

Monstarlab ::

Smart Real Estate: The role of digital in creating great places

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Introduction

The last decade has seen seismic shifts in the way we use and experience physical places. While a lot of this is due to the pandemic, change has been gradually happening for years. Retail, for example, has evolved from brick and mortar stores, to a focus on e-commerce.

Consumers spent over \$601 billion online with U.S. merchants in 2019, up 14.9% from over \$523 billion the prior year¹, with the U.S. e-commerce market set to reach more than \$1.1 trillion in sales by the end of 2023².

Workplaces have seen a similar transformation, with companies around the world adjusting to the pandemic by adopting new technologies that enable their teams to collaborate from home. Even as of Q1 2023, occupancy in US offices is only 40-60% of its pre-pandemic level.

In real estate, the purpose of places is changing - the office has adapted from a place of work to a place of connection; shopping centers have become much more about experiences, entertainment and creating new memories; home is now a mixed-use space that accommodates work, education, family life, health & fitness and more.

So how can real estate owners create places that respond to and pre-empt the evolving needs of users - increasing revenue as a result? And how can technology play a starring role in that process?



I. Good experience is good business

You only have to look at the biggest brands in the world to know that offering a compelling experience drives tangible business results. Apple, Amazon and Google for example all have a laser focus on delivering what customers need before they even know they need it, and have been successful as a consequence.

Combined, these three behemoths have a market capitalization of close to five trillion USD and occupy spots in the top-five most valuable businesses in the world. In the case of Apple and Amazon, they've taken this same innovative approach to the creation of their physical stores.

These experiences are usually underpinned by innovative technology and a clever use of data that drive highly efficient operations, minimize costs and maximize profit. Technology provides similar benefits in physical places of all types; from offices, to shopping centers, airports, campuses and mixed-use districts. More than ten years ago, audiences in these places were essentially captive. Today, access to a range of services via the internet has meant that owners need to work harder to drive dwell time and on-property expenditure. Technology plays a key role here, and retail and hospitality has proven this to be the case.

Restaurants now offer a range of ways that customers can use to order, increasing convenience as well as growing sales. For example, Monstarlab created Shake Shack's digital ordering solutions, including apps, web channels, in-store kiosks, and kitchen display systems. These integrated solutions provide an excellent guest and workforce experience, and have seen order sizes increase across all channels by 10-15%.



Pictured: Shake Shack's in-store digital kiosks

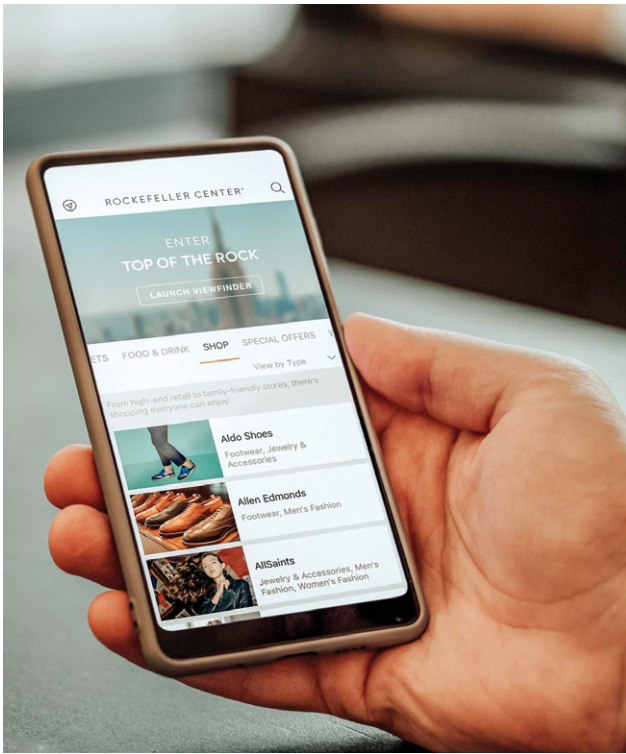
Similar solutions have proven benefits in entertainment venues. Monstarlab worked with Chase Center, home to the NBA's Golden State Warriors, to integrate a range of technologies to enhance the fan experience and increase spending onsite. An integrated hospitality offer is among the key elements, giving fans the opportunity to order food via Kiosks around the arena. This convenient ordering channel, together with optimizing fulfillment times has reduced queuing, driving both planned and spontaneous purchases during games.

Similar techniques have already been used in real estate to drive business benefits. Tishman Speyer serves more than 2,200 corporate tenants at some of the most iconic properties worldwide. At the Rockefeller Center, Monstarlab partnered with the company to conceptualize and build a world-class experience for corporate tenants and visitors. Monstarlab created two different experience-focused solutions in support of Tishman's goals.

¹ Young, J. (2020). US ecommerce sales grow 14.9% in 2019. [online] Digital Commerce 360.

² Baluch, A. (2023). 38 eCommerce Statistics of 2023 – Forbes Advisor. [online] www.forbes.com.

The first is a collection of services, amenities, spaces and perks, all accessible through a concierge app (ZO) that corporate tenants offer to their employees as part of their benefits package. It includes access to a range of services leveraging the unique assets of the property itself - retail, entertainment, hospitality, health and wellness etc. Monstarlab also designed an adjacent experience for Top of the Rock, integrating Augmented Reality (AR) for a self-guided tour of the New York skyline, and wayfinding to help navigate the attraction and surrounding area. These solutions increase both dwell time and expenditure, and ensure that tenants, as well as the 2.5 million visitors per year to the Top of the Rock, benefit from the full range of experiences on offer. The solution was so successful that Tishman opted to roll out ZO to its properties worldwide the following year.



Pictured: The ZO concierge app

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Digital technology has disintermediated real estate owners from their customers. Twenty five years ago, if you were hungry while onsite at an office campus or shopping center, you'd shop at the cafeteria or food court. Today you'll look up restaurants at neighboring properties on Google Maps or Grubhub and may leave the property to eat, or order delivery. The next-generation of digital experience for property owners should “re-intermediate” people to the services offered by the owners by providing greater convenience, personalization and speed. It is critical that businesses have a laser focus on user needs to successfully reestablish the purpose of places in a post-pandemic world.

Max Oglesbee

CEO of Monstarlab Americas



II. Creating smart places: leveraging digital to drive value from physical assets

When we talk about something being smart - smart phone, smart watch etc. we often associate that with being connected to the internet. While that is true, what we really mean by the phrase 'smart' is that it is responsive.

Such technology is able to predict the needs of the user based on information from sensors, data and connectivity. The Apple Watch contacting emergency services when vital signs are lost and providing accurate location data to first responders is a great example of this.

In the context of a place, needs can be complex and varied, particularly in large mixed-use spaces where use cases include residents, visitors, shoppers, office workers, maintenance staff, security or even government leaders.

In order to create a smart, responsive place, you need to start with identifying key user personas and their corresponding needs - understanding what motivates and drives them, remembering that they may not always know they even have these needs themselves. This can help highlight opportunities to create attractive, easily adoptable solutions for people, adding value to their lives, and driving revenue and return on investment. Research shows that if products and services are designed with targeted needs in mind, organizations have the potential to reach four times the number of intended consumers.³

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In real estate, it is particularly important that businesses create consumer experiences that are adaptable over time, enabling the owner of a place to respond to evolving user needs. With Tishman Speyer for example, when we created the ZO platform, the team had a certain set of use cases in mind, and the platform was launched successfully with those features included. We also knew that the platform would need to be responsive to new use cases, and so we built in flexibility so that Tishman Speyer could successfully evolve the platform and its features. While it's critical to have use cases in mind to guide the development of smart projects, you need to create a platform which will remain relevant for years to come.

Max Oglesbee

CEO of Monstarlab Americas



³ The Benefit of Designing for Everyone. (2019)

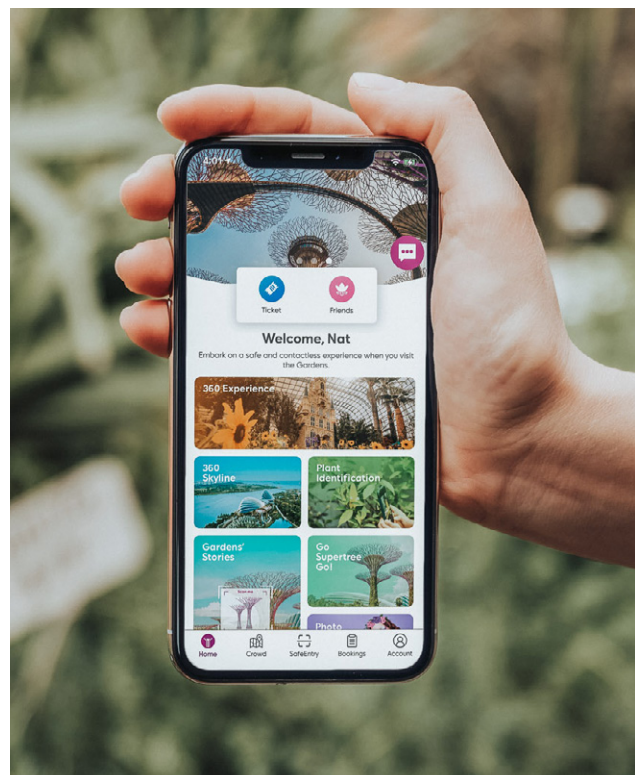
Understanding how places are currently used is the first step. This can be done by integrating data from a range of sources that might already be in place such as access control, sensors, Real Time Location Systems over Wi-Fi, conferencing equipment and so on, to better understand occupancy. The focus here should not just be about how many people are in a place, but where they are, how long they spend in specific areas, and if possible, what needs might be unmet in these locations. These insights can be combined with qualitative data from user research like surveys, interviews, focus groups, on-the-ground observation and peer-property visits to get a deep understanding of not just how people are using a space, but why, and how satisfied they are with their experience.

For new developments, these insights can be drawn from related, existing properties, or from simulation tools such as Digital Twins, feeding the learnings into the design of the new space in a similar way to traditional post-occupancy evaluation studies. This is not a one-time job; it is a continuous assessment and improvement process that responds to evolving user needs.

Once you have these insights, opportunities for how to leverage technology to enhance the experience of a physical place will start to emerge. The initial steps in creating connected, smart places often involve removing friction, creating efficiencies, and in the best circumstances, inviting serendipity. In the realm of building technology, efforts often focus on efficiency and optimization, physical security and risk management. These are all important, but are often not visible to the end user, and therefore have an indirect impact on the experience of a tenant or visitor.

There are, however, great examples of technology directly improving human experience on property. Monstarlab worked with Gardens by the Bay in Singapore, to develop an app-based experience to complement its diverse collection of 1.5 million plants from every continent on the planet.

The app combines a range of features designed to help visitors navigate, and inform them throughout their journey. As Singapore emerged from lockdown, the app supported visitors in feeling safe when visiting the attraction. A key feature is the integration of Virtual and Augmented reality to enable plant scanning, 360 skyline information from the top of the Supertree (with integrated ticketing for other attractions in the skyline), as well as Virtual Reality to experience the gardens from home.



Pictured: The Gardens by the Bay app



Pictured: The Gardens by the Bay attraction in Singapore

Additional features include wayfinding, Instagram filters and the 'Go Supertree Go' game. The Gardens by the Bay mobile application has seen over 100k downloads across iOS and Android since it was released. The app has helped Gardens by the Bay to connect with customers during lockdown, as well as boosting recovery following the pandemic.

In generating an integrated experience like Gardens by the Bay, it is important to have an overarching strategy, rather than an assembly of uncoordinated point solutions. Often at the outset of such a project, Monstarlab will create a digital master plan, which much like a physical master plan - provides a blueprint for an integrated and flexible platform that can drive sustainable ROI across the lifecycle of a place.

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How can a city or real estate developer harness these new capabilities? First, by understanding the needs of the community, creating a holistic and inclusive strategy through a digital master plan. Secondly, by designing flexible platforms that can be adapted to meet evolving needs and insights, rather than procuring and deploying a set of discoordinated point-solutions. It is vital that master planners remain flexible in the current environment and respond quickly to the ever-changing landscape.

Max Oglesbee

CEO of Monstarlab Americas



III. Sustainable by design

The built environment is currently responsible for at least 40% of the world's carbon emissions⁴ - a staggering 20 times more than the aviation industry.⁵ While this is no doubt a worrying statistic, it also represents an unprecedented opportunity to address the climate crisis in one single industry. In this context, the transformation of the built environment is absolutely essential to the future of the planet. It therefore stands to reason that, for a place to be considered smart, it has to factor in sustainability at its heart.

While the moral responsibility of this is clear to most, it's likely to become a legal and financial imperative in the not too distant future. Legislation such as the Minimum Energy Efficiency Standards in the UK mean that landlords could face sizable fines if their properties don't perform to a certain level, with standards being periodically increased between April 2023 and 2030.

There are also growing calls for tighter legislation to be introduced around ESG (Environmental, Social and Governance), with environmental performance a critical element. It's not just about legal obligations either, sustainability is becoming increasingly important in securing investment.

A few years ago, only a handful of investors considered ESG. However, a recent report from EY found that two thirds of private equity companies now consider ESG when making an investment⁶ - not just because of the ethical implications, but also because businesses investing in innovation, technology and other sustainable practices drive better returns.

Given the scale of the challenge for many organizations in the built environment, it is essential that companies have short, medium and long term plans to reduce their impact on the environment - rather than focusing solely on the larger initiatives that take longer to implement.

Digital technologies can be a key part of the short-term solution, while offering the opportunity to scale for bigger impact in the future. Take better use of data, for instance. Deploying and leveraging data from Internet of Things (IoT) devices to offer insights into and optimize energy performance could be relatively easy to implement in the short term. This could evolve into using automation to control the environment based on occupancy data.

Over the long-term, organizations could leverage that data in digital twins to simulate the impact of tactics or design decisions on overall energy performance across a building, development, estate portfolio or an entire city. This same technique could be used to optimize the design of new buildings before they're even built.

Delivering a seamless experience for users is usually dependent on these streamlined systems. For instance, collaborative tools in the office depend on data from room bookings and location.

Equally, offering a great experience for users also tends to drive connections with local amenities and community, improving wellbeing, resilience and prosperity. This indicates an inherent connection between technology and sustainability - but that doesn't mean it can't also have a negative impact.



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As well as the legislative pressure and increasing importance to investors, sustainability is becoming a key factor in buying decisions. A recent report found that 90% of all consumers are willing to pay more for sustainable products⁷ - and that's not just Gen Z - that's across all generations. That figure is only going to increase, so real estate companies need to do more than simply comply in order to stand out.



Unfortunately, the scale of the task can sometimes have a paralyzing effect, stopping any progress from being made - and chasing the big and shiny initiatives can often mean that important opportunities to improve are missed. Companies need to take an 'ambidextrous' approach, focusing on the incremental steps they can take now, as well as how that lays the foundations for scale in the future.

Charlie MacDowall

Smart Places Engagement Director, Monstarlab UK

4 [www.ey.com](#). (n.d.). Three ways CFOs are adapting to emerging private equity trends. [online]

5 Ritchie, H. (2020). Climate change and flying: what share of global CO2 emissions come from aviation? [online] Our World in Data.

6 [www.ey.com](#). (n.d.). Three ways CFOs are adapting to emerging private equity trends. [online]

7 First Insight (2019). The State of Consumer Spending: Gen Z Shoppers Demand Sustainable Retail. [online] [www.firstinsight.com](#).

IV. Progress is only possible through partnership

Effective smart places have digital technologies woven into the fabric of the project - not bolted on as an added extra. This requires collaboration across the entire ecosystem of stakeholders from developers to architects, contractors, systems integrators, clients, tenants, users and so on. While the exact stakeholders will vary depending on the development, the buy-in and engagement and collaboration of cross-functional teams is always essential.

This ensures that digital can maximize its value to the project, and that research and engagement is optimized across an entire scheme. For instance, if there is an upcoming government mandate that is driving requirements around energy performance, or reporting the required collection of specific data points, these elements can be effectively prioritized as part of the digital master plan.

Similarly, stakeholder engagement and consultation should be holistic and collaborative, and the findings can be leveraged across an integrated place-making master plan.

A multidisciplinary steering committee or other working group aligned with both the overarching goals of the place - be it an office, shopping center or mixed use development - as well as the imperative of technology transformation, can help to underpin successful collaboration.

This committee will have oversight of the development of the digital master plan, to drive engagement and a sense of ownership and accountability. It will also help with governance for delivery to ensure a successful roll out, evolution and iteration of the master plan over time, taking into account wider issues and context.

These aligned priorities and architectures ultimately lay the groundwork for a platform on which new solutions can be identified, tested and implemented to create smart places that respond to user needs and deliver maximum business value.



Conclusion

The pandemic has changed the behavior of people, and their use of places - perhaps forever. Digital transformation will now play an important role in helping real estate companies to understand how they can better attract, entertain, wow and retain users by adapting to their unique needs and wants.

To drive engagement, careful use of technology needs to be considered. It's one thing to fill a space full of cool innovations, but the real question to ask yourself is whether they are useful and add value to those who use your spaces. It's only then that the benefit can be felt and truly 'smart' places can come to fruition - ones that maximize investment and drive a positive impact on community, the economy and the environment.

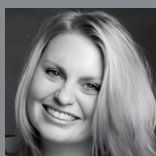
Monstarlab are experts in creating smart places that answer the bespoke and tailored needs of users. We look closely at all those of which a place is used by and has an impact on and can deploy the perfect mix of technologies that work in harmony and can adapt over time.

Learn how Monstarlab can help you to create exciting smart places that meet your users' needs and request a call with one of our experts.

For more information, please contact:

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About Monstarlab

Monstarlab is a digital experience partner focused on accelerating growth for ambitious clients. We achieve this through our human-centred design and engineering expertise, our open partnership approach, and our extensive network of global talent.

For more information, please visit our website at: monstar-lab.com/americas