Digital disruption in commercial real estate
Catalyst for growth?

Contents

Introduction

The way that Canadians live, work and shop is about to change profoundly

Rapid advances in technology are poised to disrupt many of the sectors that anchor Canada's economy. The impact will be felt across the country, yet many Canadian businesses aren't ready for it – including the real estate industry.

Today, digital disruption is all-pervasive, with technology integrated into our everyday lives. Digital innovation is changing economies and markets, reinventing the way business is done in all industries across the globe. The level of technology advancement organizations are facing today is akin to the industrial revolution of the early 1900s – and it's accelerating our businesses and operating models. No industry is untouched. Some have been impacted immediately, and others, such as real estate, are just now feeling the profound influence of the digital transformation that has been taking place over the past two decades.

Digital disruption can, in fact, be a dynamic catalyst to transform operating businesses and advance productivity in Canada – if we embrace and invest wisely in change. Real estate can also itself become a catalyst for change, influencing organizations to invest in business infrastructure, redesign spaces and transform their business models to become more competitive within the global marketplace.

Real estate can lead this change for Canada if industry participants truly embrace and drive this transformation.

What are the implications for real estate?

Those that occupy real estate – whether office, retail, industrial, institutional or residential – have the opportunity to use a real estate event such as a lease expiry, property acquisition, refinancing or redevelopment to drive change within their organization. This opportunity is available for both private and public sector organizations that can re-think how and where they operate their real estate and business.

At the same time, real estate owners, investors, developers and managers need to take notice and adapt business models and delivery systems to embrace this change. This includes myriad real estate issues, such as building construction, sustainability, site selection, accessibility to infrastructure and amenities, branding, property management and a wide array of other issues specific to each real estate asset class.

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Canadian productivity remains challenged

The challenge facing the real estate industry stems from the fact that buildings are fixed and difficult to quickly or cost-effectively change in order to embrace technological advancements. A Harvard Business Review article noted that "the more difficult the barrier, or the more barriers a disrupter faces, the more likely it is that customers will remain with incumbents.[1]" As such, many space occupiers are not motivated to change and will instead simply remain with the status quo. The problem with this decision is that these companies will face tremendous global competition, cost disadvantages and, most importantly, productivity challenges. Those that do not embrace change will inevitably fail to compete within the global marketplace.

The real estate industry has traditionally lagged behind other sectors, largely due to the nature of our buildings and infrastructure. Properties that are held by individuals, investors or owners remain unchanged for decades, with leases that extend from 5 to 20 years. As a result, with insufficient capital funds for improvements, some real estate market participants aren't prepared for, and have been slow to react to technological transformation.

In addition to today's overall uncertain economic environment, Canadian competitiveness and productivity have a huge impact on the real estate industry. According to Deloitte's Future of Productivity reports, productivity in Canada still isn't growing as fast as it is in the U.S. and many other countries.

Canada's output per worker was 78% that of the U.S. in 2011.[2]

Canada's 0.7% annualized labour productivity growth (2001–09) puts us in the bottom quartile of the Organization for Economic Co-operation and Development (OECD).[3]

An average U.S. worker generates $13 more per hour than an average Canadian worker. An average Norwegian worker generates $29 more per hour.[4]

Yet Canadian companies don't make the innovation and productivity investments they need to thrive:

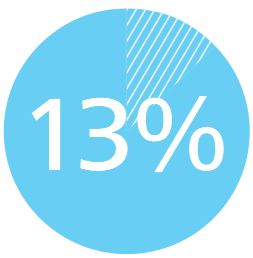
Private sector firms' research and development (R&D) investments equal just 1% of Canada's gross domestic product (GDP). That's less than half of what U.S. companies spend on R&D.[5]

Per worker, Canadian companies invest 65% as much as U.S. firms on new machinery and equipment and 53% as much on information and communication technology (ICT).[6]

75% of new jobs are highly skilled, yet 40% of Canadian workers lack the necessary abilities.[7]

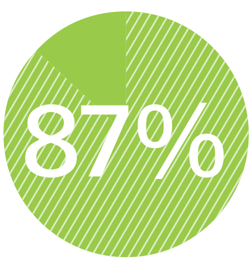
These statistics are borne out by the fact that Canada has fallen five places in terms of global economic competitiveness since 2009.

Canadian companies are woefully unprepared for digital disruption



Highly prepared

Deloitte survey found only 13% of Canadian businesses are highly prepared for new technologies



Not prepared

87% of Canadian businesses are not prepared for new technologies

Lagging productivity isn't the only challenge that Canadian companies face. As technologies continue to advance and further embed themselves into all industries, they widen the gap between Canada and other countries that are better positioned to take advantage of them.

Deloitte's Age of Disruption research found that, overall, Canadian companies are not prepared for the disruptive potential of new technologies, such as robotics, artificial intelligence, networks, advanced manufacturing and collaborative platforms. Only 13% of companies are highly prepared for these technologies, and yet 43% perceive themselves as more prepared than they truly are – a false perception not only of their readiness but also of the impact these factors will have on their growth.[8]

Clearly, it's time to change the way Canadian organizations do business. Previous studies have shown that despite a strong dollar, low interest rates and a stable investment environment, many of our businesses invest materially less in the R&D and machinery and equipment (M&E) – including information and communication technology (ICT) – that are vital to improving productivity. Our research suggests that a significant portion of Canadian firms mistakenly believe they are making competitive levels of investment when they are not. And this is causing them to fall behind their peers.

But all is not lost. Investing in productivity improvement and developing both an awareness of technology advances and the ability to respond to them will be the hallmarks of tomorrow's leading companies.

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Digital disruption affects all real estate asset classes

It's clear that digital innovation will affect all real estate asset classes as space users and advanced technologies continue to transform workplaces, shopping centers, distribution centers, homes and so on. Mobile employees and consumers will transform how they work, shop and live. As a result, their associated real estate requirements will change. Robotics and advanced manufacturing technologies suddenly question the viability and efficiency of factories across North America. The need to rethink traditional factory infrastructure, recognize decreased reliance on labour from emerging markets and identify potential re-shoring of workers certainly signal changes in job creation, design and overall operating models. Clearly, the real estate market is also facing seismic change.

The big picture for commercial real estate: more change than any time since the industrial revolution

Office

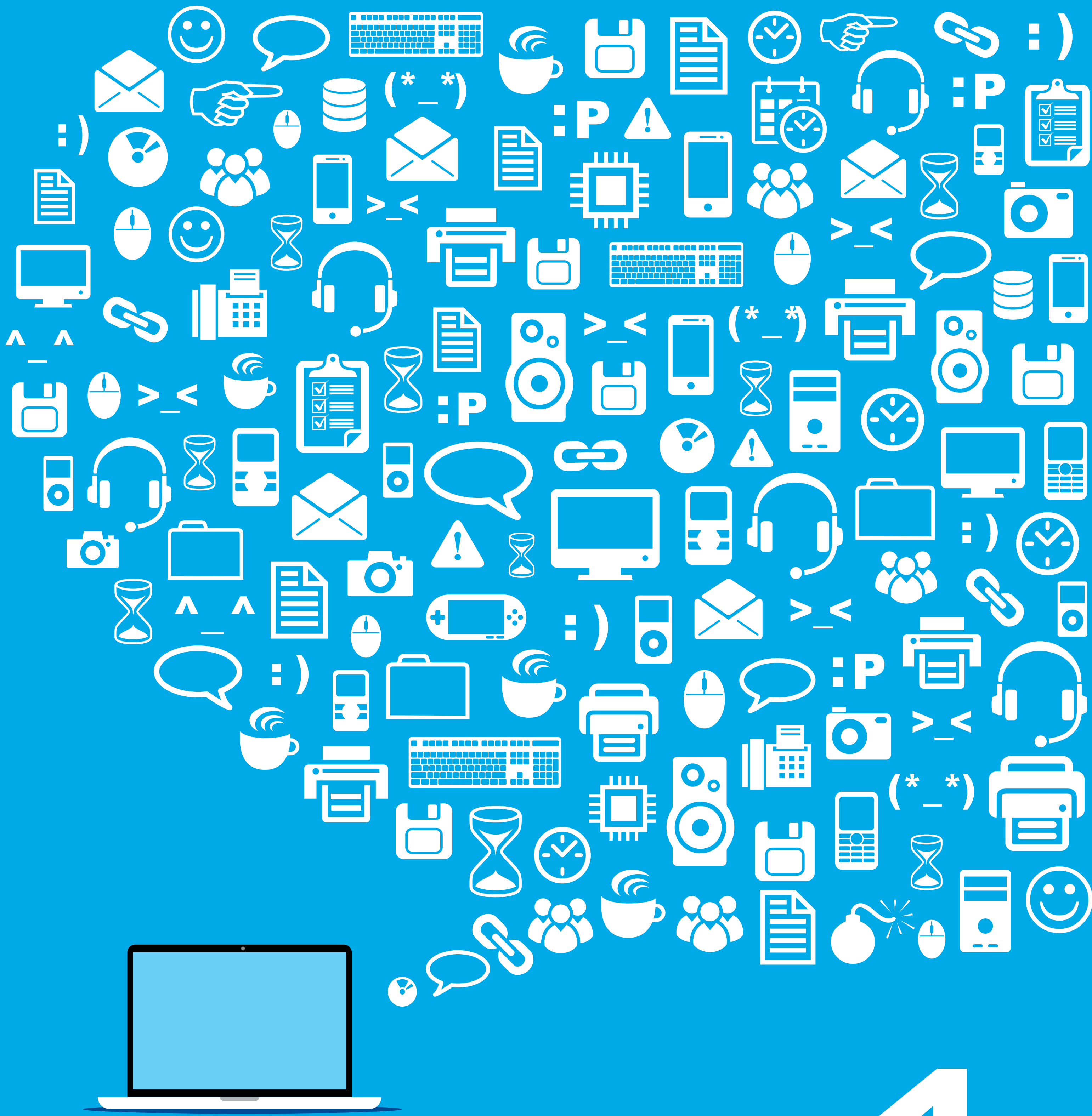
- Employees work anywhere, anytime
- Changing the space means more connected place
- Workplace is a business enabler to collaborate and drive productivity

Retail

- Consumers can shop anywhere, anytime
- Store networks are at the beginning of a major shift
- Empowered consumer driving new business models

Industrial

- North America becomes increasingly competitive
- Not everything is moving offshore, some re-shoring
- High tech and advanced manufacturing poised for a rebound



1 Traditional office morphs into the workplace of the future

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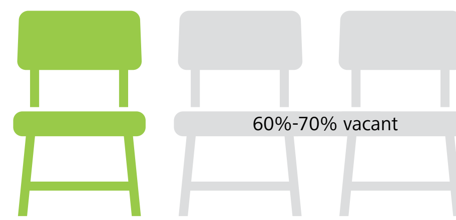
In real estate, the office sector is being impacted through the integration of technology, mobile devices and infrastructure that empower workers to work virtually anywhere

Traditional work environments have typically been places where workers go to complete their tasks within the 9-5, Monday-to-Friday timeframe. They connect with their co-workers, access their files and meet with customers. According to many industry analysts, the office was the original social network. The office configuration was a direct descendant of Frederick Taylor's efficiency and management theories, giving managers the ability to oversee workers whose sole goal was to provide a consistent linear output. This was a rigid, monolithic system that required all workers to fall in line, and it worked in a world that needed mass production and had little room for customization and individualism.

With market globalization creating an increasingly competitive environment, cost cutting is becoming a key focus for many organizations. It is becoming more and more apparent that the "command and control" management approach is not working in the new world order. A different strategy is needed. Since an organization's people and real estate are its largest resources – as well as its largest combined expense – they remain a natural focus for cost cutting. However, heavy-handedness in this area often causes employee disengagement, a lack of collaboration, a decline in productivity and innovation, with the benefits of an ever-shrinking square footage per employee. The average space per employee is a target for many organizations and is shrinking from the 200-250 sf/FTE range to 100-150 sf/FTE for efficiently planned offices across North America. Concurrent with globalization, the introduction of technology allows employees to work anywhere, at any time. Organizations recognize that employees needed more technology and flexibility, which dovetails with the need to decrease costs associated with real estate. While alternative work arrangements allowed for just that, it is clear that such a significant change to the workplace model must be part of an overall strategy that takes both efficiency and effectiveness into account; simply telling people they can work from home or elsewhere is not the solution, as some found out to their detriment.

Recent studies show workplaces are 60-70% vacant



Modern office work is inherently a social endeavour that requires interaction between people. In a recent Deloitte study of Canadian workers, we found that 90% prefer to work at the office and that face-to-face is still the preferred method of interaction, even for Millennials – despite the media's portrayal of them with their heads down, staring into their phones.[9] So, contrary to what some pundits have stated, the office is not going away; it is not an all-or-nothing proposition. The ability to choose how and where to work is fundamental to having engaged and productive employees, but so is having a space for them to connect and collaborate. That said, 82% of employees also indicated they would value a job that provided the flexibility to decide where they would work, at least for part of the week.[10]

82% of Canadian employees want the option to work remotely, but mostly everyone favours the office.

This is an approach many organizations are embracing. The physical environment can drive optimal performance and business results by creating spaces that enable people to more fully engage and build trust with distributed colleagues; this allows innovation to happen more rapidly and ultimately creates a place where employees want to be. Technology creates a more diverse, geographically-dispersed organization that is more mobile and virtual, but, as social animals, the more distributed we become, the more connectedness is needed. The physical work environment provides that connection point.

Deloitte is undertaking a major shift in in our work environment – not simply a move to new office spaces, but a change in how we work

We call it the "workplace of the future." Our new space across Canada contains a variety of areas that allow our people to choose where and how they want to work. Our goal is to foster engagement and collaboration among employees, and in so doing to enhance our client assignments and drive opportunity and productivity within the organization. Rather than allocating one space for each employee, the entire office space is available to all employees when they come into the office, providing collaboration space (plenty of meeting rooms, which seem to be at a premium at every organization), quiet areas and enclosed offices as needed. Outstanding architecture and design, particularly in the common areas, are intended to inspire and encourage creativity, collaboration and innovation. At the same time, technology has been used to enable remote and flexible working when necessary. This is not just a move that changes the footprint of our real estate portfolio; rather, it creates a high performance ecosystem that encourages the cross-pollination of people, ideas and experiences.

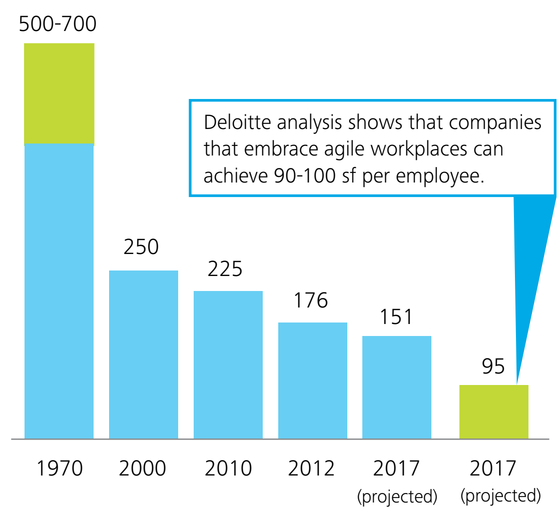
The more distributed we become, the more technology and connectedness are needed.

Transforming workplace environments enhances collaboration and drives productivity

Workplaces play an important role: they are the physical manifestation of an organization's brand, its culture and principles and, when well-designed, helps to achieve employee retention and recruiting objectives

The best examples of this are the campuses created by the high tech industry. Google is viewed by most as a desirable place to work, not only for the type of work but also because of their office spaces. Traditional configurations – where office space is regimented and standardized – will not be a fit for employees going forward. Organizations that figure out an optimal mix between traditional and innovative work spaces, which will necessarily be unique to each company, will have a competitive advantage. They will be using their work space more effectively and efficiently, increasing productivity and employee engagement and creating a stronger brand that ultimately results in more satisfied customers.

Average space allotted per employee[11]
in square feet, North America



Organizations that embrace agiliby within innovative work environments will have a competitive advantage.

Omnichannel: transforming the retail landscape

2

2 Omnichannel: transforming the retail landscape

Even here, the effect of digital disruption is felt. Consumers are driving a sea-change in the retail industry due to the amount of information they now can access, thanks to technology. The power is shifting from retailers to consumers, and the implications for the real estate industry cannot be underestimated. The technology innovations impacting the office environment have also changed how, where and when we shop.

Over the past 15 years, online retailing has transformed the operating models of traditional brick-and-mortar retailers. This has resulted in the disappearance of some venerable retailers, the amalgamation of others and the need for others to look for other ways to survive the disruption. Retail continues to be a technological hotbed of entrepreneurship and innovation in both the storefront locations as well as the back office environment.

Omnichannel: the evolving path to purchase shifted the power from retailers to the consumer

Consumers are increasingly taking non-linear path to purchase, combining both traditional store and Internet channels

This approach defines the omnichannel environment and has implications for retailers' real estate strategies in terms of store locations, footprint, warehousing, logistics and fulfillment.

Information asymmetries that favoured companies are being eroded, with consumers benefitting from more product and service choices as well as low switching costs. Consumers are doing their research and homework well before stepping foot into a physical location. This ability to be armed with competitive intelligence means buyers are better able to negotiate, demanding cheaper products and better service, and retailers have no choice but to respond.

Technology has significantly decreased the cost of entry for online retailers compared to new brick–and-mortar competitors

Online retailers can reach far more global customers than any retail location, no matter how many physical outlets the latter may have. Online sales are predicted to grow steadily to US$370 billion in 2017, up from $231 billion in 2012.[12] No longer does the real estate mantra of "location, location, location" matter; a website's server can be located anywhere without affecting the site's ability to reach all target markets.

Accordingly, retail sector square footage has decreased due to changing retail buying patterns, the efficiency of omnichannel distribution and the changing behaviour of millennials. All these factors result in reduced store traffic in the U.S.[13] and Canadian retailers need to take note and recognize that the physical store, although as important as ever, today plays a different role in the eyes of the consumer.

The Canadian retail marketplace is fundamentally strong, with the vacancy rate at only 3.5% in the International Council of Shopping Centres reported inventory. This stability is shored up by healthy retail sales, which are at their highest levels since 2010. But the retail industry has faced increased consolidation and competition from foreign retailers looking to expand their empires. As in the office sector, real estate is a significant driver of cost, accounting for anywhere from 5 - 20% of sales depending on the type of retail. The shift to online shopping and maturing retail markets has meant more focus on profitability and sales over growth. The ability for retailers to decrease the capital-intensive cost of real estate means those funds can be redeployed elsewhere, such as developing new channels to reach customers, improving logistics and developing warehousing and fulfillment strategies.

Retailers need to quickly respond to consumer demands for online shopping "anywhere, anytime" by developing new channels and improving logistics and fulfilment strategies.

Physical locations still play a critical role, but role of the store is fundamentally changing

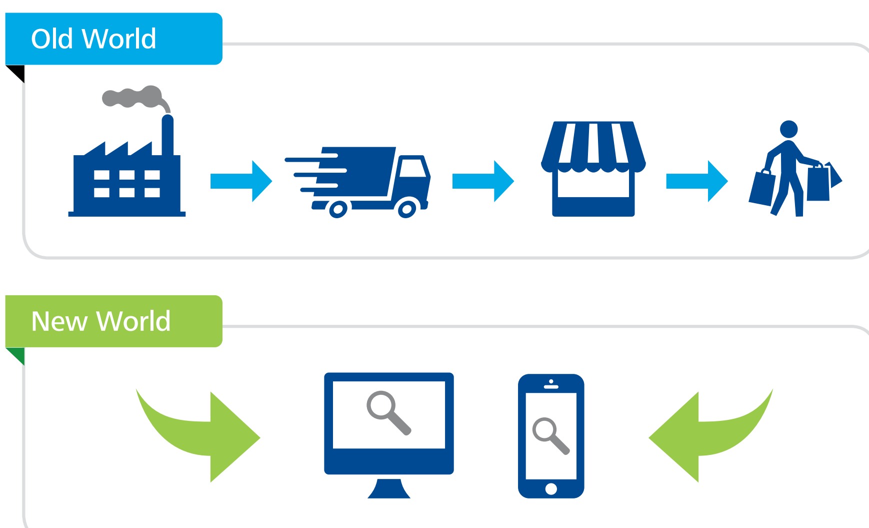
The conventional retail real estate approach is largely based on strategic locations; today, however, retail property owners need to continue evolving their "shopping experience" through the addition of food, entertainment and a wide array of retail offerings

Furthermore, real estate owners will be encouraged to partner with their retail tenants to better understand digital disruption and determine which specific tenant and customer technology needs should be included in overall shopping centre design and customer experience. And those technology needs extend to more than just the store front; the back office needs to be able to capture customer preferences and tap into data analytics to support and help drive sales. Understanding big data will be a key driver of long-term retailer prosperity.

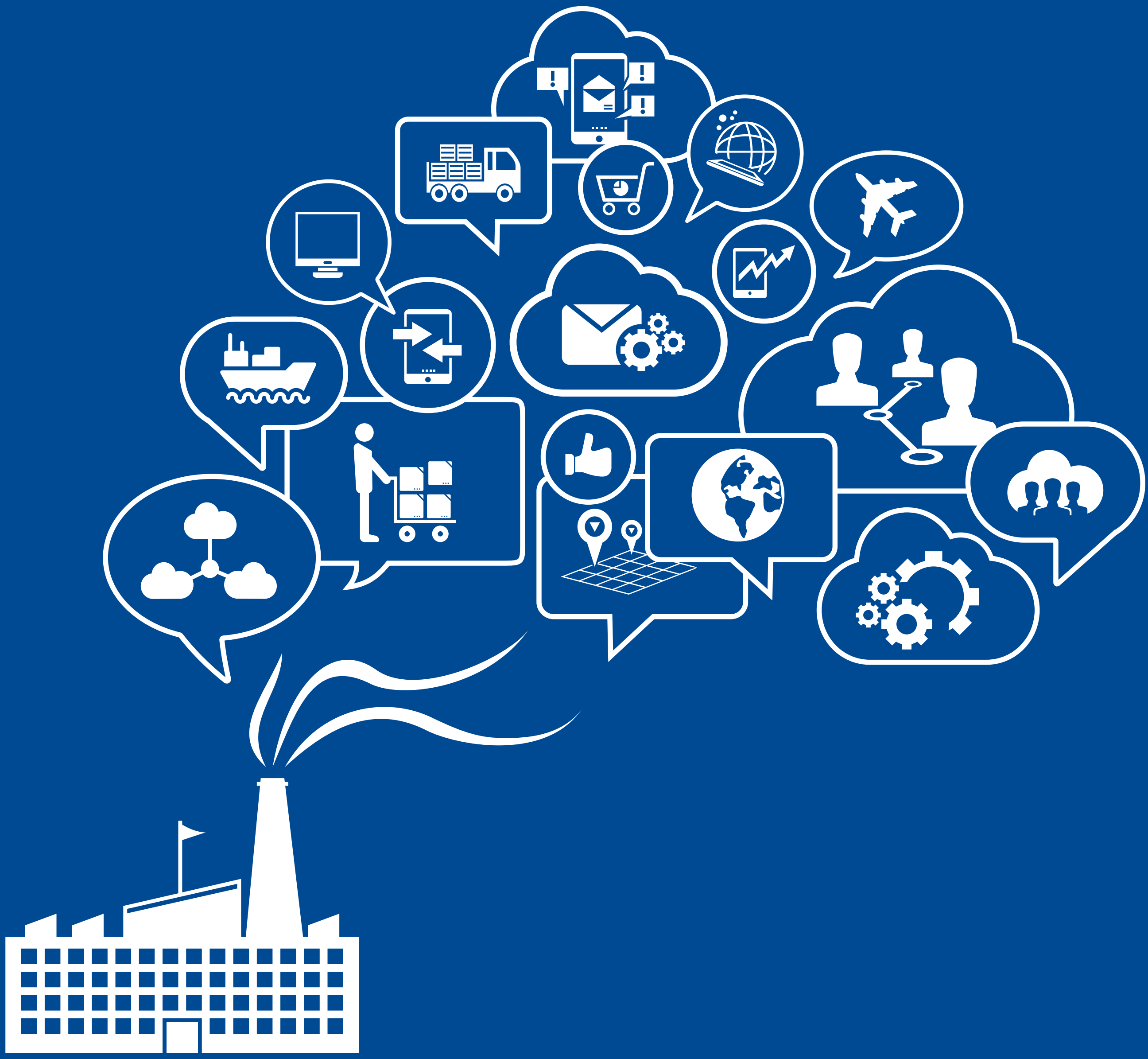
From a real estate perspective, the retail industry is undergoing a profound change

Physical stores remain core to creating an innovative and long-lasting shopping experience, but they are no longer the sole touch point for a retail brand. Instead, stores are positioned as part of the omnichannel customer engagement model, combining physical inventory, online access and an environment that is customized to enhance the customer experience. Much of the real estate portfolio for retailers will not be expanding, but undergoing redevelopment as existing spaces are transformed to provide that unique store ambiance. It is a matter of not just reducing and reinvesting, but also reimagining and repurposing the retail space.

Manufacturers now have the ability to market and sell directly to the consumer through the power of the omnichannel environment



Key question: what is the role of the store of the future?



Omnichannel, supply chain and manufacturing trends are transforming industrial real estate 3

3 Omnichannel, supply chain and manufacturing trends are transforming industrial real estate

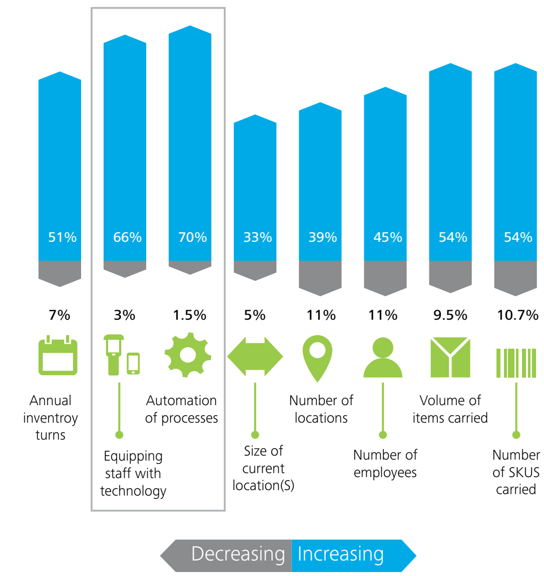
Once more, digitization is disrupting an industry that isn't always associated with being on the leading edge of technology

Digital disruption in the retail sector has a corresponding impact in manufacturing. The increase in online sales has meant that warehousing and distribution markets have also grown, with many large retailers investing in highly sophisticated technical fulfillment centres. The shrinking footprint of retail stores has moved the inventory into warehouses where it can be shipped directly to customers. As the cost per square foot of warehousing space is cheaper than retail space, retailers are realizing cost savings. The omnichannel model, technology and process improvements are where most of these savings are being reinvested. Most organizations are not looking to heavily invest in expanding infrastructure in the near future.

Manufacturing is experiencing the "third industrial revolution"

The other side of the industrial market is manufacturing, which is also changing due to technology again impacting the "where and how." The Economist has noted that manufacturing is undergoing a third industrial revolution as it moves into the digital age.[14] Mass production has moved into mass customization thanks to advances in software, new materials, more dexterous robotics, 3D printing and the delivery of web-based services. Jobs in the manufacturing industry will transform to meet the demands of this new world order. Rather than workers clocking in to ply their labour on the factory floor, much of the people work will be focused in offices as designers, logistics and IT experts, marketing and senior managers. Manufacturing jobs of the future will require a very different skill set, be more cerebral, creative and collaborative.

Warehouse expansion plans for next 5 years show focus on technology and processes rather than real estate expansion[15]



These advances will also change the flow of off-shoring, as automation brings down the cost of labour and production, which was originally moved overseas to offset those high costs. In addition, moving production closer to target markets will allow customer-driven changes to be more readily made.

From disruption to innovation

As digital disruptions continue, the corresponding fallout will inevitably change real estate. The key to surviving and thriving in this new order is to adapt to these disruptors while maintaining a core vision and developing a flexible approach that can withstand future volatility and drive growth. Real estate should do more to create value and drive operational excellence and growth. Now it can.

Some of the innovations transforming real estate include:

ADVANCED ROBOTICS

Robots started to change the industrialized world more than a half century ago. Since then, they've transformed how businesses manufacture goods large and small, and replaced the need for human labour in a vast range of applications, from fulfilling warehouse orders to maintaining nuclear reactors.

ARTIFICIAL INTELLIGENCE

American computer and cognitive scientist John McCarthy first used the term artificial intelligence (AI) while at MIT in the mid-1950s, defining it as "the science and engineering of making intelligent machines." Since then, AI has evolved into a multidisciplinary field that includes not only computers and robotics but computer science, mathematics, neuroscience, linguistics and psychology.

NETWORKS

Some identify the start of modern digital networks as we know them with the establishment of Integrated Services Digital Networks (ISDN) standards in 1986. ISDN enabled voice and data to be transmitted simultaneously over traditional copper phone lines, sparking a technological revolution that led to widespread Internet adoption, mobile connectivity, online commerce, social media and more.

ADVANCED MANUFACTURING

Technological advances have always had dramatic impacts in the manufacturing sector. Each new leap – from steam to electrical power or from manual to robotic assembly – has driven great progress in manufacturing productivity and efficiency. What hasn't changed in over a century, however, is the industry's reliance on the massproduction model. Those days are now numbered, as advanced technologies and processes forever alter how we manufacture goods.

COLLABORATIVE CONNECTED PLATFORMS

The Internet has revolutionized how we communicate and interact with each other. Today, we take for granted our ability to connect with people and participate in activities thousands of kilometers away. Increased connectivity and Internet capacity have made crowdsourcing, crowdfunding and cloud computing possible, giving people and organizations alike access to skills, knowledge, funds and resources in ways that were never before possible.

This paper is part of a series of thoughtware exploring different trends impacting the real estate industry and what they mean for the future. Upcoming thoughtware will focus on the workplace of the future, retail space and industrial real estate.

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