynamic glass” of the windows to affect glare, or change out carpet squares to hardwood flooring overnight. Temperatures will vary. Workers will wear sensors recording heart rate, galvanic skin response, and other feedback, and will respond to surveys with more subjective reaction.

The first experiment began on May 29, 2016, when 10 office workers from Mayo Clinic entered the lab space, strapped on wristbands or other wearable sensors, and began their day of writing reports or scheduling patients. They’ll do this every day for nine weeks. Pillai and Spurrier are still refining details such as whether the workers will leave their sensors on at night, which might provide information about how a day at the office affects sleep.

“Wellness is such a broad word,” says Pillai. “We want to narrow it down to the particular aspects.”

Pillai imagines it will ultimately be possible to produce very specific guidelines that match individuals to their work environment, for example, for how far a desk should be from a window. Or, they may learn how design should be different for, say, employees who spend their days on phones. “The technology is phenomenal, and it’s here, and it allows us to do so many things in a big lab... We’re just getting started.”
While slightly more than half are satisfied or very satisfied, 46% are not.

Business runs by numbers. In today’s competitive talent market, understanding the data behind the power of workplace design can be the difference between attracting and retaining the best employees and losing out to your competitors. The survey shows some good news—some 63% of respondents are satisfied with the ease of interaction with co-workers, for instance, a possible result of the trend toward open plan offices. They are also satisfied with cleanliness and maintenance of their workspaces.
Want to know where to improve?

Here’s a look at the features of the workplace that scored the worst among all survey respondents. On a 1-7 scale, with 7 being the most satisfied, these numbers represent the percentage of respondents who scored the feature from 1-4.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to adjust your workplace temperature</td>
<td>46%</td>
<td></td>
</tr>
<tr>
<td>Sound privacy (ability to talk without being overheard)</td>
<td>44%</td>
<td></td>
</tr>
<tr>
<td>Ability to adjust workplace lighting</td>
<td>37%</td>
<td></td>
</tr>
<tr>
<td>Level of visual privacy</td>
<td>37%</td>
<td></td>
</tr>
<tr>
<td>Workplace temperature</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>Colors and textures of flooring, furniture, and surface finishes</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>Access to natural light</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>Ability to adjust furniture to meet your needs</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>Noise level in your workplace</td>
<td>31%</td>
<td></td>
</tr>
<tr>
<td>Air quality in the workplace</td>
<td>29%</td>
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Good design means happier employees

According to the Brandware study, at statistically significant levels, employees who are more satisfied with their workplace are less likely to quit; are more engaged at work; have higher job satisfaction; make better co-workers; and are more supportive of corporate goals. Companies that take design seriously will reap the benefits of a happier and productive workforce with lower costs of turnover. Yet, according to our study, only about half of U.S. employees are highly satisfied with their workplaces.

Do you want satisfied, creative, engaged, and productive employees?

Then make your workplace work for you.

Based on the research, IIDA and BIFMA recommend these high-impact, best practices in workplace design:

1. **Cafe space is a no-brainer.**
   According to the International Facilities Management Association, only a third of U.S. businesses offer employees lounge/cafe-type places for working. In Brandware's research, 76% of the group that is highly satisfied with their workplace says that they work in these spaces. Of less satisfied employees, just 24% do. Creating inviting lounges may be a company's fastest, least expensive design fix.

2. **Silence continues to be golden.**
   Respondents cited “sound privacy” as one of their biggest complaints, with just 39% reporting they are “most satisfied” with noise control. New options abound for quieting open offices, including sound-absorbing flooring and ceiling materials, and stylish hanging baffles. Moveable whiteboards block sound while capturing ideas. Some HVAC systems include white noise options.

3. **Green is good.**
   “Does your business offer a well-tended green space?” Of those who are highly satisfied, 51% agreed with 6-7 responses. Just 18% of the less satisfied agreed—another big disparity, easily remedied, even with indoor plants or some outdoor seating.

4. **A furnishings upgrade could pay off big.**
   Respondents were asked to rate from 1 to 7—with 7 being best—how satisfied they were with office furnishings. Of the highly satisfied employees, 76% gave ratings of 6-7. Of the less satisfied group, 20% gave ratings of 6-7. Businesses might compare the cost of replacing office furniture to the cost of replacing employees, which is about 20% of an employee’s salary.

5. **Give employees (some) control over the temperature.**
   Respondents—again, across all groups—are least satisfied with the office temperature and their ability to control it, with just 38% giving “most satisfied” scores. More offices are considering individual zoning systems, a bigger-ticket item, but worth pondering as part of an office redesign.

→ The bottom line? Workplace design matters—a lot.
Acknowledgments

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