

# RESILIENT REAL ESTATE:

Space as  
an adaptive  
system

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Amongst the whirlwind of volatility that seems to spin from one crisis to the next, business leaders are looking for new skills and strategies that will help their organizations thrive in the new global economy. At the same time, in this era of unprecedented complexity, the study of resilience has emerged in which scientists, economists, government leaders and psychologists are working to understand how systems, organizations and people can adapt to stay fit within an environment of constant change.

In his new book, "Resilience, Why Things Bounce Back," author Andrew Zolli draws from ecology and sociology to consider resilience "as the capacity of a system, enterprise, or a person to maintain its core purpose and integrity in the face of dramatically changed circumstances." Zolli suggests that "If we cannot control the volatile tides of change, we can learn to build better boats."

The notion of resilience is generally talked about in terms of economies, markets, ecosystems or people, but rarely in conjunction with organizational real estate. Leading real estate professionals consider how to create greater flexibility in their portfolios, but many overlook how they might better leverage these assets by developing strategies designed for resilience. At Steelcase we asked ourselves how the concept of resilience could be applied to the creation of the places where people within an organization come together. Could we construct a strategy designed to leverage today's complexities and embrace the speed in which circumstances change? Could real estate become an adaptive system to better support an organization's strategy, brand and culture by shifting fluidly while remaining economically viable? Could we develop that "better boat" through real estate? In each case, we believe the answer is yes.

## A GLOBAL OPPORTUNITY

Space Per Employee 2013



Ten years ago the average allocation of space per employee in the United States was 250 sq. ft. Five years from now it's projected to shrink to 150 and other countries are moving in the same direction.

Global organizations have an opportunity to not only shrink their real estate footprint but also amplify the performance of their people.

**Resiliency is not just about making things smaller, but also better.**

## A SUSTAINABLE APPROACH

Researchers define resilience as the ability to adapt to changed circumstances while continuing to maintain core purpose and integrity. Exploring and applying some of the principles of resilience provides a framework for real estate strategies to achieve this adaptive capacity.

When a real estate strategy embraces these ideas, it can create a more sustainable approach that is not only capable of withstanding volatile economic conditions, but also help builds trust and cooperation—what Zolli terms “people’s ability to collaborate when it counts.” It creates real estate that can help augment the interactions of people at work and build resilient workplace communities through strong social networks based on trust, that can flourish even in the most challenging situations.

To date, in an effort to respond to rapidly changing conditions, organizations have implemented alternative work strategies (AWS) such as teleworking, hotelling and mobile working. These have been implemented as a way to limit real estate costs while supporting organizational objectives, such as work-life balance for employees or reducing carbon footprints. The idea behind AWS was pioneered by IBM in 1989, but it's only in the last five years that most companies—80% according to one recent study—took hold of it as a means of reducing real estate costs and supporting a more mobile workforce.

Overall, AWS reduced the size of real estate portfolios about 6-10%, according to CoreNet Global. While a broad implementation of alternative work strategies might have reduced portfolios further, currently only about one-fifth of employees are engaged in

alternative work programs. And some companies that have implemented AWS as a space-cutting strategy often leave real estate idling: 11% of workers who use alternative workspaces still have an assigned workspace.

AWS has resulted in modest reductions in real estate portfolios, but there is a steady shift happening. Ten years ago the average allocation of space per employee in the U.S. was 250 square feet; today it's 185-195 and projected to shrink to just over 150 in five years. Europe posts similar numbers, according to global real estate firm Cushman & Wakefield: offices in Italy average 215 square feet, in France 180; Spain, 162; the United Kingdom, 170; Germany, 320; and Austria, 130.

While the cost-reduction trend is encouraging, there is a growing awareness that AWS can be effective only if it's part of a broader approach that considers effectiveness as well as efficiency. This begins with understanding that work is inherently a social endeavor and that in order to be successful people need other people, they need access to technology and they need places that bring these elements together. As

one of our research colleagues put it, “The workplace is the original social network.” Thus space is being recognized by executives as a key element of organizational success.

## PLACES WHERE PEOPLE WANT TO WORK

In the past, people had to go to the office to go to work. If they weren't in the building they couldn't connect with co-workers, the company's IT system, or printed files; if they weren't in the building, they weren't working. Then technology cut the tethers to specific locations for work, the global economy became everyone's marketplace and cutting expenses became paramount.

Technology tantalized us with the idea that we could save money by rethinking our approach to work and traditional concepts about the workplace. Did we need buildings at all? Could workers simply work from home and communicate virtually? Could the company substantially reduce its real estate and its inherent costs by implementing alternative workplace strategies? Companies that focused primarily on cost-cutting and finding ways to put more people into smaller spaces learned some tough lessons, says Peter Shannon, managing director of Jones Lang LaSalle, a worldwide real estate services firm. “Companies lost some things in the process. Teams could not truly collaborate. Employees felt disjointed. Leaders saw a decline in creativity and productivity.”

Today some companies have started mandating that people come back to the office as a way to drive collaboration and rebuild a sense of connectedness to the organization.

Despite plenty of pros and cons cited for co-location versus distributed work, real estate professionals agree that the discussion has elevated the awareness of how much the physical environment drives organizational performance and business results.

Leading organizations know this means more than just bringing people together in buildings that bear their name. It means going beyond the aesthetics of the environment to creating places that actually help people engage more fully in their work, help build trust with distributed co-workers and allow people to innovate faster. “Companies have learned and now they're asking how to create work environments where people really want to come to work,” says Shannon.

## THE TENSIONS OF TODAY

Knowing how to create places that amplify the performance of people and the organizations they work for means understanding and designing for the tensions that exist today:

- ▶ The more mobile our devices allow us to be, the more we need fixed places to come together to connect and collaborate
- ▶ The smaller our technologies, the more we need scale to share and communicate effectively with others
- ▶ The more data we generate, the more we need places to help us make sense of it
- ▶ The more collaborative we became, the more we need time alone
- ▶ The more distributed we become, the more we need to be together
- ▶ The more virtual we need to be, the more physical we want to be

This is the role that place can and should play. In an increasingly interconnected and interdependent economy, the places where organizations come together matter more than ever.

The opportunity is to not just build smaller offices, but to create destinations that attract people because it is where they can do their best work. Places that provide meaningful experiences for the people who use them, today and tomorrow. Workplaces where resilient organizations can grow and thrive.

## The Elements of a Resilient Real Estate Strategy



### Clustering

Design the physical environment to help bring a diverse range of people, resources, tools and ideas into close proximity with each other, while achieving the right level of density—not too sparsely populated or overcrowded.

Clustering promotes the cross-pollination of people, ideas and experiences through places that bring them together. These places are designed to augment people's interactions, whether working side-by-side or across continents.



### Modularity

Create places with a modular structure, using integrated interior architecture, furniture and technology components that can be easily reconfigured and enhanced when business needs change, especially during times of rapid growth or disruption.

Modularity requires an intentional design that balances spaces equipped for individual work and group work, some which are owned by individuals and teams and some which are shared. The ability for users to self-select places where they can be most effective allows the overall space to address the shifting needs of the organization.



### Feedback Loops

A feedback loop for the physical environment allows organizations to learn what is working or not, to modify the workplace and continue to iterate and evolve. This means developing a diverse system of quantitative and qualitative data that can alert the organization to the need for gradual or rapid change.

By also employing the concepts of clustering and modularity, the feedback loop allows an organization to rapidly and dynamically reconfigure its spaces and avoid business disruption.

## CONSTRUCTING A RESILIENT REAL ESTATE STRATEGY

Three principles from the study of resiliency form the framework we've developed for creating real estate that fluidly adapts to ever-changing circumstances and an evolving organization, while continuing to serve the company's mission.

### #1 CLUSTERING

Zolli writes that "resilience is often enhanced by the right kind of clustering—bringing resources into close proximity with one another...a special kind of clustering, one whose hallmark is density and diversity—of talent, resources, tools, models and ideas."

A resilient real estate strategy is one that embraces this principle as a foundational element and promotes the cross-pollination of people, ideas and experiences through places that bring them together. These places are designed to augment their interactions, whether working alone or in teams, side-by-side or across the globe.

Such places enhance both the quality and quantity of human interaction when they are equipped with the tools and experiences that matter most—quick and easy access to colleagues, the tools people need to do their jobs and the technologies that amplify their performance.

Through our ongoing design research about the behavior of people at work, we know that choice and control over where and how people work is fundamental to satisfaction and engagement. Places that support the various modes of work in ways that consider physical, social and cognitive wellbeing help people be most effective at what they do.

Based on this understanding, we developed a concept that we deploy in our own spaces as well as with our customers: the interconnected workplace. It promotes choice and control over the places people work within an overall ecosystem of spaces with three key features:

- ▶ **Palette of Place:** a range of owned and shared spaces designed for both individual work and team work
- ▶ **Palette of Posture:** spaces designed to support movement
- ▶ **Palette of Presence:** spaces that support mixed presence experiences, both physical and virtual, and analog and digital information-sharing

This concept leads to workplaces that allow people to choose where and how they want to work, or as we call it, "best place": the ideal place, anywhere on campus, based on the type of work that needs to be done and the environment required to be successful. The result is a global ecosystem of spaces designed to augment the interactions of people, while reducing the company's overall real estate footprint and costs.

This approach allows an organization to do more with less and challenges the company to leverage today's complexities to rethink rather than merely shrink real estate. The return it yields can impact the bottom line in ways that transcend cost-cutting since resilient real estate invests in the key asset of any organization: its people.

### #2 MODULARITY

There are certain structural features of resilient systems that allow them to ensure continuity by dynamically reorganizing when circumstances require it. "While these systems may appear outwardly complex, they often have simpler internal modular structure with components that plug into one another, much like Lego blocks," writes Zolli. "This modularity allows a system to be reconfigured on the fly when disruption strikes, prevents failures in one part of the system from cascading through the large whole, and ensures that the system can scale up or scale down when the time is right."

A resilient real estate strategy mimics this principle when it has been intentionally designed to create a balance of spaces equipped for individual work and group work, some which are owned by individuals and teams and some which are shared. The ability for users to self-select places where they can be most effective allows the overall space to address the shifting needs of the organization.

In terms of the physical properties of resilient spaces, modularity integrates interior architecture, furniture and technology to allow for easy configuration and adaptation as required to support the types of spaces organizations need at any stage, especially during times of rapid change and disruption.

As the needs of users shift and external factors impact business conditions, these spaces remain vital because they are capable of morphing and evolving as required, without increasing the overall footprint and operational costs.

Resilient places are designed for maximum performance. Every square foot contributes to the effectiveness of the people working there. This understanding caused us to question conventional thinking about real estate and why the focus is primarily on the horizontal plane and rarely on the vertical.

Through further research and development, we have explored how vertical real estate can expand the role of walls beyond boundary and division to become vehicles for communication, collaboration and concentration—the elements essential for augmenting human interaction. We believe the vertical plane is a foundational element in creating an interconnected workplace and can be the underpinning of resilient real estate when it's designed for intelligence as much as for function.

## MONEYBALL FOR BUSINESS

Using sensors and data analysis, companies can better understand their workplaces.

The PricewaterhouseCoopers real estate group closely monitors workplace performance data for each of its member-owned firms by tracking when staff members access PwC's network, check-in to the hotelling system from digital devices or use an access card. Data is captured daily and segmented by lines of services (tax advisory, assurance, etc.) and types of employees (partners, directors, staff). "Detail is key," says Steve Adams, PwC's director of workplace strategy in the U.S. "Who is coming in the office? Are people taking advantage of our mobility programs?"

Each month, updated workplace performance information is made available via an internal web-based dashboard and document repository for PwC's senior leaders and partners who manage markets and facilities. It shows who's following hotelling protocol in their office, conference room usage, even how other firms are responding based on their client list, where they're located and their mix of business. "If you don't have this information to manage your workplace it's like running a business without a balance sheet. It's essential to understanding how our office environments are working," says Adams. (For another innovative way to measure workspace performance, see "Moneyball for Business" on the opposite page).

Real estate executives and the teams they work with need to apply this same thinking to make sure they employ feedback mechanisms that offer regular, ongoing feedback that can signal when change is required or critical issues need to be addressed.

"The business cycle is so dynamic and elastic. The environment changes and you can't always predict where the business needs to go, so you have to increase your capability to respond. Flexibility is so much more important in real estate now," says Shannon of JLL.

While collecting and analyzing feedback that informs global real estate strategies can seem daunting, there are a number of ways to capture the data. The spaces themselves should provide organizations with feedback that can help inform their real estate strategies. Advanced scheduling systems integrated into individual and group spaces can track space utilization with real-time analytics that measure and report reservation patterns, lighting, temperature, etc.

And resilient people lie at the heart of a resilient organization. ●

185-195 square feet. That's the typical amount of space allocated for a knowledge worker in the U.S. today. Five years from now it will be 150 square feet, according to CoreNet. At Steelcase's global headquarters, the current average is 155.

"While this is almost 30 square feet less than it was two years ago, the more important question is, how well do these spaces support communication and collaboration? How well will they adapt to new technology, new work processes? How resilient will they be over time? These are difficult questions for any company to answer," says Dave Lathrop, director of WorkSpace Futures and strategy at Steelcase.

But the company is using new research methods to gauge workplace performance, "and the results we're seeing are more accurate, detailed and nuanced than ever," says Lathrop.

For example, the research reveals that conversations in the morning are more process-related conversations, with more informal interaction happening in the later afternoon, even though both take place in the same location. Lathrop believes "people hit the ground running and are task-focused in the morning. As projects peak and wind up, there's more back-and-forth discussion, more sharing of what happened and discussion of results."

In the new workplace people are communicating more, both face-to-face and via email, video and text, with colleagues located farther away on the floor. "We believe that since these people have worked together for some years, they know others nearby but need to connect with people located further away," says Lathrop.

To provide such detailed data, employees wear sensors (about the size of a company ID badge) that record detailed information about their movements and conversations over a period of weeks: body movements, the energy level of conversations, where they're located in the work environment, what spaces they use and the interactions they have. "By analyzing this data, we can track how information flows around the company, the diversity of connections, what workspaces are being used the most, how connected or disconnected people are, how they relate to others on their team and similar information," says Lathrop.

"Since much of the value that a company produces comes out of the interactions that people have with each other, it's critical to know the kinds of spaces that support those interactions."

Lathrop works with Sociometrics Solutions, a firm founded by people from MIT Media Lab, an organization with which Steelcase has had a working relationship for many years. Sociometrics developed the sensors and the software that analyzes the collected data.

Ben Waber, Sociometrics CEO, likens the work to how baseball teams switched from using intuition and observation in player evaluations to using detailed statistics, a game-changing idea featured in the movie "Moneyball." "We're applying Moneyball to business. We're taking what's been a very qualitative process for a long time and using data to inform and drive decisions."

"If you ask people, for example, who they talked to yesterday, their responses will be about 30% accurate. They'll respond with the people they know best, or who they like. People aren't being dishonest, they just don't remember that kind of detail. By tracking their interactions, we get very fine-grain, accurate data."

Individuals are not identified; people are linked to teams and only aggregate data is analyzed. Individual information is kept confidential.

"At the end of the day, this information gives us the ability to fine-tune our designs and applications like never before," says Lathrop.

## #3 FEEDBACK LOOPS

"From economies to ecosystems, virtually all resilient systems employ tight feedback mechanisms to determine when an abrupt change or critical threshold is nearing," Zolli writes. "We are soaking in a world of sensors and the feedback data that these sensors produce are a powerful tool for managing systems performance and amplifying their resilience—particularly when those data are correlated with data from other such systems."

Real estate executives and the teams they work with need to apply this same thinking to make sure they employ feedback mechanisms that offer regular, ongoing feedback that can signal when change is required or critical issues need to be addressed.

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## RESILIENT ORGANIZATIONS

A company's people and its real estate are its two greatest expenses—and its greatest resources. The two are irrevocably intertwined. Real estate can and should do more to create value for the organization by amplifying the performance of people at work. Therein lies its greatest value to the company.

In a world that seems to leap from one crisis to the next, resilience can make the difference between success and failure for an individual, a group, a company. "We can design—and redesign—organizations, institutions and systems to better absorb disruption, operate under a wider variety of conditions and shift more fluidly from one circumstance to the next" notes Zolli.

A resilient real estate strategy, based on the principles of clustering, modularity and feedback, helps create strong communities of people in the workplace. It allows them to be more adaptive to change, more able to respond quickly and decisively to a changing

global marketplace, and collaborate and cooperate more effectively. Steeped in trust, these people are more agile, innovative, and ultimately more resilient.

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