

NEXT GEN

THE FUTURE IS... PRODUCT- BASED.

Industrialization, standardization, and digitalization will reshape the entire real estate value chain by shifting from services or projects to products. Will you defensively react, optimistically adjust, structurally reinvent or strategically integrate?

The real estate and construction ecosystem of the near future will inevitably be radically different; however, it is also fair to say that this prediction is not radical at all. The building industry is repeatedly called out for lagging behind when it comes to invention and widespread adoption of innovative solutions. Today's mainstream landscape, which is predominantly project-based, fragmented, manual, convoluted, and consequently inefficient, was at odds with emerging trends and peripheral changes even before the COVID-19 outbreak. Yet, as the pandemic resumes and all sectors are conscientiously and rapidly adjusting to alternative modes of working, interacting, and prioritizing health and safety, it is anticipated that transformation will likely be accelerated to accommodate new norms and expectations. Product-based tactics are one of many shifts provoked by external pressures and internal frictions. This article attempts to frame this particular paradigm shift because it informs so many other necessary changes. It also serves as a call to action for all players, those within or adjacent to the real estate and construction industry, to ensure that everyone has an indispensable purpose, albeit redefined for many, within the interdependent networks that transpire.

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WHY PRODUCTS? WHY NOW?

Resounding support for standardization within the industry will likely favor the advantages of incorporating product-based strategies. A McKinsey & Company report released in June 2020 titled: [The Next Normal in Construction](#), asserts that emerging disruptions will fundamentally redesign the construction process as we know it, leading to nine shifts, the first being product-based approach. Over 75 percent of executives surveyed agreed these shifts are likely to occur. The authors predict that “by 2035, an additional 15 percent of new building projects could be completed through a redesigned value chain” which is more likely to resemble manufacturing. The scope of drivers outlined in the diagram below include both recognizable and speculative realities. Understanding the incidental shift of product-based approach at all points along the value chain will be vital for our industry to remain relevant and industrious.

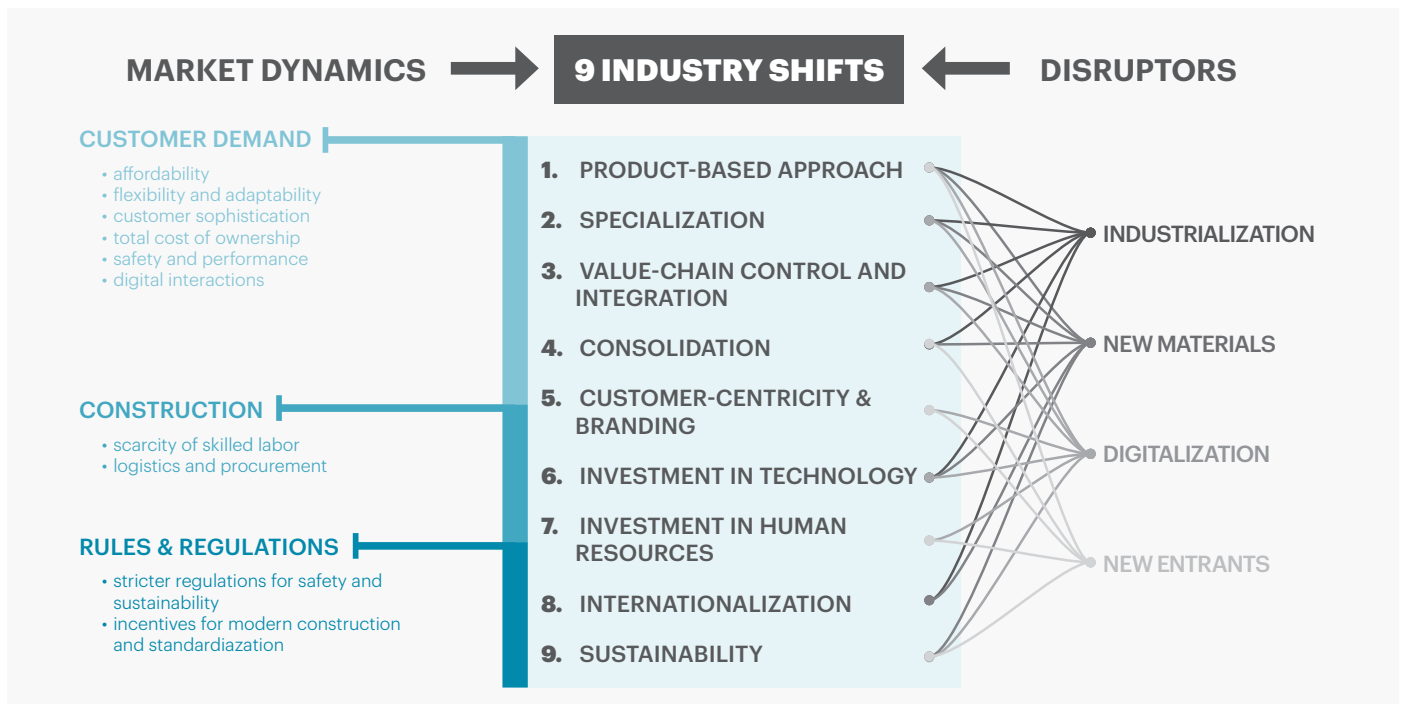
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In real estate and construction, moving towards product-based business models addresses the most notable outcomes induced by the drivers of industrialization, standardization, and digitalization. Physical structures, and what were once time-based services, will be increasingly marketed as, and converted to, products. The most promising ‘product’ opportunities to develop in the industry include: prefabrication or modular construction and robotics, branded easy-to-market offerings, digital libraries of standard elements or building codes, data-centric or

generative tools for programming, design or BIM, smart building devices like IoT sensors, and online marketplaces. All of these examples are already beyond the inception stage; whether still in their infancy or more mature, implementation and adoption is happening as investors and pioneers pump money and resources into research and development akin to tech start-ups. Companies like [Katera](#) have more than enough backing to lead the charge on where the industry heads. One-off buildings erected on the jobsite on a project-by-project basis and the coordination of countless professionals and trades will be replaced with off-site production facilities, customizable building blocks, and centralized manufacturing hubs.

OUTCOMES OVER OUTPUTS

In general, all companies are either service-based or product-based, although some are a hybrid of the two. Neither direction is necessarily more or less successful or essential, as discussed in this [Forbes article](#). The differentiator is ability to scale because service-based companies are limited by time and corresponding fee structures. Without a product-based strategy, even if only to supplement services rooted in specific expertise or consulting, companies risk becoming expendable commodities. Many relationships and responsibilities will be reconfigured and forced to evolve or rethink value propositions that align with modern outlooks. Regardless of if a company is involved in the front-end development of new products and systems, or conforming and utilizing them to stay relevant, the most important factor is a change in mindset. It’s less about the products themselves and more about how they dismantle conventional assumptions that have long influenced how projects are delivered.



The transition from project-based to product-based approaches will empower teams to not only deliver buildings, but to deliver higher quality environments from a process of continuous improvement and learning. The key difference is embracing [outcomes over outputs](#). Today, the majority of developers, architects, and contractors employ project-based approaches which focus on an output. They determine requirements on assumed user expectations and results are heavily tied to schedule and cost. Although intuition from past experiences can serve us well, it may prevent us from realizing solutions that are right for the unique conditions of similar projects. Instead of assuming what we already know is right, incorporating product-based thinking leads to focusing on outcomes. Moving priorities away from timelines and budgets towards defining desired outcomes for performance or satisfaction will more directly respond to and impact evolving user demands, technology, and industry disruptions. While this approach has inherent exploration or uncertainty, gaining clarity around the problem and methodically validating decisions allows teams to accurately measure the successes or shortcomings during occupation and operation. Outputs are interchangeable; outcomes return value.

Project-based outputs are interchangeable; **product-based outcomes** return value for stakeholders and customers.

Product-based approach is both a business strategy and a project implementation/management mindset. A complete overhaul to discard service or project-based offerings may not be mandatory. However, a solely service or project-based approach should not hold you back from integrating emerging models. If that's the case, it begs to ask the question: at what point are we so dependent on the systems we have built that we resist change? Reliable ways of working and thinking may not be enough to thrive within a transforming industry.

MANUFACTURED BUILDINGS

A product-based approach can alleviate many underlying pinch points and address tangential issues, but only if common practices, from workflows to contractual terms, foundationally change. Although these changes will resemble manufacturing at certain points of the value chain, it doesn't mean that the key objectives of real estate, design, and construction need to change. The resurgence of prefabrication and modular construction is a strong example.

As the poster child of product-based approach, prefabrication is in higher demand than it has ever been. The critical push is driven by a confluence of factors ranging from breakthrough technologies like digital fabrication methods to the disappearance of trade

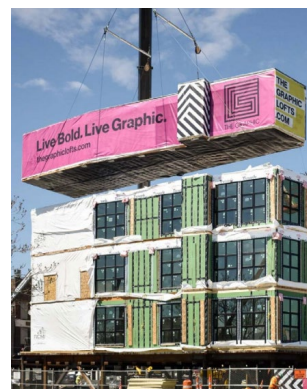
skills as baby boomers retire as well as its potential to help solve global problems such as climate change, the housing crisis, or a pandemic. The concept of modular is by no means new; metal components, curtain wall panels, or casework have been prefabricated for decades and it is possible to produce entire pods or mechanical systems off-site. A resource from the [American Institute of Architects](#), gives an excellent overview of modular construction. Since the early 20th century, the technique has been used to build homes, schools, hospitals, and hotels that are repetitive and standardized by nature. According to the McKinsey report, the "permanent modular-construction market share of new real estate construction projects grew by approximately 51% from 2015 to 2018."

The benefits are well-known, ranging from greater efficiencies, speed to market, sustainability, quality, safety, cost savings, flexibility, streamlined coordination, or reduced risk. However, there are still barriers inhibiting broader implementation because going modular currently requires a steep learning curve as it entails



Modco

the first modular apartment building in DC expected to deliver in March 2021 targets Gen Z with 17 three-bedroom units for affordable roommate-style living in a trendy neighborhood



The Graphic

currently the largest modular project in the Boston area; a two-building multi-family development consisting of a three-story adaptive reuse building and a new 136,000 SF 5-story modular construction building of wood-framed modules above a steel and concrete podium

an unconventional process of designing for assembly, procuring materials, phasing construction, and other logistics. Yet, if done with unwavering intent, it is possible to ditch the misconceptions that designs are not unique, reject outdated project delivery methods such as design-bid-build, and garner morale for necessary cultural shifts. Additionally, other product-based contributions, such as the digital libraries, tools, or marketplace channels mentioned, coupled with raised awareness, could help overcome these hurdles and spur the inclusion of modular in development plans. Ultimately, the multi-faceted positive impacts of prefab and modular are worth exploring to arrive at establishing the systems and partnerships required for successful execution and tackling some of the biggest industry challenges.

*Product-based approaches can foster **customization** and **flexibility** while also targeting engineered **efficiencies** and building more **sustainably**.*

Furthermore, modularization does not have to portray the stigma that manufactured means boring, curtail creativity, or fail to optimally perform in local climates. In fact, as [Phil Bernstein](#) predicts, “once prefab is more mainstream, another disruption will come right on its heels: mass customization.” The opposite of a one-size-fits-all approach, product-based approaches can foster customization and flexibility while also targeting engineered efficiencies and building more sustainably. Just as with any technology, these methodologies are some of many tools, as opposed to ultimatums, that can be leveraged to achieve meaningful outcomes for all stakeholders pending on how we chose to cleverly cultivate and apply them. The beauty of productization promoting standardization, industrialization, or digitalization is the automation and simplification of tasks that are currently tedious or stressful. The resulting systems and tools don’t make decisions for you, they help you make more informed ones.

THE FUTURE IS UP TO US

Given the inevitable rise of product-based approaches, each stakeholder in the industry has a choice, but the decisions do not need to be made in silos. It is imperative to look at the entire value ecosystem in the long-term, not just single companies’ positions less than a decade from now. It’s not about being able to adjust to whatever trends are forecasted to come next, it’s about being agile enough to have instinctive reflexes no matter what comes your way or when. Another McKinsey & Company article summarizes [nine traits of future-ready companies](#); they highlight that leading organizations “develop rich networks of external partners – and treat them as extensions of themselves.” Viewed as an ecosystem, mutual dependencies are the essential transfer of value. If one player goes extinct, the

entire system is in jeopardy. This is not a finite game of winners and losers.

Synergy is paramount to advance the industry as a whole and it’s not going to be a quick, easy fix. When representatives of interdependent discourses work together, our aptitude for original thinking amplifies, and often times, so does our foresight. Change and uncertainty are always uncomfortable and messy. Don’t change because you fear getting left behind, change because your mission isn’t changing. If you fall out of sync with the system, you can’t contribute the meaningful work that you do and foster the relationships you’ve worked so hard to solidify up to this point. The more dedicated, proactive, transparent, and inclusive you are, the more likely you will be able to tolerate the growing pains and lean on others. Don’t let technology happen to you, or to us. Be a first mover. Engage in the conversations and experimentation to have a voice in which technologies are selected and how the future ecosystem is shaped. And invite other perspectives you rely on to the table.

SUGGESTED READING:

[The Next Normal in Construction: How disruption is reshaping the world’s largest ecosystem](#)

McKinsey & Company. June 2020.

[Modular Construction: From Projects to Products](#)

McKinsey & Company. June 2019.

[Architecture - Design - Data: Practice Competency in the Era of Computation](#)

Phillip Bernstein. September 2018.

[The Infinite Game](#)

Simon Sinek. October 2018.