**2020 EDITION**

# 20 FOR '20

20 conversations with senior multifamily executives about the outlook for 2020 and beyond


Researched and compiled by
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D2 Demand Solutions
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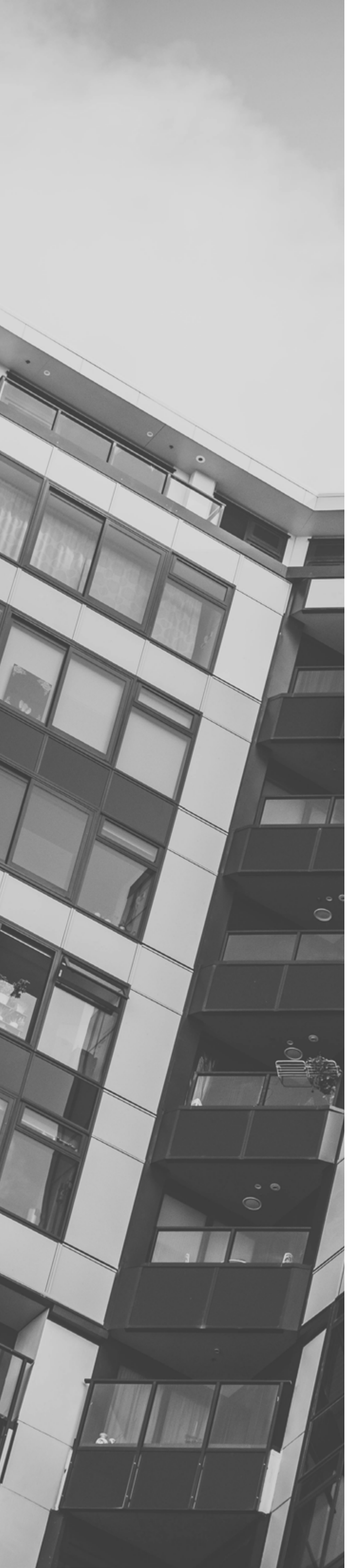

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# 1
# EXECUTIVE SUMMARY

# 2019 HIGHLIGHTS & 2020 PRIORITIES

**40%**

of respondents cited
**growth and acquisitions**
as their 2019 highlight

**55%**

of respondents cited
**a form of innovation**
as their 2019 highlight

**The most common specific examples:**

- Smart home
- Self-show
- AI-driven leasing

**30%** of respondents listed **team development/associate experience** as their number 1 priority for 2020, followed by:

**25%** **automating business operations**

**15%** **business intelligence**

**15%** **customer service/ experience**

## FIVE BIG FINDINGS FROM THIS YEAR'S INTERVIEWS:

1. **Innovation is changing**–there's more of it and companies are changing their approaches to it
2. The multifamily industry is on a path towards **fully-automated leasing**
3. **Attitudes to business intelligence (BI) are changing**, but the path to adoption is still unusual
4. If you want to know how new technology will be adopted, **look first at operating models**!
5. In spite of all of this technology – or perhaps because of it – **many operators are going "back to basics"** in 2020

Go to Section 6 for more details on these findings.

**65%** **of respondents predict 2020 to be better than 2019;** last year only 30% were bullish and 65% expected 2019 to be the same as 2018

**The promise of improved operating efficiencies** and **the evolving technology environment** are leading reasons for such optimism

# INNOVATION & TECHNOLOGIES

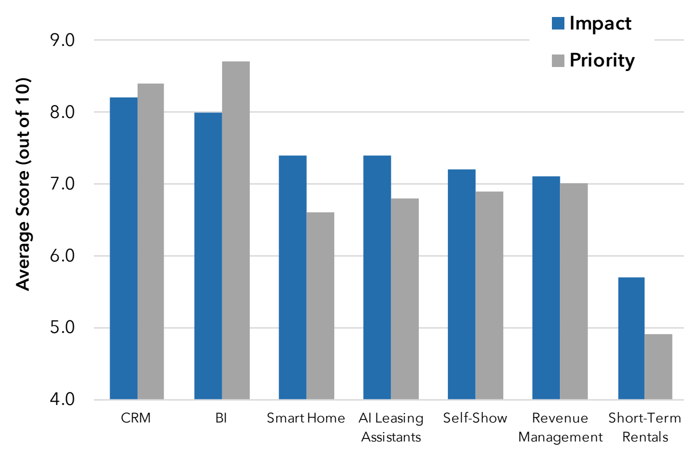
**90%** of tech leaders say they have changed their approach to innovation in the past two years

Several technologies were cited as playing a

**bigger role in 2019 than expected.**

**BI** and **Access Control** were cited multiple times while individual respondents also brought up **smart home, AI leasing, concierge services, short-term rentals, pricing and revenue management** and **websites**.

### Potential Impact vs Priority of Technologies

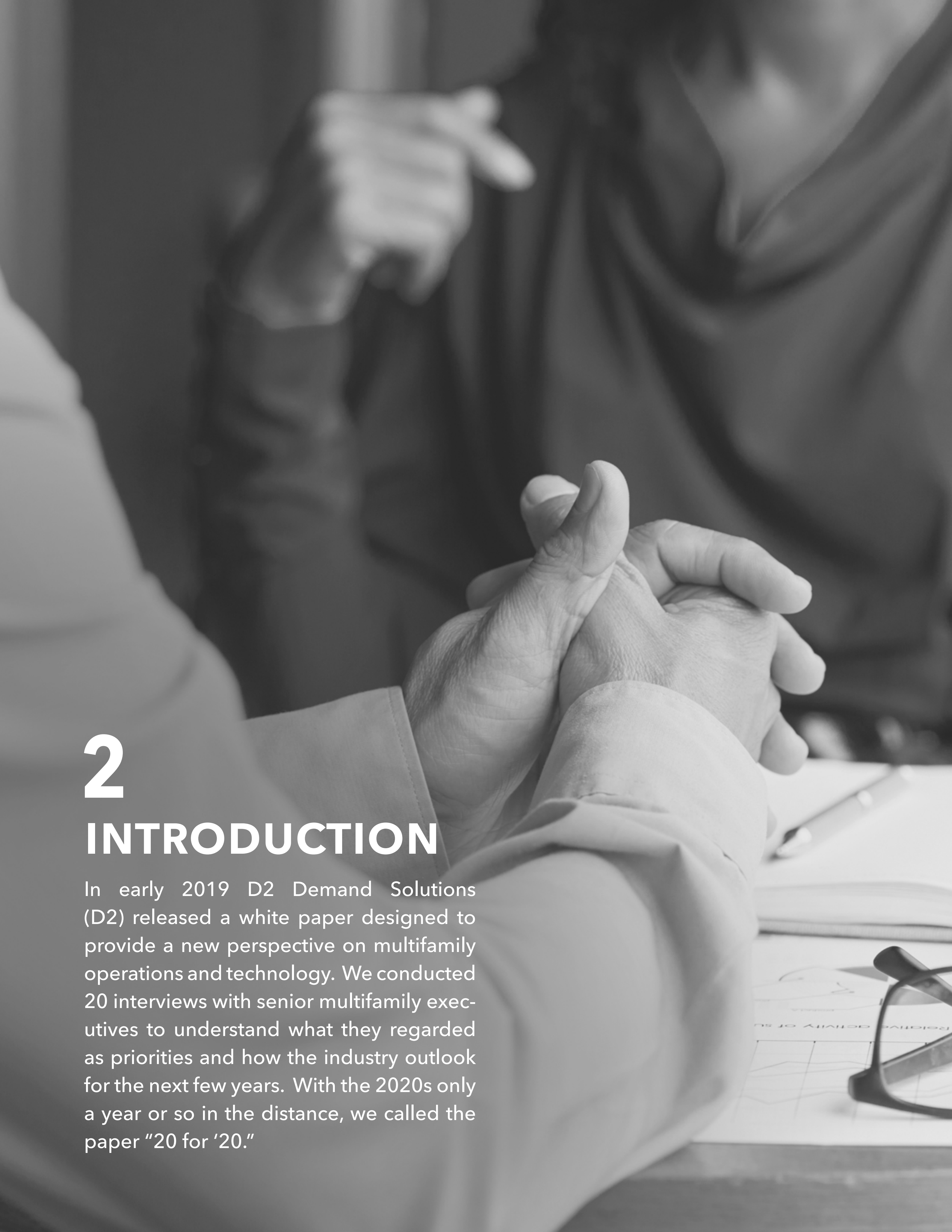



| Technology | COO | CIO |
|---|---|---|
| Smart Home | Enthusiasm on operational improvements and rent growth | Enthusiastic but generally more cautious |
| Self-show | Most are actively pursuing, with a wide variety of approaches - some concerned about liability | Polarized views - some extremely excited, others waiting for the business to push this capability |
| AI Leasing | Excitement from early adopters, but generally the industry is still learning what this really is | Know it's coming but waiting for business sponsorship to wade in deeply |
| Revenue Management | View it as an important function but the metaphorical box is checked | Growing interest in amenity pricing optimization Not on their radar due to lack of new technologies |
| BI | High on many COO's priority list though 30% have yet to implement anything | Approaching BI as a series of phases and not a single "big bang" |
| CRM | High-quality, contemporary solutions gaining traction | The one technology with the most alignment between COO and CIO |
| STRs | No clear adoption pattern Continued concern over liabilities and operational disruption | Supporting testing and generally waiting for the business to weigh in on their long-term strategy |

**Innovation** and **investment in proptech funds** are the two preferred methods for staying on top of rapidly changing technologies.

**75%** of respondents expect per-door IT spending to increase in 2020 vs 2019

**70%** said that it was higher in 2019 than 2018



# 2
# INTRODUCTION

In early 2019 D2 Demand Solutions (D2) released a white paper designed to provide a new perspective on multifamily operations and technology. We conducted 20 interviews with senior multifamily executives to understand what they regarded as priorities and how the industry outlook for the next few years. With the 2020s only a year or so in the distance, we called the paper "20 for '20."

The reaction to the paper was striking, in terms of downloads, media coverage, and good old-fashioned word-of-mouth feedback. Our readers urged us to do it again, so at the end of 2019 we scheduled another 20 interviews. Through the prism of last year's findings and learnings from running last year's research, we set out both to build and improve on the 2019 paper.

## 2.1. ABOUT 20 FOR '20

The purpose of this paper is to summarize the findings from the 20 executive conversations held at the end of 2019. The key to 20 for '20 is perspective: we asked our 20 leaders to be candid with their own views. We have found that by asking the same questions to all 20 leaders, the comparisons between their answers provide deep insight into strategy, operations and technology.

As with last year, the interviews included a combination of quantitative statistics and qualitative discussion. The interviews generally followed a conversational structure, and in synthesizing the results for publication, we have attempted to identify the themes that we repeatedly heard in the research.

This year we slightly modified the structure of the research, de-emphasizing the "People" questions and taking a deeper dive into individual technologies. The interview structure can be summarized as follows:

- Highlights of 2019
- Technology Deep-Dive (2019 accomplishments and 2020 plans)
- 2020 Priorities and Outlook

This interview structure is reflected in the sections of this white paper. For reference and continuity, we have also included a quick update on the 2019 findings (Section 4). In Section 6 (Conclusions), we provide the D2 viewpoint on the major findings from this year's research.

Finally, given the focus on technology and adoption, we decided to include some sponsor articles in 20 for '20. We chose to invite some of the most innovative companies in the industry to contribute "Sponsor Viewpoints" to this paper. We have curated the articles to ensure that they are relevant to 20 for '20.

## 2.2. RESEARCH RATIONALE

This year's company list has been selected carefully to provide the broadest variety of portfolios and operators. Of the 20 companies interviewed, seven were fee managers (representing a blend of national and regional platforms), three were public REITs, and the other 10 were owner-operators of various sizes and geographies.

We interviewed 20 executives, ten each from operations and IT. Each interviewee was the most senior person in either IT or operations at their company. To balance the desire for continuity with the need to keep the ideas fresh, we used ten of the same interviewees from 2019 and introduced ten new ones.

Finally, the purpose of this research is to develop industry insight rather than to get individuals on the record. The responses are therefore anonymous, and we do not refer in these pages to any details shared in confidence. We have included some direct quotes where we think they help to illustrate an important point, but we do not attribute them to individuals.

# 3

# 2019 HIGHLIGHTS AND OUTLOOK

We began this year's interviews with an open-ended question, asking each respondent to identify the highlights of 2019 for their company. In the spirit of capturing what is top of mind (rather than framing the question around a specific subject), the guidance that we gave to interviewees was to answer the question in any way that they saw fit.

## 3.1. 2019 - HIGHLIGHTS AND SURPRISES

The Table below summarizes the most popular responses to the question. Interestingly, despite most interviewees being familiar with 20 for '20, the respondents did not reach immediately for technology highlights. Almost half cited growth either via acquisition, development or higher-than-expected NOI growth in their existing operations. That the rate of growth should continue this deep into the cycle was something of a surprise to several respondents.

| 2019 Highlights | Responses |
|---|---|
| Growth & Acquisitions | 8 |
| Innovation | 4 |
| Smart home | 3 |
| Self-Show | 2 |
| AI-Driven Leasing | 2 |

The next most popular highlight, innovation, referred to the process, structures and activities that were implemented in 2019 to drive the companies' innovation. If we were to add to this group the companies who cited some combination of specific technological innovations as their major highlight that category would be first on the list.

The specific projects that were called out under the innovation category included the launch of a think-tank, dedicated to solving problems throughout a multifamily building. Two companies had completed an intensive year of product and technology evaluation, and one organization had developed a comprehensive multi-year technology innovation plan for the first time.

Interestingly in the context of our research a year earlier, smart home, self-show and AI-driven leasing were prominent in 2019. A year ago we reported some surprise at the relative absence of these technologies from the priorities of the 20 leaders who we interviewed. As we will see in the following sections, the adoption cycle has accelerated at a surprising rate.

### 2019 Surprises

To the question: "Did any technologies play a bigger part in your 2019 than you expected?", half identified projects that had. The specific technologies are listed below, with the most prominent amongst responses being BI and Access Control.

**Technologies that played a bigger part than expected in 2019:**

Business Intelligence (BI)*
Access Control*
Smart Home
AI Leasing
Concierge Services
Short-Term Rentals
Pricing and Revenue Management
Websites

*Multiple respondents provided the same response

The appearance of BI as the #1 item on this list is the first of several data points that suggest a significant shift in attitudes towards BI relative to last year's research, where we had observed a level of satisfaction with projects that rose to "tepid," at best. That it should have been prominent enough to be called out by multiple leaders was a little surprising.

Two leaders identified access control as having been unexpectedly prominent in 2019. In each case they were careful to delineate between access control and smart home technology, citing the need for "curb-to-couch" access as a foundational requirement to several other capabilities, like self-guided tours.

## 3.2. APPROACHES TO INNOVATION

In 2019, our interviews left us convinced that the multifamily industry was at a "technology tipping point," the likes of which we have not seen since the turn of the millennium. With a slew of new technologies and vendors coming to market and evidence that multifamily leadership was still at an early stage in evaluating them, we decided to ask this year's interviewees about innovation.

The angle we took was: "Has your company's approach to innovation changed within the last two years?" The answers were instructive, with 90% of technology leaders describing some material change to their process or general approach to innovation in the last two years. Examples of the changes in focus described by our CIOs included:

- A shift from evaluating products in search of a problem to identifying issues first, then looking for solutions
- Adoption of a formal framework for evaluation of innovation by a committee
- Change from a formal evaluation process to a company-wide Agile methodology
- Establishment of a cross-functional proptech committee that spends the majority of its time reviewing the status of the company's in-flight pilots
- Assigned a senior leader to focus exclusively on evaluation, testing and implementation, and a "boots on the ground" structure to source ideas and support planning
- Created a function outside of property management to focus on innovation—including the incubation of promising new technologies

The COOs interviewed provided some different perspectives. Fee managers, in particular, reported the pressing need to stay informed as an ever-growing collection of vendors bring new technologies directly to ownership groups. Multiple third-party operators reported that most new technology evaluations still start with a request from a client. One shared that their formal evaluation committee had reviewed more than 100 different technologies in the last two years.

### The Innovation Workload

Innovation currently constitutes a large volume of work, and hence focus, for most of the companies interviewed. One operator now devotes the time of a cross-functional senior management team to a portfolio of proptech pilots, which demonstrates how many new things companies are trying out. Another had abandoned its evaluation committee in favor or a more radical whole-company Agile approach, underscoring the need to move quickly through evaluation and testing.

Innovation committees remain important for many of our interviewees, even for companies that "*Don't do committees*" as one leader explained. The breadth of expertise and the proximity to operations, either through direct participation or through feedback mechanisms, were commonly cited as success factors. In one case, an owner-operator had hired an external partner to define a repeatable innovation process, facilitating their senior leadership to formulate future strategy and translate it into plans.

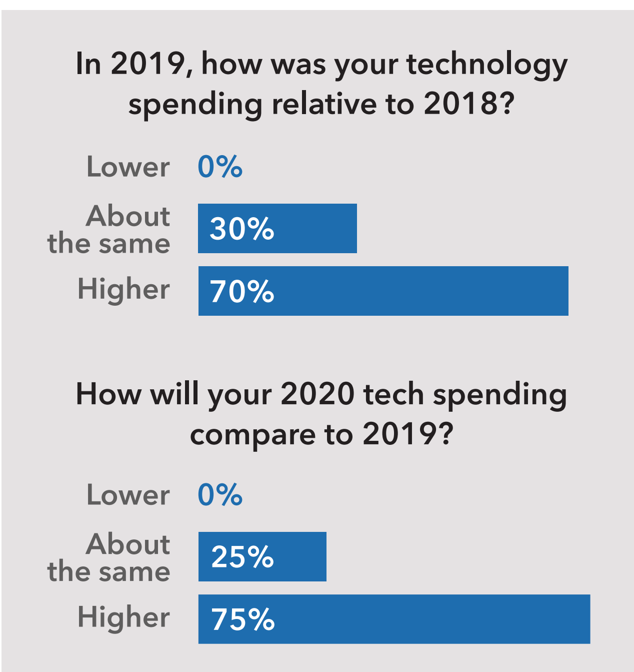
We closed the subject of innovation by asking about another point that was raised in last year's paper: the emergence of multifamily and proptech investment funds. We asked all participants if their companies had invested in any of the major technology funds (e.g., RETV, NineFour

Group, Fifth Wall, etc.). Eight of the 20 companies were already participating in at least one fund, with several others evaluating joining one.

The nature, scale and maturity of the innovation efforts that we learned about through these interviews represent surprising, perhaps unprecedented progress in the last 12 months. We will return to this important subject in the conclusions section.

## 3.3. PER-DOOR IT SPENDING

The seemingly relentless tide of technology innovation comes at a cost. Once again this year, we asked our respondents to answer two questions: whether per-door IT spend for the year (2019) had been higher, lower or about the same as the previous year (2018). We then asked them to predict the rate of spending for 2020 and compare it to 2019. The results are summarized below.




In response to the same question a year ago, more than half had said that their per-door spending was lower or about the same as the previous year. 55% had predicted in 2018 that spending would increase in 2019. In fact, with 2019 in the books, 70% of respondents reported an increase, with 75% predicting a further rise in 2020.

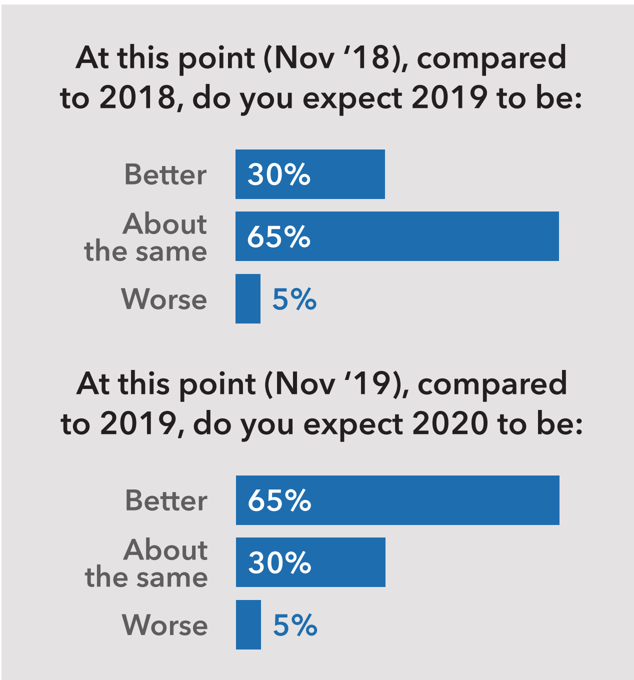
As we noted a year ago, attitudes to technology investment appear to have shifted from the previously perennial fixation on lowering per-door spending to an increasing appetite to pursue efficiencies and ROI. This appetite seems to have intensified in the last year: notably, nobody reported either a decrease in spending for 2019 nor predicted one in 2020.

Several interviewees described a greater desire at their companies to identify sources of ROI and exploit them through technology. The examples of specific projects and opportunities covered both efficiencies and revenue growth. Several organizations were bullish about the cost-saving potential of AI-driven leasing, self-show and maintenance planning. Others were excited about the potential of smart home and building technologies to support rent premiums.

As we will discuss in the following sections, several companies invested in BI or CRM in 2019, and we detected in several of the conversations a refocus on customer experience as a driver for technology investments. Several of the companies who reported a year ago that they had focused their resources in 2018 on a single, foundational technology project (e.g., a PMS switch) had spent 2019 "back on offense," adding differentiating functionality. We will return to both of these underlying themes in the conclusions section.

## 3.4. OUTLOOK FOR 2020

Remarkably, this late in our unprecedented cycle of growth, the level of optimism has demonstrably increased from its already positive base a year ago. As with last year, we asked our respondents to predict whether 2020 would be better, worse or about the same as 2019, with the guidance that they should answer on whatever basis they choose. The results are summarized below.




First, the one outlier in this survey was a single organization that expects 2020 to be worse than 2019. The explanation described individual circumstances to do with a large number of lease-ups in markets where supply appears to have reached its peak, rather than expectations about the market as a whole.

The other 95% of respondents were positive, with a majority belief that next year will be better still. The main reasons to be cheerful, according to our interviewees, are summarized below:

- "We're growing!"
- "Supply feels more-or-less stable in most markets."
- "Work that we have done on our technology platform in 2019 will pay off significantly in 2020."
- "Even in the event of a downturn, our tech investments will have a counter-balancing impact on our overall performance."
- "The magnitude of the innovations we have undertaken makes this unlike previous years - we are doing things that will truly transform our business."
- "Our people have tools that they didn't before - we expect team engagement and performance to spur overall performance in 2020."
- "We expect the technology landscape to start to settle in 2020, with some vendor consolidation in 2020. It will benefit the industry, as there is considerable 'vendor chaos' in the industry at the moment."

As well as asking respondents to gauge their optimism about 2020, we asked them what they thought would be different, relative to 2019. Nearly all answers fell into one of three categories: the economic/political environment, operating efficiencies or the evolving technology environment. The economic and political environment responses were all to do with uncertainty and the forthcoming election. Some further details on the other two sets of observations are provided below.

Operating efficiencies included variations on a theme of operations becoming leaner, based on the technology that was delivered in 2019 or that is currently being implemented. In some cases 2019 investments have yielded technology that was so ground-breaking (AI-driven leasing, for example) that respondents were excited at the prospect of the technology changing their businesses permanently. One IT leader whose department spends about 75% of its time making value-add improvements to the business shared that their activities are currently focused on either moving tasks to robots or getting rid of tasks altogether.

SPONSOR VIEWPOINT

# WHY SELF-SHOW IS ON EVERYONE'S 2020 TO-DO LIST

**Anyone Home Inc.**

*It's been a curious 12 months in multifamily leasing, not least because of the remarkable change in attitudes towards self-show. A year ago we noted the "What About-ism" (concerns expressed as "what about this/that?") represented by the executives we interviewed. The skepticism of a year ago seems to have given way to a desire to exploit the compelling benefits of self-show. As a provider of both self-show and CRM solutions, Anyone Home has a unique perspective.*

Self-show has been *de rigueur* in the single-family rental market for several years now and is just now starting to get traction in multifamily rentals. While there may be legitimate liability concerns from giving building access to prospects, it's important to develop a data-driven understanding of both the risks and the benefits of self-show. With this in mind, we pulled together some facts from our call center, CRM and self-show platform statistics.

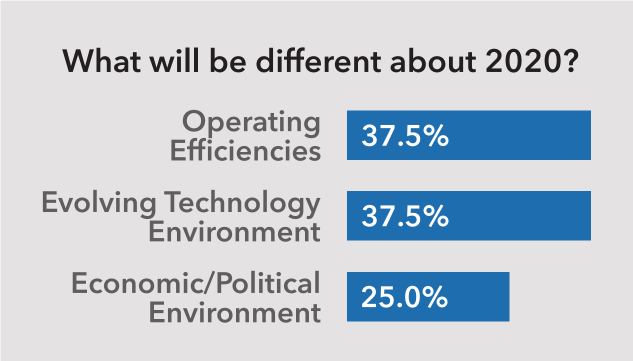
First, just under 18% of all prospects book a property tour when given the opportunity to do so. Of that 18%, when given the option of a self-guided tour, **76% choose to self-tour** while only 24% book with an agent. It seems that prospects have spoken clearly: self-guided tours are already more popular than agent-accompanied ones, and it's hard to see that trend reversing.

Given the experience of single-family operators, where self-tour quickly established itself as the preferred way of viewing homes, these findings are not surprising. What is particularly interesting in multifamily, is that from the 76% who chose a self-tour, **20% scheduled their tours outside office hours.** This provides a strong justification for one of the main objectives of self-tour: extending viewing hours, a previously perennial problem, especially in northern markets during winter months!

While operators have long understood the constraint imposed by agent working hours, few realize just how much time onsite teams waste scheduling the meeting. A staggering **42% of team communications with prospects concern the scheduling and rescheduling of tours**. Thus, self-scheduling tools free up associate time to invest in helping those who have toured make a decision and providing higher levels of service to existing residents.

Finally, we live in times when identity fraud is rife in many markets, so it is appropriate to be cautious with any initiative that provides access and hence opportunities for fraud. But using identity risk analysis tools on self-show applicants, **fewer than 2% are refused access to the community because of the likelihood that they are fraudulent.** Assuming properties remain vigilant, fraud does not look like a legitimate reason not to proceed with self-tour, given the substantial benefits.

So why wait? Your prospects increasingly want the option of self-tour. It extends touring hours without increasing staffing overhead. It saves time communities currently waste scheduling and rescheduling tours. And it frees up site associates to focus on higher-value leasing and service activities. It's no wonder it's on everyone's to-do list in 2020!




All of the respondents who cited the evolving technology environment as the thing that would be different about 2020 were talking about some form of proptech. Several called out the vendor environment, predicting that it looks set to consolidate in 2020. One seasoned CIO noted how the current breed of solutions look set to make technology less of an "add-on" and more of an "instead of," as the new implementations will remove the need for some tasks and ultimately roles. The same CIO shared that the industry should embrace the changes to leasing that automation and self-show will deliver, adding that the misalignment of staff working hours to convenient touring hours has been a problem for too long.

## 3.5. 2020 PRIORITIES

The very last question we asked our CIOs and COOs was "What is your number one priority for 2020?" The results fell into a few categories that are summarized below, along with some direct quotes from respondents.

### Team Development & Associate Experience

- "A refocus on training is going to be a driver of 2020 revenues."
- "With an ambitious slate of technology projects, talent management will be our biggest 2020 priority."
- "In 2020 we will get back to basics on good technology implementation."
- "Having put our technology in place in 2019, in 2020 we will empower our people - pushing decisions all the way down our organization and making the employee experience as engaging and inspiring as possible."
- "Our main focus is on giving time back to our front line teams."
- "Technology is great but we're really going back to basics with people - when we see a performance issue at a property it's seldom because of proptech - it's people."

| #1 Priority for 2020 | Responses |
|---|---|
| Team Development & Associate Experience | 6 |
| Automation & Tech-Enabled Streamlining of Business Operations | 5 |
| Business Intelligence (BI) | 3 |
| Customer Service & Experience | 3 |
| Other | 3 |

### Automation & Tech-enabled Streamlining of Business Operations

- "We are rolling out technologies that we expect will pay for themselves through the efficiencies that they deliver."
- "We've seen enough progress and results with digital leasing assistants that we will incorporate them into our 2020 strategy."
- "My 2020 mantra is automate, automate, automate."
- Note: other direct sources of efficiencies

included procurement, access control, websites and mobile maintenance

### Customer Service/Experience

- "To grow rents and maintain occupancy, our 100% focus will be on customer service—it is my company's highest priority."
- "My highest priority is to continue to improve customer experience through technology."
- "There have been so many new things entering the industry, there's a lot coming at us.  We want to get back to basics from the employee and operations perspectives - it's important not to take our eye off what's really important."

In another informative departure from the findings of our 2019 edition, 15% of this year's respondents had BI on top of their list of 2020 priorities, a point on which we will elaborate in the following sections.

**d2demand.com/20for20**

# 4 UPDATE ON 2019 FINDINGS

Our 2019 research highlighted five major findings.  Although this year's overall findings are different (see conclusions section), in the table below we have summarized the 2020 perspective on each of the themes that dominated the 2019 conversations.

| Major 2019 Finding | 2020 Update |
|---|---|
| **"One Big Project"**<br>Half of respondents reported a single dominant 2019 project that effectively used all available IT resources besides business as usual.  Seven companies had completed major PMS switches or upgrades. | Nobody reported a single big project in the same way as last year.  There was a feeling of being "back on offense" in 2020, with 70% of respondents reporting increased tech spending, driven mainly by new technology. |
| **Priorities and the "Hype Cycle"**<br>Responses showed a disconnect between the technologies that were "top of mind" in the industry and the priorities of the leaders we interviewed, with smart home, AI and short-term rentals surprisingly peripheral. | We asked the question differently this time (see next section).  This year the highest priorities were BI and CRM, but the new technologies (smart home, self-show and AI) were close to the top, suggesting a substantial (and remarkable) shift since last year. |
| **Sales is the Biggest Development Priority**<br>In a challenging recruitment market, the #1 training priority was leasing, with almost all respondents reporting major sales training initiatives. | While we did not ask specifically about training priorities this year, team development emerged as a 2020 priority, often in service of superior customer service or experience (see conclusions section). |
| **The Unremarkable Adoption of BI**<br>BI has never experienced a "big bang" of adoption, and those interviewees who had implemented BI spoke of their projects with relatively low enthusiasm.  The industry has yet to learn how to buy and deliver BI the right way. | Attitudes have changed year-over-year, with multiple leaders citing BI as the technology that played a bigger part than expected in their 2019, often expressing strong dissatisfaction with their current situation. Three listed it as their #1 2020 priority. |
| **Pricing and Revenue Management on Auto-Pilot**<br>PRM has fallen off the senior management radar in multifamily.  With a highly consolidated vendor environment, the risk of complacency is a concern for multifamily. | PRM was one of the highest priorities with COOs and one of the lowest with CIOs. While some market-related concerns highlight the importance of PRM, they have yet to manifest as technology innovations. |

# 5

# PRIORITIES AND IMPACT: TECHNOLOGY DEEP DIVE

In the previous section, we highlighted one of the most striking findings from our 2019 edition: the disconnect between the industry “hype cycle” and our interviewees’ priorities. Excited though leaders clearly were at the prospect of new and transformational technology, their to-do lists at that time focused primarily on more familiar technologies.

It was clear to us that the multifamily industry was at a technology tipping point, with many new and disruptive solutions coming to market at once. By asking leaders to itemize their top priorities last year, we felt that we learned something important about the effort and focus they were devoting to new technology at the time of asking. This year we decided to drill more deeply into individual functional silos to find out more about current attitudes and priorities.

We identified seven technologies and asked our interviewees to tell us two things, using a 1-10 scale (where one is low and 10 is high): its potential impact and level of priority. We guided respondents to score potential impact as the scale of potential upside to their business and priority as how important the technology was to them individually. The results are summarized in the table below.

| | Smart Home | | Self-Show | | AI Leasing Assistants | | Revenue Mgmt | | BI | | CRM | | Short-Term Rentals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Impact | Priority | Impact | Priority | Impact | Priority | Impact | Priority | Impact | Priority | Impact | Priority | Impact | Priority |
| CIO | 6.4 | 5.9 | 7.5 | 7.7 | 7.2 | 6.9 | 5.1 | 5.1 | 7.7 | 8.7 | 7.8 | 8.0 | 5.3 | 4.6 |
| COO | 8.3 | 7.2 | 6.8 | 6.2 | 7.6 | 6.8 | 8.6 | 8.6 | 8.3 | 8.7 | 8.6 | 8.9 | 6.1 | 5.3 |
| Overall | **7.4** | **6.6** | **7.2** | **6.9** | **7.4** | **6.8** | **7.1** | **7.0** | **8.0** | **8.7** | **8.2** | **8.4** | **5.7** | **4.9** |

In the following subsections, we have summarized the views expressed in conversations about each of the seven specific areas of technology. In explaining their scores, we asked our leaders to summarize what projects (if any) they had done during 2019 and what they planned to do in 2020.

## 5.1. SMART HOME TECHNOLOGY

With a potential impact of 7.4 and a priority of 6.6, Smart Home looks like a "middle of the road" technology for our 20 respondents. However, when the COO and CIO scores are separated, a different pattern emerges. With the exception of the outlier of Pricing and Revenue Management (see below), smart home tech represented the biggest disparity in ratings, with COOs scoring the technology significantly higher than CIOs.

| SMART HOME TECHNOLOGY | | |
|---|---|---|
| | IMPACT | PRIORITY |
| CIOs | 6.4 | 5.9 |
| COOs | 8.3 | 7.2 |
| Overall | **7.4** | **6.6** |

### The COO View

There was a general level of enthusiasm amongst COOs for smart home technology, with several focusing on the possibilities that it opens up for operational improvements. As an enabler to self-guided tours, leaders characterized their smart home plans as part of their automated leasing strategy. Others talked about it primarily in terms of the impact that it was either having or predicted to have on rent increases.

Some of the differences in ratings related to individual business models: e.g. companies specializing in value-add tend to see the value of retrofitting smart home packages as they upgrade units. For new builds, the technology already seems to be *de rigueur*. Vendor risk is still an important consideration: one COO re-

# SMART COMMUNITIES: FOR THE WIN-WIN

SmartRent

*It is hard to think of any innovation that is doing more to transform multifamily living experiences than smart home technology. As the name "Internet of Things" (IoT) suggests, the technologies have the potential to extend the online environment into...well, everything. With this in mind, along with the extensive discussion of smart home in these pages, we invited our friends at SmartRent to share how this new breed of technologies is changing multifamily operations.*

We are fortunate to be working in the multifamily industry at a time when so many technologies are helping to deliver ever-improving living experiences to our residents. Today's increasingly digitally native renters are using an expanding array of apps and services to remove friction from their lives. Operators have the opportunity to do the same thing, as technology removes burdensome tasks and gives back to associates time that is better spent on higher-value activities.

It was exactly this win-win that we foresaw in 2016 when we started SmartRent. IoT technologies were already gaining popularity with consumers, but nobody was addressing the problem of combining the needs of the consumer and the enterprise. And that is the need of the rental housing industry in a nutshell: an enterprise infrastructure that enables operators to deliver smart homes as an amenity, while also reaping the benefits of more efficient operations.

Access control provides a great example. For residents, smart locks enable a living experience that is more consistent with other aspects of their lives. With smartphone-enabled technology simplifying everything from ride-sharing to grocery delivery to dog-walking, our prospects and residents expect access should be as easy to organize as the services that necessitate it.

When an operator solves the access problem for its residents, they also unlock efficiencies, including the time and money saved by no longer having to handle keys. Imagine, for example, a garden-style community where maintenance staff have to cross the property to pick up a key to each apartment they have to visit.

Add other devices, like smart thermostats and leak detectors to a true enterprise architecture, i.e., one that connects all devices via a Z-Wave hub to a central control system, and more efficiencies become possible. Smart thermostats help residents to cut energy bills and warm or cool their homes to perfection while cutting their utility bills. They also enable communities to stop wasting energy on vacant units, making them more sustainable - an important commitment in the eyes of today's prospects and residents.

Finally, the benefits of early detection of possible leaks is another win-win. A leak detector may alert the community to a potential flood so that a maintenance technician can go directly to the apartment (without having to stop at the office to collect a key, gaining access instead through a temporary individual access code). Once there, the leak can be stopped before water leaks into the apartment or apartments below.

The potential inconvenience it avoids for residents (especially the unlucky ones living under the leak) alone makes the sensors worthwhile. For the community, it does not take many early interventions like this to cover the costs of implementing the technology. And with such obvious and broad-ranging improvements to the way our residents run their lives and the way that we run our communities, 2020 will be another exciting year for the smart community.

ported already replacing the first generation of IoT packages that they had installed only a couple of years ago.

Plans for 2020 centered on either expansion of an existing implementation or testing the technology. Several COOs expressed the objective of trying to figure out what the "package" looks like for both the unit and the building. Several others viewed the technology landscape as generally unsettled and described plans to continue testing multiple solutions to maintain optionality as both the technology and the vendor landscape mature.

### The CIO View

While the CIOs were also enthusiastic about this technology, the tone of the responses was generally more cautious than for the COOs. It also differed significantly according to the size of the platform. Smaller operators spoke of the need for 100% outsourced solutions with white-glove service as they had no desire to recruit the skills to support the technology in-house.

Larger platforms, on the other hand, seem to be proceeding with caution, with continued testing of multiple options. In particular, several saw access control as a bigger and more pressing challenge than the smart home package itself. This was the most marked difference between the CIO and COO perspectives.

Across the group of CIOs, there were reports of multiple pilots, with several resulting in vendors being down-selected based on performance or quality of the technology. Cybersecurity, unsurprisingly, weighed heavily on the CIO view of this technology which goes some way to explaining the lower scores from the interviews.

> **This year, 85% of interviewees listed self-show as a 2020 "to-do."**

Finally, it appears from the 20 responses that participation in a technology fund is affecting companies' approaches to smart home technology. As we mentioned earlier, eight of our 20 interviewees represent companies that have invested in at least one technology fund. Those companies are moving more quickly towards adoption and are generally doing so with the vendors in whom their fund has a financial stake.

## 5.2. SELF-SHOW

| SELF-SHOW | IMPACT | PRIORITY |
|---|---|---|
| CIOs | 7.5 | 7.7 |
| COOs | 6.8 | 6.2 |
| **Overall** | **7.2** | **6.9** |

What a difference a year makes! In 2019 we noted some surprise at the levels of skepticism about something that felt to us like an inevitability. This year, however, attitudes towards self-show have not only changed, but they are also leading to action, as 85% of interviewees listed self-show as a "2020 to-do."

The ratings are also instructive: with an overall potential impact of 7.2 and a priority of 6.9, the technology seems consistent with smart home in the eyes of our 20 interviewees. However, the scores were higher for CIOs than COOs, the opposite of the results smart home.

### The COO View

Several of the reasons offered a year ago in explaining why companies were not planning to do self-show returned this year as notes of caution for companies who now are taking a serious look. Liability remains a grey area for some respondents as they express a feeling that the industry has yet to figure out this important consideration. Others talked about the importance of the human element and their suspicion of losing it from the leasing process.

On the other hand, some respondents said that they see potential labor reduction as a huge potential benefit. There was some discussion with COOs about the self-show vendor landscape. Several shared that the solutions currently on offer focus on different aspects of the tour: some on access, some on presentation, some on closing, for example. Interviewees felt that no provider has the whole package yet.

One interesting observation relating to both self-show and smart home tech was the relevance of company structure to the adoption of the technology. Owner-operator platforms where individual properties represent individual companies with individual stakeholders do not always have the flexibility to test and implement the technology. Where a single entity has to invest the effort and resources into a first-time implementation and the benefit ends up realized by other stakeholders, few choose to be early adopters.

Self-show plans for 2020 range from full roll-out, to piloting and evaluation (the latter was the most popular) to nothing. Among the COOs, there was a theme of "wait and see," as people are still unsure how the vendor environment will shake out.

### The CIO View

The average rating scores for self-show among CIOs mask some polarization in results. Some saw it as a top priority, while others rated it low, with few close to the average.

Some CIOs saw self-show as a part of an overall strategy to lower burden on site teams. One spoke of the highly positive feedback the program had received from site teams because most of the self-guided tours were taking place on weekends. Several spoke of a focus on customer journeys as they approach how to implement self-show. The "come-back" tour seemed to be the prevalent use case raised in our discussions.

Where scores were low it was usually because of lack of impetus from the business. One leader cited a high concentration of properties in dense urban locations as a risk that pushed self-show down the list of priorities. Elsewhere, access control was cited as a reason for lower prioritization. That is not to say that self-show is not a priority, rather that it cannot be implemented well in a building for which access control has yet to be solved.

There is a general view that self-show will grow in prominence in 2020 as it becomes an expectation amongst prospects. Practically everyone, therefore, viewed it as an area which their companies will have no choice but to address.

However, the extent to which this is currently a technology problem was a theme of the CIO interviews. There was strong advocacy, for example, for low-tech and even no-tech options, as site teams learn how to manage the logistics of allowing prospects to self-show. Generally CIOs seemed hesitant to reach for a software-based solution at this point. Several articulated self-show as a part of an overall customer journey that involves many different technologies, and one that will change significantly.

Finally, in reviewing both the COO and CIO responses, a pattern emerges that goes some way to explaining the differences in scores that we mentioned at the start of this section. Several CIOs seemed disposed to view self-guided tours and ultimately leasing as a set of processes that technology has the potential to revolutionize. COOs looked to the impact on their site teams and the specter of liability as they considered this exciting and ultimately inevitable aspect of their operations.

| AI LEASING ASSISTANTS | | |
|---|---|---|
| | IMPACT | PRIORITY |
| CIOs | 7.2 | 6.9 |
| COOs | 7.6 | 6.8 |
| **Overall** | **7.4** | **6.8** |

## 5.3. AI LEASING ASSISTANTS

Our sample of 20 companies included two who had already fully rolled out AI leasing assistants at 100% of their properties. For clarification, all inbound communications to these two companies' properties are handled by the leasing assistant (i.e., not by a human, other than by exception).

Of the remaining 18 companies, the number doing or planning to bring AI into their leasing processes is substantially lower than either smart home or self-show. The responses give a general impression of a technology that the industry has yet to understand, but which nevertheless is likely to advance quickly.

### The COO View

In discussing this technology with COOs, several shared views like "Everybody wants it, but nobody seems sure what it actually is." A few COOs, especially those representing fee management, showed interest in the potential impact of AI on marketing, for example, adding AI-enabled website technology that improves conversions, or the prospect of AI-enabled search engine marketing. But the focus of this conversation was the type of AI that handles inbound leasing inquiries.

Few had AI-driven leasing on their to-do list for 2020, and the fact that respondents reached for examples outside of leasing suggest strongly that the benefits are not yet widely understood or appreciated.

### The CIO View

Among the CIOs interviewed, interest in this technology was relatively passive, with multiple CIOs waiting for the business to show an interest in AI. However, those who have adopted or are planning to adopt AI are treating it as a top priority.

When asked about 2020 plans, some CIOs saw it as part of the automated leasing ecosystem of which self-show is part. As the higher-priority items like access control and self-show take shape, so the logic goes, AI will become more appealing. A few CIOs voiced skepticism about the state of the technology and whether or not it's ready to solve a high-touch process like leasing.

It is clear that the understanding of AI is at an earlier stage than some of the other disruptive technologies affecting the prospect and resident experiences. We feel confident in predicting, however, that the understanding and ultimately adoption of this revolutionary technology will accelerate perhaps more than any other in 2020.

## 5.4. PRICING AND REVENUE MANAGEMENT (PRM)

Any survey that seeks to measure opinion is subject to the risk that individual interpretations of the questions and the scoring rationale will differ from respondent to respondent. Our ratings for pricing and revenue management (PRM) provide a neat example of this problem,

SPONSOR VIEWPOINT

# WHY MULTIFAMILY SHOULD BE EXCITED ABOUT AI IN 2020

**AppFolio, Inc.**

*As we are excited to report in these pages, the industry appears to be on a path towards fully-automated leasing. More exciting still is the pace of that progress over the last 12 months: our interviews at the end of 2018 suggested that operators were focusing on more familiar technologies. However, things changed in January 2019, when AppFolio, Inc. acquired Dynasty Marketplace, Inc. As the first (and thus far, the only) major property management software provider to provide an AI leasing agent to its customers, we invited AppFolio to comment.*

It seems natural in today's connected world that multifamily operators should have the objective of capturing the right prospect at the right time. But as any operator or marketer knows, there is more to that than meets the eye. Prospects call at times of the day and with contact preferences that conform less and less to the long-standing traditions of multifamily operations.

For as long as most of us can remember, leasing has been managed through a leasing office, with an agent answering the phones, booking and conducting tours. New communication channels have emerged, making it easier for prospects to stay in touch in an increasingly mobile world, but conversations with the property follow office hours even if little else does anymore.

You seldom encounter a multifamily leader who is satisfied with the rate at which calls are answered at their properties. With the high turnover of leasing agents and the many distractions of multifamily operations, lead follow-up has always been challenging. Every missed call means potential lost revenue, poor customer experience and wasted marketing dollars. But with the arrival of AI, a solution to that perennial problem is now—finally—within reach.

With technology like AppFolio's AI Leasing Assistant, Lisa, handling inbound communications and booking tours, operators are improving prospect experiences and improving operations. Properties no longer miss inbound calls, texts or emails, and they have a perfect record of all communications with prospects. That is a luxury for leasing agents preparing for the tour, and more broadly for property performance measurement, as Lisa also provides a complete and accurate record of leads, showings and conversions at the click of a button.

While solving such persistent problems is exciting, the potential of this technology to transform businesses is what really captures the imagination. When leasing agents are not tied up on phone calls on a busy afternoon, for example, they can focus all of their time on interacting with prospects and serving existing residents. With technology handling communication, companies with neighboring properties have the flexibility to deploy leasing agents so that they can tour multiple buildings, rather than spending all of their time in the same one.

When agents can cover more than one building, more radical opportunities emerge. Operators can consider adding properties to their portfolios that may previously have been too small, given their staffing model. With the added flexibility that AI enables, operators can find new ways to staff clusters of properties, driving efficiency and growth, while adding variety and responsibility for leasing agents.

It's not often that technology delivers such improvements to customer and associate experience while improving efficiency and also creating growth opportunities. That is why we're so excited to see this technology take off in 2020!

| PRICING & REVENUE MANAGEMENT | | |
|---|---|---|
| | IMPACT | PRIORITY |
| CIOs | 5.1 | 5.1 |
| COOs | 8.6 | 8.6 |
| **Overall** | **7.1** | **7.0** |

with a difference of 3.5 points between the ratings of CIOs and COOs. (Note: that the average impact and priority scores are identical is admittedly bizarre, but is not a mistake!)

The more detailed commentary on PRM demonstrated little by way of innovation, or tangible current or future initiatives. Yet COOs still rated both the priority and impact high, while the CIOs did not. Some specific, performance-related concerns appeared in COO responses, but overall the impact and priority scores seem to have been interpreted differently by the two groups.

### The COO View

The operators who saw PRM as important during 2019 did so either because they had implemented it for the first time (one company), or had taken over underperforming assets whose performance they had turned around by improving PRM. One large fee manager noted that they had made it an "opt-out" part of their service, indicating how important it is to their platform.

A few operators spoke of expanded roll-out to property teams, noting that improving site staff understanding of PRM was one of the most effective performance levers available to them. Several talked about amenities with one sharing that they had achieved substantial performance gains when taking over properties with poor amenity strategies.

Amenities were cited as the biggest challenge for 2020, with multiple COOs seeking to improve in this area. Achieving renovation premiums was a related and pressing PRM priority. One leader predicted a heavier focus on PRM in 2020 as rents are starting to flatline, noting that we are not in the double-digit rent growth part of the cycle anymore.

### The CIO View

Several of the CIOs interviewed represent companies that have outsourced their PRM function, meaning that they have practically no interaction with the technology. Although the same general observation appears also to apply to companies where PRM is managed in-house.  As with last year, we heard a prevailing view that PRM will not re-emerge as an IT priority until a new generation of PRM software emerges.

Two quotes sum up CIO sentiment nicely:

- "Looking back over the last 20 years, the world is unrecognizable, but we still have the same PRM. The technology is ripe for a complete overhaul."
- "My score (1/10 for both impact and priority) reflects what there is for IT to do [with regard to PRM]. It's still really important [to normal operations], but there's nothing going on at all."

No CIOs reported any plans to address PRM in 2020. Some see AI and the possibility of mining far more accurate information about guest cards, for example, as a source of improvement. One called for further integration with marketing and screening but doubted anything will happen in 2020. Finally, one CIO shared a concern with what might happen if there is a downturn, as there will be some leaders who see PRM as a cost to be contained rather than a differentiator.

A year ago we expressed concern at the risk of complacency concerning PRM, with neither CIOs nor COOs showing signs of being actively engaged in any PRM initiatives. With technological innovation delegated to such a consolidated vendor environment, we argued, one of the main drivers of innovation was now missing from the industry. Sadly that remains the case a year later; perhaps a turning economic tide or some technological disruption will change the story by this time next year.

| BUSINESS INTELLIGENCE | | |
|---|---|---|
| | IMPACT | PRIORITY |
| CIOs | 7.7 | 8.7 |
| COOs | 8.3 | 8.7 |
| **Overall** | **8.0** | **8.7** |

## 5.5. BUSINESS INTELLIGENCE (BI)

Earlier in this paper, we noted that 15% of our respondents had BI as their number one priority for 2020. The observation represented a stark contrast to the prevailing apathy towards BI that we noted in our 2019 paper. As we shall see, 2019 saw considerable movement in BI projects and a range of attitudes towards the technology.

### The COO View

COO views on BI varied significantly according to the stage of maturity in their BI capability. COOs implementing it in 2019, or spending 2019 reaping the benefits of a 2018 implementation were generally delighted with the difference it had made to their business.

Curiously, given how long BI has been available, 30% of respondents have not yet implemented BI or are too early in their journey to claim that they have a BI platform. Not having found the right partner was cited as a reason for not having taken decisive action. Those who cited BI as their top priority did so because they felt that the project was long overdue.

In 2020, those who had implemented in 2019 said that they planned to use it more broadly and aggressively, rolling out to more users and using their BI to differentiate their platforms with potential investors. Some COOs described their accomplishments and plans on a path towards the desired future state of predictive analytics.

Finally, two COOs described having recently rolled out off-the-shelf BI programs from their PMS vendors. In each case, they were already thinking about the need to move to a different platform for the next stage of their development.

### The CIO View

A review of the 10 CIO responses reveals something different about this technology compared to the others that we have described so far. Each CIO who has a BI program in train described their 2019 accomplishments and 2020 plans in terms of the stages they reached or plan to reach.

Some had implemented off-the-shelf BI. Others spoke of constant “tweaking” of their models, reporting and dashboards. Still others spoke of ongoing stages of roll-out of a solution developed over a number of years.

Several of the large fee management platforms cited further roll-out, e.g., from central access to field operations, as one of their main activities for the year. It is easy to forget that deploying an existing, centrally-supported technology to hundreds of users is a bigger project than many new implementations.

Overall, the relatively high priority of this transformational technology is encouraging after the apathy that characterized last year’s responses. The theme that emerged from the 20 responses is one of evolution - a theme to which we will return in the conclusions section.

# SO YOU THINK YOU UNDERSTAND LEASE ATTRIBUTION?

**RentPath Inc.**

*As we discuss in 20 for '20, the nature of leasing is changing. While marketing publications and conferences focus on shiny new objects, some even predicting the demise of the internet listing service (ILS), ILSs still perform a function nobody else can. We invited RentPath to share research they sponsored to understand how renters search and how our systems struggle to track it.*

Imagine: You just got a promotion and a transfer to a new location and need to find an apartment. What will do you do first? If you're like 59% of leasing prospects, you search Google, and your first click is on an ILS. Another 8% navigate directly to an ILS, meaning 67%—a full two-thirds of prospective renters—start their search on an ILS. With 19% using an ILS later in the process, a total of 86% of rental prospects use one ILS or more in their searches.

The biggest challenge for marketers is they often don't see this strong influence reflected in their data. Prospects begin their research an average of 45 days before move-in, meaning that their recollection of how they found the property is an unreliable way of understanding the marketing sources they touched. But even when systems are automated, the accuracy is unreliable.

We created three case studies (data to the right) using lease-match algorithms to drive home how inaccurate lease data can be. In each case, an enormous number of leads that originated with the ILS were attributed elsewhere. In each case, the user submitted the first lead on the ILS and ended up leasing at the property.

But in the course of the process, the attribution changed. There are myriad possible reasons for this. One common example is the following: The phone call generated by the ILS went unanswered and, therefore, the ILS got no credit when the prospect showed in the leasing office.



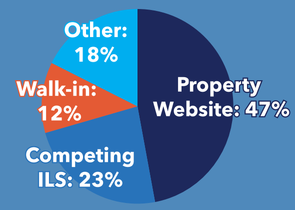
**CASE 1**

**Sample size:** 4 properties

**Lease attributed to ILS1:** 7

**Actual leases touched by ILS1:** 41

**Sources to which leases were inaccurately attributed:**



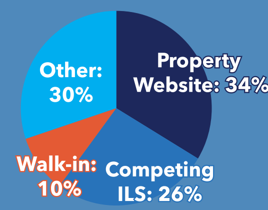

**CASE 2**

**Sample size:** 94 properties

**Lease attributed to ILS1:** 133

**Actual leases touched by ILS1:** 442

**Sources to which leases were inaccurately attributed:**




**CASE 3**

**Sample size:** 203 properties

**Lease attributed to ILS1:** 202

**Actual leases touched by ILS1:** 2080

**Sources to which leases were inaccurately attributed:**


Most commonly, the ILS leads were instead credited to a property web site. That doesn't mean the property web site isn't important, just that the user submitted a lead via ILS before checking out the property web site.

Too often, we unknowingly collect bad data from a lot of properties, put it together, and miss the step where we validate its accuracy. If getting accurate data seems daunting, we have a simple recommendation: At least annually, ask your marketing partners to do a lease-match audit for you. They should be eager to help.

| CRM | IMPACT | PRIORITY |
|---|---|---|
| CIOs | 7.8 | 8.0 |
| COOs | 8.6 | 8.9 |
| **Overall** | **8.2** | **8.4** |

## 5.6. CRM

CRM had an interesting year in 2019. We observed in our 2019 paper that the sector had matured, with numerous high-quality solutions offering real choice to multifamily operators. We noted a year ago that multiple companies had implemented CRM during 2018. That the technology received the highest rating on both potential impact and priority shows that it remains top of mind.

That is also reflected by the consistency in views expressed by both COOs and CIOs, (whose comments we merged in review as there was no substantive difference between the COO and CIO views). Where last year concerns over the Yardi/Entrata relationship had forced some changes to several firms' marketing technology, this year there is evidence of a renewed interest in best-of-breed solutions.

Several of the companies interviewed either implemented, tested or were planning to test and implement a new best-of-breed CRM solution. This indicates a replacement market, rather than the adoption of a new technology. Most leaders pointed to system performance and functional differentiation as the drivers leading them to consider replacing what they currently have.

| SHORT-TERM RENTALS | IMPACT | PRIORITY |
|---|---|---|
| CIOs | 5.3 | 4.6 |
| COOs | 6.1 | 5.3 |
| **Overall** | **5.7** | **4.9** |

## 5.7. SHORT-TERM RENTALS

Short-term rental platforms, while more of a distribution and segmentation channel enabled by technology than a tech innovation in and of itself, seemed under-represented in executives' priorities a year ago, given the industry hype. This year, the sector attracted the lowest ratings of all of the technologies that we asked our respondents about.

Given no clear adoption pattern and a variety of situations and views, we will, in this section, simply list some of the direct quotes that best describe the attitudes represented in our interviews.

### The COO View

- "We see more downside than upside. We don't understand the costs: wear and tear is different for short-term rentals as turns are so frequent."
- "It's a pet project of mine—we have about 400 units in the short-term rental market and we're developing some good relationships with providers."
- "I have a long history of supporting corporate housing, but I'm not a fan of short-term rentals; people generally don't want them in their buildings."
- "It's not a priority for us. Our properties are not sexy enough for this to be a big segment."
- "We aren't planning to do anything. We want to know who's in our buildings, plus our oc-

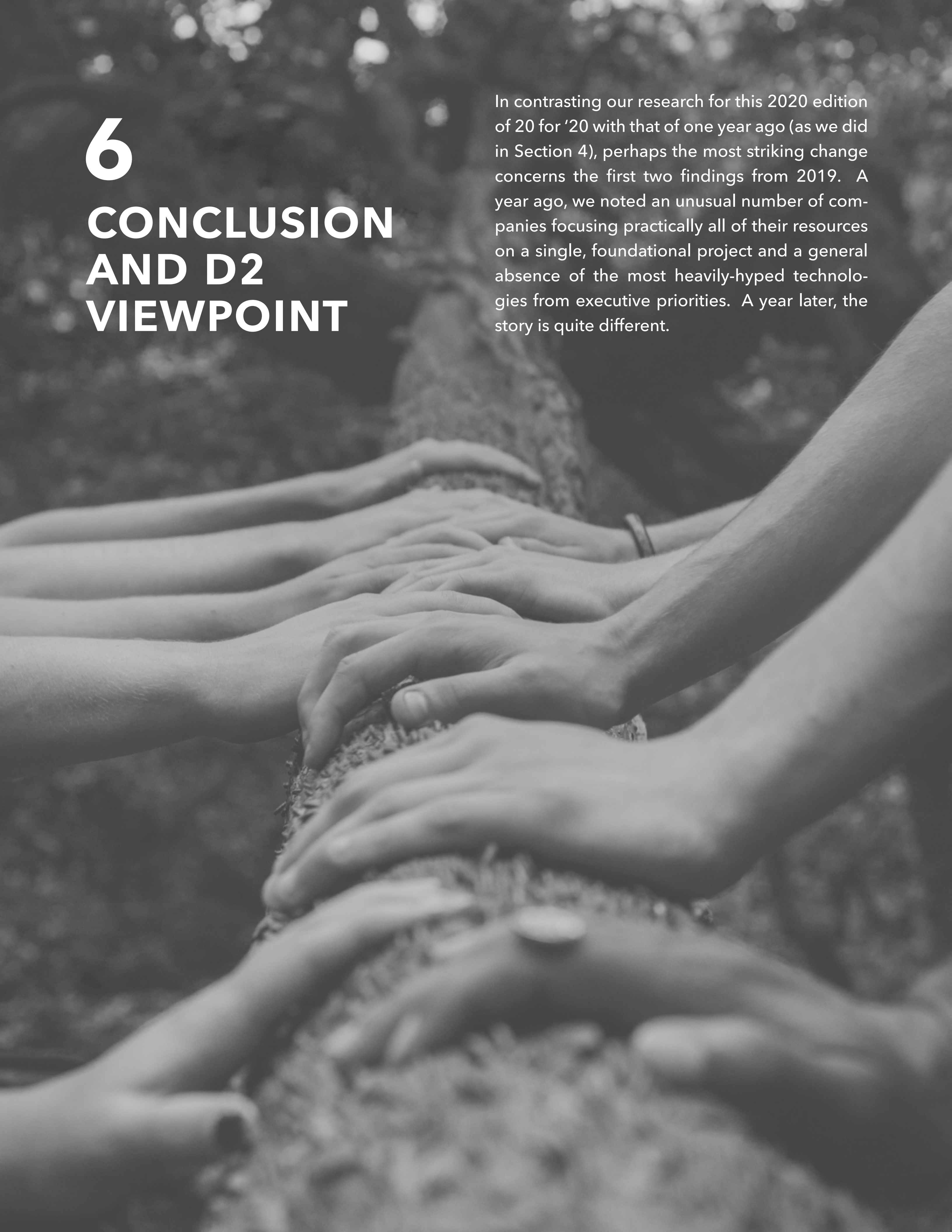
cupancy has been high, so we don't feel the need."

- "Nobody really understands the liability issues. They may be popular with owners, but operators carry the liability."
- "We've been testing at some properties, but it's still an occupancy play for us—haven't figured out how to use them to drive revenue."
- "We've had a few bad things happen which make us reticent about moving too quickly into private nightly rentals."
- "We don't need them. Revenue management is doing a good job, and we see no need to offer leases shorter than three months at the moment."

### The CIO View

- "Interest waxes and wanes from time to time, there are too many open questions at this point."
- "We're testing a few platforms, and saw more success than we anticipated in 2019."
- "We've got a pilot going in one of our markets, but we're not all that excited about it. The complexity of dividing buildings into individual floors for short-term rentals is considerable."
- "We're glad we sat on the sidelines in this one - 83% of our residents say that they don't want it in their buildings, and they aren't permitted under our lease."
- "We're letting it happen, but we're doing very little proactively about it."
- "We're going to be putting a lot of effort into it in 2020, especially addressing the hospitality aspects and needs of properties."

In reviewing the responses on this topic, we are struck by the inertia currently affecting short-term rentals. While some of the quotes above may sound skeptical, the overall feeling is of leaders - particularly COOs "hitting snooze" on this opportunity. D2 has long advocated for the acceptance and exploitation of flexible rentals - it is easy to think of demand problems that they potentially solve. However, in the current market climate the relative ease of filling empty units decreases the pressure on this innovation. Those conditions will change at some point.



# 6
# CONCLUSION AND D2 VIEWPOINT

In contrasting our research for this 2020 edition of 20 for '20 with that of one year ago (as we did in Section 4), perhaps the most striking change concerns the first two findings from 2019. A year ago, we noted an unusual number of companies focusing practically all of their resources on a single, foundational project and a general absence of the most heavily-hyped technologies from executive priorities. A year later, the story is quite different.

Below we have once again chosen the five findings that stood out to us above all others from this year's research. As you will see, the subjects of innovation, radical transformation of leasing and patterns of technology adoption came to the fore as we reviewed what our 20 executives had told us. But before we share the individual details, there is one over-arching factor at play in our industry that seems contextually important to everything that we will discuss below.

There are a lot of new vendors. This reflects both the burgeoning opportunity of new technologies and the relative ease of securing funding in the current technology environment. We noted a year ago that multifamily was at a technology tipping point, the likes of which we had not seen for almost 20 years. If anything, we see an acceleration in the creation and adoption of new and exciting technologies, provided by an ever-increasing group of vendors, many of whom are new.

> **Innovation, radical transformation of leasing and patterns of technology adoption came to the fore as we reviewed what our 20 executives had told us.**

The creative destruction that these new solutions will bring to the industry is to be celebrated: companies who are successful in marshaling the technologies described in these pages will see their performance improve. As with most benefits, there is an accompanying cost: the effort and focus required to manage a technology environment that has become more complicated and will only become more so in the future.

An ever-increasing supply of venture capital is funding an ever-expanding population of new ventures. Some will be successful and will change our industry forever. Many will consolidate, while others fall by the wayside. As we will discuss below, the proliferation of vendors incurs a cost in management bandwidth. In response, companies are modifying strategies to handle more innovation, which must in turn be balanced against the conventional priorities of running multifamily operations.

## 6.1. THE CHANGING NATURE OF INNOVATION

In Section 3, we summarized the responses to a direct question that we asked about innovation. The responses told us that companies have changed the way that they innovate, both in the way that the activity is resourced and the focus of innovation activities.

With 90% of CIOs reporting that their companies had changed their approach in the last two years, and most companies now operating some kind of formal innovation function or committee, this area has changed substantially. Perhaps the most interesting observation is that the remit of innovation seems to be changing in many of the organizations interviewed.

Of the 13 owner-operators interviewed, nine shared that their approach to innovation now focuses on resident and prospect problems first, and technology second (if at all). To resist the temptation to make the classic mistake of solving technology before fully solving the process is good practice in and of itself. But there was a further, interesting nuance in people's responses.

Several respondents noted an increasing encroachment of technology vendors onto one another's technologies. Resident apps provide

# UNIT AMENITIES: THE PRICING BLIND SPOT

D2 Demand Solutions

*For two years, 20 for '20 has reported a lack of executive focus on pricing and revenue management (PRM). "PRM is doing fine" is the prevailing attitude among senior leaders, but there are still blind spots. Few spots are blinder than unit amenities - an area that will be keeping D2 busy in 2020. We thought we'd share our approach in the hopes of getting the industry to stop ignoring this critical piece of the PRM value chain.*

The average garden community derives about 6% of its gross potential rent (GPR) from specific unit amenities. The number is upwards of 12% for a typical mid or high-rise community.

Operators and revenue managers ignore this important piece of the rent puzzle at their peril, but many still do. A well-oiled PRM machine needs a process for setting up and managing unit amenities. We see it as a three-step process:

Step 1: Create a checklist of amenity types to use when setting up a new community or auditing an existing one. The checklist ensures anything missing is intentional, not an oversight.

Step 2: Audit communities annually. PMSs only provide amenity views by individual units, whereas we need to view each unit in the context of its neighboring units horizontally (floor) and vertically (stack), exposing opportunities, e.g.:

- "Holes": missing amenities (e.g., units 203 and 403 having a balcony assigned while unit 303 doesn't)
- "Competing" amenities: incongruent positive/negative amenities (e.g., a positive and a negative view premium on the same home)
- Incongruent amenities: Assignments that don't make sense (e.g., Unit 202 has a $75 view premium while unit 302 above has a $50 view premium)

Amenity audits should also review square footage offsets. We frequently see small/no price difference—e.g., a $25 upcharge on the 550 square foot one-bedroom versus the 500 square foot (50 cents per square foot) when the base rent on the latter is $1250 ($2.50 a square foot).

Step 3: Assess pricing accuracy by reviewing the leasing history of homes that have amenities versus those that don't. Apply a statistical test to the market response and to determine if the pace is the "too hot or too cold" (meaning the amenity prices is too low or too high) or if it's "just right."

These steps are very hard to do with current PMS interfaces, which explains in part why amenities haven't been given the attention they deserve. This year D2 is implementing an app that solves this long-standing problem. For the first time, it will be easy to audit and correct amenities, understand their true value and eliminate one of the most pervasive blind spots in PRM.

Building 03 STACK Bulk Edit

| FLOOR | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
|---|---|---|---|---|---|---|---|---|
| 1 | | 15 | | | | 15 | | 15 |
| 2 | | 15 | | 15 | | 15 | | 15 |
| 3 | | 15 | | 15 | | 15 | | 15 |

*Fig. 1: Missing corner amenity unit 104*

Building A STACK

| FLOOR | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 400 | 355 | 355 | (45) | (45) | (45) | (45) | (45) | (45) | 100 | 355 | 355 | 355 | |
| 5 | 100 | (45) | (45) | 100 | 100 | (45) | (45) | (45) | (45) | (45) | 100 | 55 | (45) | (45) |
| 6 | 100 | (45) | (45) | 100 | 100 | (45) | (45) | (45) | (45) | (45) | 100 | 55 | (45) | (45) |
| 7 | 100 | (45) | (45) | 100 | 100 | (45) | (45) | (45) | (45) | (45) | 100 | | | |
| 8 | 100 | (45) | (45) | 100 | 100 | (45) | (45) | (45) | (45) | (45) | 100 | | | |
| 9 | 100 | (45) | (45) | 100 | 100 | (45) | (45) | (45) | (45) | (45) | 100 | | | |
| 10 | 100 | (45) | (45) | 100 | 100 | (45) | (45) | (45) | (45) | (45) | 100 | | | |
| 11 | 100 | (45) | (45) | 100 | 100 | (45) | (45) | (45) | (45) | (45) | 100 | | | |

Unit: 612
6th = 30
Balcony = 100
No Balcony = (45)
ObstructedE = (70)
ObstructedN = (80)
Rent = 3600
White = 15

*Fig. 2: "Competing" view premiums on unit 612*

a great example of this phenomenon, with new smart home and maintenance solutions joining purpose-built resident apps in a competition for space on the resident's smartphone. The phenomenon of "app fatigue" could be the subject of a whole separate white paper, but the overlap in functionality demonstrates why it no longer works to evaluate technology on a solution-by-solution basis.

Of the seven firms with predominantly fee-managed portfolios, the workload and intent were similar to the owner-operators, but with the added consideration of vendors selling directly to their ownership groups. The risk of being blindsided by a new and unfamiliar vendor selling to an owner whose properties you operate is a real one. Not every technology is a good fit for every operating platform, so third-party managers need to educate themselves to be prepared to manage technology decisions to good outcomes.

Innovation is consuming more leadership time as new technologies and vendors proliferate. With new vendors come risks like financial viability and potential exit strategies, all of which factor into selection decisions. Several of the eight interviewees who participate in industry technology funds cited the funds' screening of potential investment targets as a key reason why they decided to invest. As the pace of innovation continues to accelerate, smart operators will look harder for insight and ways to leverage it. Innovation itself, then, will remain a work in progress for the foreseeable future.

## 6.2. THE PATH TOWARDS FULLY-AUTOMATED MULTIFAMILY LEASING

The change in attitudes towards automation and the technologies that enable it is remarkable in the context of last year's survey. 25% of respondents cited some form of automation or technology-enabled streamlining as their number one priority for 2020, with references to labor-saving and ultimately role-elimination mentioned repeatedly in voice-over.

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Nowhere is this appetite for radical change more apparent than in the domain of leasing. Where a year ago we were surprised at the relative lack of focus on enablers like AI leasing, self-show, and smart building technology, this year half of our CIOs cited some combination of those technologies as their main highlights of 2019. This pace of change is astonishing for an industry historically prone to a "wait and see" approach to adoption.

There is evidence, both through these interviews and in the broader industry press, that some operators are advancing automated leasing initiatives specifically to break the 1:100 ratio of property front office staffing. By changing this long-standing paradigm, operators not only save operating costs but can consider properties for acquisition that would previously not have been viable based on the legacy staffing model.

In Section 5.3 we highlighted that two companies we interviewed had completed the roll-out of AI-driven leasing during 2019. We also noted that the level of activity in this area was still relatively low at the time of conducting our interviews. However, we predict that AI-driven leasing will move quickly in 2020 as the industry learns of the results that it is already delivering to early adopters.

### The Rush to Self-Show

We observed a similar acceleration in interest and activity in the apparent acceptance of self-show in 2019. From almost universal resistance a year ago, 85% of interviewees identified it as a 2020 "to-do" just 12 months later. We applaud the industry's reaction to this: as we wrote a year ago, the outstanding results enjoyed by single-family housing should automatically elevate it to a multifamily priority. But as we review the content of the responses from our leaders this year, we sound a note of caution.

The 17 companies in whose plans self-show is due to feature in 2020 represent a striking variety of approaches. Many, perhaps even most of the interviewees described plans to "test a self-show solution." A minority of larger platforms who had spent considerable time researching self-show advocated for different approaches.

Two important considerations emerged concerning self-show technology. First, there is no industry viewpoint yet on how to do self-show well. Anecdotal accounts of the experience of companies that are already trying it suggests that low-tech, or even no-tech approaches are allowing companies to make progress, while yielding rich and surprising learnings.

The well-established single-family housing example provides some insight here. Printed collateral has been successfully employed to guide prospects on their tours, delaying the need to enshrine new processes in technology. Numerous multifamily operators are now trying similar approaches, while they solve more important foundational problems in the future self-show process, like access control.

Of the 17 companies planning to work on self-show, most reported focusing on other aspects of the tour besides access control. However, a minority of companies who had researched this the most thoroughly identified access control as a prerequisite.

That brings us to the second consideration: the technology currently being proposed for self-show is unusually unsettled. Several respondents expressed the view that while there are already promising vendors in the space, it remains unclear what type of vendor is the most natural fit for this technology. Self-show is naturally adjacent to CRM and access control, and point solutions for self-show are also emerging. At this point, it is not clear which types of vendors are best-placed to support self-guided tours.

While AI leasing, smart home and self-guided tours all have work to do before they are truly ubiquitous across the industry, we predict only acceleration in 2020. A year ago, we saw push-back and lack of awareness slowing adoption down. At the time of writing it is no exaggeration to say (bumps in the road notwithstanding) that the industry is on a path towards fully-automated leasing.

## 6.3. BUSINESS INTELLIGENCE (BI): EVOLUTION, NOT REVOLUTION

It was something of a surprise to us that BI turned out to be a major finding of this paper one year ago. But last year's interviews yielded two observations that were unexpected, though completely understandable once we dug into them. First, the adoption pattern of the technology was different from other enterprise technologies, with no "big bang" of adoption, and instead a rather slow trickle of implementations. Second, we were struck by the relatively low enthusiasm that BI seemed to inspire amongst those who had adopted it.

At first blush, our findings this year, which asked more focused questions on this and other technologies, suggest that attitudes have changed. 40% of our COOs listed BI as a "technology that played a bigger role in their 2019 than they had anticipated". Reasons included new rollouts or decisions to move from one platform to another.

Taken in concert with the 30% of our respondents who cited BI as their number one priority for 2020, we saw a very different perspective than 2019. BI seems to be a higher priority, with multiple executives also expressing strong dissatisfaction with their BI capabilities - a significant change from a year ago.

However, reading through individual accounts by executives of their current capabilities and plans, a more nuanced pattern emerges. What is striking about BI is the unusually wide spectrum of capabilities and solution types currently in use, given the relatively long time the technology has been available. Of the 20 responses:

- 40% have built or are building their own platform, using standard tools like PowerBI
- 30% use a PMS vendor "off the shelf" solution
- 30% either have no solution or regard themselves as too early in their project to be considered live on BI

In reviewing the CIO responses on the subject of BI, the prevailing trend is one of evolution. Almost all CIOs characterized their 2019 accomplishments and 2020 plans as stages in a journey (even if they did not use those words). Most do not regard implementation as "completed" in the way that they do with many other technologies (e.g. revenue management), which goes some way to explaining the slow adoption and relative lack of excitement that we inferred from last year's interviews.

Earlier we mentioned the COOs who had implemented off-the-shelf BI but were already considering moving to a more sophisticated BI infrastructure. This is understandable in the context of wanting to go from zero to at least enterprise reporting and some dashboarding

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capabilities. But companies appear to outgrow off-the-shelf solutions: identifying quickly the need for greater flexibility of data sources, reports and dashboards. This also explains the understated feedback that we received from those interviewees who told us about their BI implementations a year ago.

As we also mentioned, some of the biggest 2020 BI projects entail not implementing a new platform but broadening access to one that already exists, having been built over multiple years. Other companies who had built their own capabilities spoke of the missteps they had experienced through their development. In 2020 the evolutionary pattern will surely continue until the industry determines a better way to deliver this essential capability.

## 6.4. WHY PROPTECH ADOPTION WILL DEPEND ON OPERATING MODELS

Whether an operator regards itself as a leader or a follower, the pace at which competitors adopt a potentially differentiating technology matters. Our discussions with 20 companies at various stages of considering or implementing new technologies highlighted a subtlety that may have a telling impact on the adoption patterns: the structure of the acquiring company.

The current wave of transformational innovations entails more "installed" technology than previous revolutionary solutions. Installed technology incurs direct costs at individual properties, which constrains some companies more than others in the ways they can approach implementation.

Taking the top-of-mind example of smart home technology, we can identify numerous aspects of our vendor selection and implementation decisions that lend themselves to testing. The way that the technology works, what residents think of it, and how much they are willing to pay for it are all questions to which operators typically want to find answers. Add the need to understand the capabilities that the vendor brings to the table, and there is a lot to find out.

A good approach might be to pick a set of units for a pilot, or multiple pilots if more than one vendor is being evaluated. This scenario is generally better-suited to owner-operators, who have greater flexibility to test technologies on some of their units than fee managers do.

Traditionally fee managers have been led by their ownership groups in technology selection. But with this new breed of installed technology, some companies are changing their approach. With numerous new vendors and solutions, the support and integration overhead could easily become onerous if an operator leaves it entirely to their diverse base of owners to pick the technologies.

Fee managers who own some of the properties that they operate are increasingly using those properties to conduct the testing described above. By figuring out technologies themselves, the logic goes, they can proffer "house opinions" to their owners. This provides a safeguard against risky decisions and allows greater control of the technology conversation.

> **Almost half responded with answers like: 'We are going back to basics,' with several using those specific words.**

The structure of owner-operators is also consequential to companies' ability to adopt new technology. This may be true, for example, where a portfolio is made up of individual properties with different financial stakeholders (like funds or individual joint ventures). In this case, the prospect of being an early adopter may be unappealing, as initial rollouts can be time and resource-consuming. If the benefits of that extra effort ultimately accrue to different financial stakeholders as the technology is rolled out while the costs are shouldered by the early adopters, then nobody wants to be first!

For this reason, amongst others, the public REITs interviewed provided the most interesting examples of evaluation and rollout. With the resources to research and test and the latitude to choose suitable properties and units for testing, much of the deepest insight resides in this sector. Although of those REITs interviewed, there is an interesting divergence in priorities and approaches. It contributes to an overall perception that installed technologies and their vendors are still finding their fit with the multifamily industry.

## 6.5. "BACK TO BASICS" - THE SURPRISE 2020 PRIORITY

And finally...the biggest surprise to us in this year's research was not directly to do with any of the technologies covered in our discussions. When we asked our 20 leaders about their number one priority for 2020 we noticed a trend in the responses. Almost half responded with answers like: "We are going back to basics," with several using those specific words.

The specific areas of the business varied, with most talking about team development and some talking about customer service or experience. What was consistent was that the priority was people, rather than technology-based, and voiced as a return to some core operating principles. The finding is instructive, for three reasons.

First, it fits with a narrative that has developed during the three-years now covered by 20 for '20 research. In 2018 a disproportionate number of respondents had focused almost everything on large, foundational projects. 2019 appears to have been about adding capabilities to the platform, including a rash of new technology. It makes sense in that context that leaders next want to turn their attention to their teams and their customers.

Next, to the extent that anyone can predict the ultimate length of the current multifamily cycle, it is probably safe to assume we are in its latter stages. In this context, it makes sense to prioritize things that are less capital-intensive than some of the major technology projects of the last couple of years.

Finally, and to bring us back to the theme with which we started this section, the desire to refocus on customers and teams is a natural corollary to the tide of industry innovation. In describing the reasons why this was a priority, several interviewees spoke of the risk of being distracted by the pace of innovation from the thing that makes them successful: delivering great living experiences through great associates.

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# ABOUT THE AUTHORS

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# ABOUT D2 DEMAND SOLUTIONS

D2 Demand Solutions has more than a century of experience bridging the gap between technology and people whether it's prospects, customers or associates (or all three). We've delivered game-changing programs in pricing and revenue management, sales performance, marketing and business intelligence. We focus on analysis rather than opinions, and we know how to identify and capitalize on opportunities, designing and building intuitive solutions. We've "seen the cultural change management movie" and show you the "script" to equip a modern, adult workforce.

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