Disruptive forces shaping the real estate sector

Disruptive forces can pave the way for explosive growth or undermine the business models of reputable giants, all in a relatively short period of time. A true disruptor often sends shockwaves through multiple sectors simultaneously, as technology has blurred the lines of traditional business. The speed of technology adoption across sectors varies widely – some sectors, such as life sciences, have been consistently at the cutting edge of technology and others, such as real estate, have been relatively slow to adopt until the recent past. Regardless of where, when or how you started, it is now clear that technology adoption is no longer a casual run, but a sprint. As a strong business leader,

understanding the disruptive forces, emerging trends – both digital and non-digital – and how they interact with each other can mean the difference between extinction and thriving.

While investment in real estate technology is exploding, the time frames that these will hit your business model are anywhere from yesterday to 20 years in the future. There are three technology trends explored in this piece, in differing phases of impact on real estate, hospitality and construction today – the sharing economy, smart technology, and big data analytics, which are likely to continue dominating discussions on the future of real estate for many years to come.

The sharing economy

The sharing economy comprises new business models empowered by multiple disruptive technologies (i.e., cloud-based collaborative apps riding on high-bandwidth, always-on mobile networks and the web) that exploit previously inaccessible information to instantaneously match consumer needs to idle capacity – thus creating disruptive economic efficiencies. It is a trend that is far from mature, and competition in the Asia-Pacific region is fierce. In China alone, the sharing economy was reported to be 1.95t yuan (~US$288b) in 2015, and is projected to grow at a rate of 40% per annum through 2020, according

to China's National Information Center. The popularity and hyper-growth of global and regional competitors such as Uber, Didi Chuxing, and Ola for ride-sharing; Airbnb and Tujia for home sharing; and WeWork and Naked Hub for shared office space showcase the changing appetite of consumers toward owning less and increased flexibility in choices of how to spend their capital.

For the consumer, the sharing economy allows access to enhanced leisure experiences, business services and other on-demand conveniences that were, in the recent past, out of reach for many. For the provider of goods and services, it is a way to take stagnant resources like time or assets, and produce immediate income, leading to economic opportunities like car ownership, that may have been impossible without the supplemental income supplied by the vehicle itself.

Airbnb's entry into the global marketplace has challenged the old hospitality models and brought the desire for robust experiences to the forefront. In a relatively short period of time, Airbnb has become one of the largest providers of accommodations worldwide. Their business model is ever expanding and now includes meetings and events; business travel through partnerships with American Express, BCG Travel and Carlson Wagonlit Travel; piloting the use of local tour guides worldwide; and the launch of a new innovation design company (Samara) to support urban planning in Japan (Airbnb's fastest growing market globally). Staying true to its tech roots, Airbnb has been agile from the start, wasting no time in exploring what's next, which is really where the disruptive danger lies.

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sharing Tujia having raised US $300m of series D funding* in 2015, and WeWork setting up a fund with a clear focus on the Chinese market, among others. In Sydney, The Sharing Hub, a sharing economy accelerator, has been set up as a collaboration between entrepreneurs, policymakers, potential investors and mentors to foster the growth of the sharing economy. For the larger players, global expansion is at the forefront of their strategy, and the smaller eyeing regional expansion in the near term. Regardless of strategy, it appears that there is plenty of room for competition in the Asia-Pacific market, given the demographics and entrepreneurial spirit of the region.

Technology poses many questions from a taxation and regulatory standpoint, and lawsuits are filed and fought on a regular basis. Associations like the Sharing Economy Association of Singapore, The Commission on the Sharing Economy in China and The Cabinet Secretariat's council on the sharing economy in Japan have been formed to understand and get ahead of issues and concerns. Japan is considering amending current legislation, *minpaku*, which specifically addresses home sharing and is currently not fully clear on what is and is not allowed. In a paper released in April, the NSW Innovation and Better Regulation Minister, Victor Dominello, stated the sharing economy contributed AUD$504m to the Australian economy in 2015. He believes it will continue to be an important part of the future economy, but has also asserted that the government is aware of the need for regulations and they are continually being created and updated. As with anything new, experience mounts, and how to move forward becomes apparent. With the outstanding opportunities that technology offers, there is also considerable risk, but what is clear is that a proactive approach can avoid costly headaches in the future.

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* Series A-D funding. Series A is typically the first structured investment round of funding, outside of friends and family. Series B usually is capital raised after "proof of concept" to be used for acquiring talent and growing the business. Series C is then raised to make an impact in the market by ramping up operations. D series, if it gets to this level, is traditionally used to strengthen a position in the market and prepare for IPO, buyout, acquisition, etc.
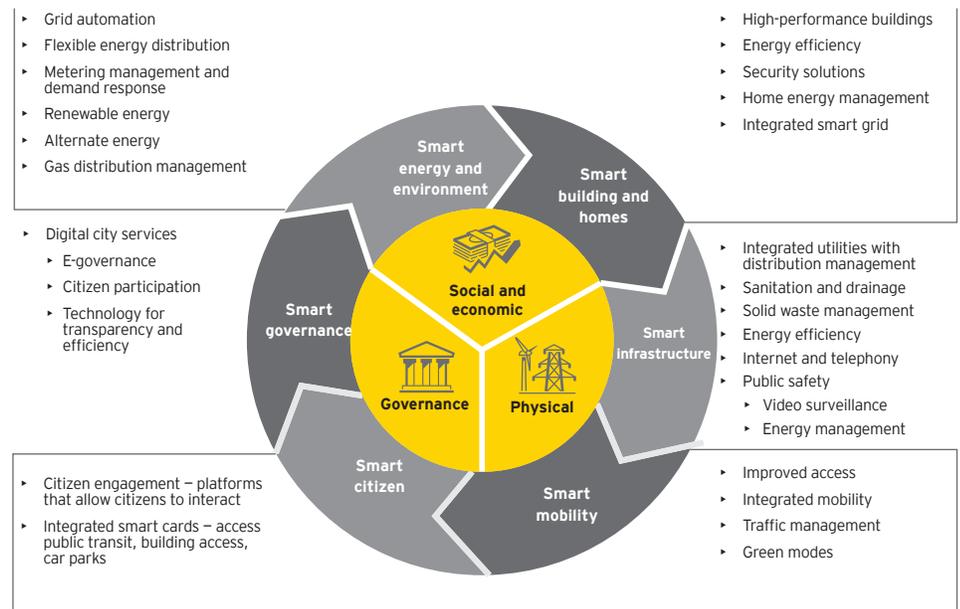
Urbanization: driving smart technology

Global urbanization is a well-documented megatrend. According to the UN, there are 28 megacities in the world. Sixteen, including the top three – Tokyo, Delhi and Shanghai – are located in Asia. The UN is predicting that by 2030, there will be 41 megacities worldwide. In order to support the swelling urban populations, sustainability can no longer be an afterthought, which is why smart buildings in smart cities are leading conversations worldwide.

Smart building technology should allow real estate investors to increase their ROI in two ways, both in savings from creating more traditional operational efficiencies through energy, water and space conservation (around 15%–20% savings can be expected in the first year*), as well as gains in price per square meter through optimizing the tenant experience. The most advanced smart buildings today have up to 30,000 sensors tracking the changes in foot traffic, the temperature – internal and external, efficiency of the HVAC system, building system outages, employee movement and preferences, and more. Combine this structured type of data with unstructured data from blogs, web posts and inputs from the IoT and you have endless opportunities to better understand your most valued stakeholders – your customers and employees. In order for this data to be useful, you need, at a minimum, a platform to collect and integrate the data streams, as well as properly defined analytics to produce meaningful outputs. Your platform must be flexible to suit your changing needs and your analytics must be built with specific desired outcomes in mind.

In figure 1, smart buildings are only one connection in the hub of a smart city, but their impact on the health of the environment is significant. A study published by the UN Environmental Programme shows that buildings consume 40% of global energy, 25% of global water, 40% of global resources and are responsible for one-third of greenhouse gases.* Many governments worldwide are increasing building efficiency standards with varying penalties for noncompliance. With the push from regulatory bodies steadily increasing, and the cost to outfit and retrofit buildings with smart building technology rapidly decreasing, embracing technology can be an effective piece of an overall strategy to win. With proper planning and a strong foundation, proactive vs. reactive management of the rapidly changing technological environment, and effective partners, you position yourself as a leader in the market, setting the standard for others to follow.

Fig.1

- Grid automation
- Flexible energy distribution
- Metering management and demand response
- Renewable energy
- Alternate energy
- Gas distribution management

- Digital city services
  - E-governance
  - Citizen participation
  - Technology for transparency and efficiency

- Citizen engagement – platforms that allow citizens to interact
- Integrated smart cards – access public transit, building access, car parks

- High-performance buildings
- Energy efficiency
- Security solutions
- Home energy management
- Integrated smart grid

- Integrated utilities with distribution management
- Sanitation and drainage
- Solid waste management
- Energy efficiency
- Internet and telephony
- Public safety
  - Video surveillance
  - Energy management

- Improved access
- Integrated mobility
- Traffic management
- Green modes

Smart energy and environment · Smart building and homes · Smart infrastructure · Smart mobility · Smart citizen · Smart governance · Social and economic · Governance · Physical

Source: EY

Big data

There has never been a shortage of competitive intelligence available to business owners, even before the rise of big data. The need for formal processes to collect the data, a flexible central repository to house the data, and qualified individuals to analyze the information in order to create meaningful and actionable plans, are also things that have not changed. What has changed is the scale and speed at which data is made available and collectible, with modern technological advances giving rise to a better understanding of your business landscape from a full 360-degree vantage point in real time. Big data analytics can add value in every phase of a building's life cycle, from pre-construction analysis to engineering and enhancing the end-user experience.

* http://www.jll.com/GSP/global-sustainability/smart-buildings

* http://www.unep.org/sbci/AboutSBCI/Background.asp

In the business of real estate, location is a critical factor. Big data can be used to develop a very precise heat map, capturing traffic patterns in potentially large areas and collating and converting the information into a detailed analysis, overlaying the value of buildings, land, etc., with demographic patterns. EY has specifically been able to use big data in advising an educational organization on locations to site with schools and universities, depending on the demographic pattern and visitor traffic of such locations (using GPS data). Once the location has been identified, predictive analytics can be used to better gauge risk (budgetary, project delivery time and regulatory), set the stage for efficient and effective project management, and expedite solutions to forensic issues as they arise.

Big data can be used for efficient building management, which can affect ROI, but another increasingly critical factor in maximizing ROI is building and executing a strategy to deliver an exceptional customer experience. A built environment example looks at malls, where data analytics can be used to understand customer behavior, using data from unstructured sources like WiFi and social media, and combining it with known structured data from company sources to tailor promotions and other initiatives in real time for a truly unique customer experience. Add in mobile technology, and loyalty programs can be interactive and timely, adding value to the tenant, the consumer and the property owner.

Conclusion

Technology is advancing at an unprecedented rate, bringing us into what is considered to be the fourth industrial revolution. The fourth industrial revolution encompasses the Internet of Things, but goes beyond simple device connectivity toward being an Internet of Everything. At its core is the combination of big data, analytics and physical technology. The aim is to provide increasingly enhanced, customized offerings to help meet the needs of individuals and organizations that can adapt and evolve to changing situations and requirements over time. While we have explored three technologies likely to impact real estate, hospitality and construction in differing ways, we have only scratched the surface of what's happening and what's possible.

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