2019 EDITION

20 FOR '20

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

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D2 Demand Solutions
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D2 Demand Solutions

1 EXECUTIVE SUMMARY

2018 AND THE OUTLOOK TO 2020

1/2 of respondents had executed **one major project** to the exclusion of most other technology implementations in 2018

- Seven of the 20 had a major PMS upgrade or complete switch
- Other major projects included portfolio-wide business intelligence, ERP and enterprise HR and payroll services
- One company completed a successful pilot of AI-enabled leasing

Other interviewees saw their firms' progress in the market, including expansion into new markets, portfolio expansions and post-merger integration.

1/4 of respondents cited **strong lease-up performance** as their 2018 highlight

95% **of respondents see the outlook for 2019 to be better or the same as 2018**

Respondents provided a broad range of **1-3 year priorities** the most common being:

- Growth/repositioning
- Staffing & organization design
- Leveraging data for insight
- Leveraging technology investments
- Technology strategy and its cultural implications

PEOPLE

Attraction and retention of talent was extremely challenging in 2018.

When asked for examples of measures companies took in 2018 to mitigate the **competitive talent market** the most popular responses were:

- Building and maintaining a culture with particular attention to the needs of an increasingly millennial workforce
- Policy changes – including rent concessions, PTO and dress codes
- Increased focus on employee sentiment, with many operators conducting surveys

Development and training

priorities include:

- Sales (leasing) training – which is broadly seen as critical after a decade of growth
- Customer experience
- Mentoring and onboarding

The adoption of technology, especially mobile technology, is changing the way that companies deliver functionality, and consequently training, to their associates.

10% of respondents expect improvement in attraction and retention in 2019

TECHNOLOGY

45% of respondents reported higher per-door technology spend in 2018 compared to 2017. Additionally, 55% of respondents anticipate that spending will increase even more in 2019.

Major technology successes

that respondents cited include:

- PMS/platform implementation or major upgrade
- CRM
- Business Intelligence implementation

"Smart" technology

is increasing in popularity but was not a top technology priority in 2018.

- Smart home technology has the attention of many operators. While not a top priority for our interviewees, several reported some activity. Most voiced hesitation due to fear of obsolescence and the cost of retrofitting buildings.
- Several companies are exploring applications of Artificial Intelligence (AI), but only one of the twenty companies interviewed was actively implementing an AI-driven technology.

Pricing & revenue management (PRM) is 18 years old this year. When asked about the state of PRM in the industry, we made two observations about the responses:

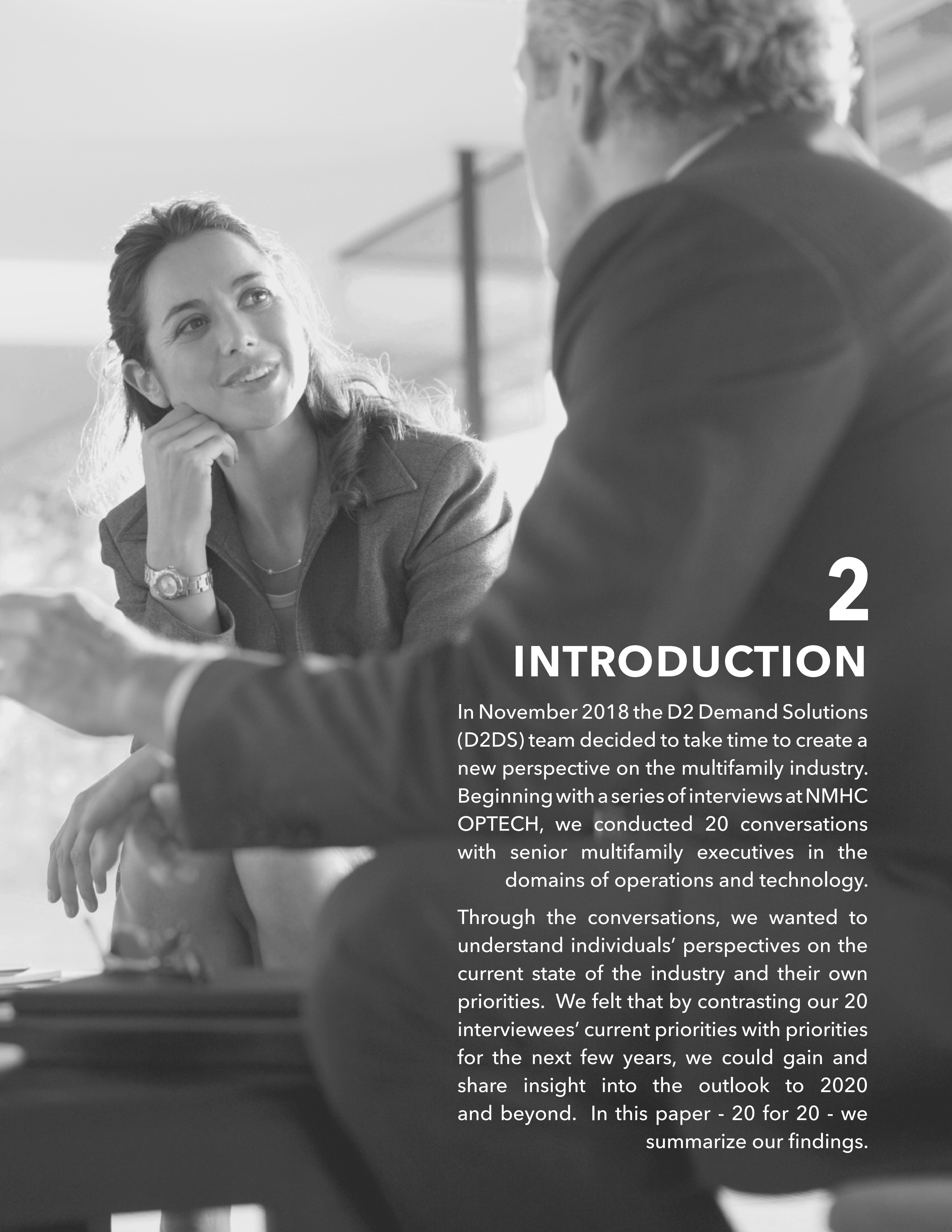
- Technology leads all shared that it has been some years since they were involved in PRM
- Heads of operation struggled to come up with any top-of-mind examples of desired PRM improvements

Business Intelligence (BI) continues to slowly gain traction with no "rapid adoption tipping point" like other large technology innovations (credit screening, PRM, web-based PMS and resident/prospect portals). Several executives report a lack of full satisfaction with the effectiveness of their BI initiatives.

Short-term rentals (STRs)

are getting increased levels of acceptance; however, STRs did not feature as a "top three" priority

For a complete set of key findings and D2 Demand Solutions' point of view regarding these, be sure to read the "Conclusions" section at the end of this document.



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INTRODUCTION

In November 2018 the D2 Demand Solutions (D2DS) team decided to take time to create a new perspective on the multifamily industry. Beginning with a series of interviews at NMHC OPTECH, we conducted 20 conversations with senior multifamily executives in the domains of operations and technology.

Through the conversations, we wanted to understand individuals' perspectives on the current state of the industry and their own priorities. We felt that by contrasting our 20 interviewees' current priorities with priorities for the next few years, we could gain and share insight into the outlook to 2020 and beyond. In this paper - 20 for 20 - we summarize our findings.

2.1. ABOUT THIS DOCUMENT

The purpose of this document is to summarize the findings of our interviews, using a combination of quantitative statistics and qualitative discussion that help to describe sentiment. The meetings, which ran in a conversational format, generated a considerable amount of content. In preparing this document, we have tried to stick to themes and insights that we heard continually across multiple interviews.

While this white paper was not primarily designed as a piece of quantitative research, we feel that by comparing 20 sets of responses to the same questions, we can draw some inference from the answers. Although our study is based almost entirely on opinions, this document does not characterize any particular viewpoint but rather represents straight reporting on 20 opinions, gathered in a structured way.

The main sections are divided into three topic areas that reflect the structure of the interviews:

- 2018 and the outlook towards 2020
- People
- Technology

In the conclusion section, we describe the findings that emerged as the most surprising or consequential and finish with the D2DS point of view. This is the only part of 20 for 20 that is directly influenced by D2's opinions and viewpoint; the preceding sections contain only observations from the interviews.

As we processed the findings, we became aware that some themes were more significant than this piece of research. To help round out the discussion with additional expert perspective, we reached out to some well-known industry figures for their views on some of the topics under discussion. Their contributions appear as "Perspectives" throughout this document.

> **Our objective in the interviews was to get as candid and as broad a representation of views and insights as possible.**

2.2. RESEARCH RATIONALE AND APPROACH

The interviewees represented a variety of different operators, from fee management to owner/operators to public REITs. To qualify, each interviewee had to occupy a senior management position either in operations or in technology, typically either holding a C-level title or being the highest-ranking executive in operations or technology. We collected answers to most questions from all 20 interviewees, skipping only topics that were not relevant to the interviewee's direct sphere of influence.

Our objective in the interviews was to get as candid and as broad a representation of views and insights as possible. We used mostly open-ended questions, rather than forcing respondents to provide a categorical answer to every question. This presents some challenges in summarizing the results, but we have, where possible, imposed categories on answers where it helps to identify popular themes.

Finally, we intended to develop insight into the industry, rather than get individuals on the record. Responses are therefore anonymous, and we do not refer to individual projects or any other details that interviewees shared in confidence. We have inserted quotes throughout this white paper where we feel they help underscore a point, but we have not attributed them to individuals.

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2018 AND THE OUTLOOK TOWARDS 2020

To set the scene of a discussion which would focus on the next few years, we began with the question: “What have been the highlights of 2018 for your company?” In an industry that has seen its longest run of rent growth in history, there is a general feeling that things are going well. Our desire in asking this question was to understand what accomplishments stood out for senior management in a generally strong business environment.

Interestingly, the majority of responses related to the operators' platforms – especially the technical, process and in some cases, cultural progress that was made during 2018. We will provide further details of the technical program successes in Section 5.1; but in considering the overall highlights of 2018, most related to a major technical platform shift or program roll-out that had been enabled by such a switch in 2017.

Technical and operating platform highlights

Of the 20 respondents, seven had listed either a switch or major upgrade to their PMS platform as the highlight of 2018. Others cited major system development and implementation projects, including portfolio-wide business intelligence, ERP and enterprise HR and payroll services. One company included the piloting of AI-based leasing technology, which had shown enough promise to support an AI-driven change to leasing operations to be implemented in 2019.

Portfolio growth highlights

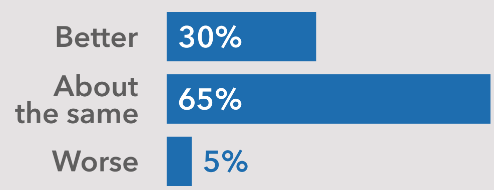
Other interviewees saw their firms' progress in the market, with expansion into new markets, major portfolio expansions and post-merger integration activities dominating the year. A quarter of respondents cited strong lease-up performance and leasing velocity in their portfolio as their highlight for 2018. That lease-up performance was singled out as particularly strong suggests that it was a robust year for delivery for many of the interviewees.

Other respondents cited events that were highly specific to their businesses – opportunistic expansions, major recapitalizations, and in-sourcing of elements of their platforms.

3.1. EXPECTATIONS FOR 2019

After asking respondents to characterize 2018 we asked how they expected 2019 to compare in terms of overall business performance. A strong majority of respondents expected 2019 to be the same as 2018 with almost a third expecting it to be better and very few expecting a decline.

At this point, compared to 2018, do you expect 2019 to be:



As an industry, multifamily has recently acquired the habit of approaching the start of each year wondering if this will be the year when the bull run ends. In response to this question, however, there was a consistent, cautiously optimistic logic that accompanied the scores. Respondents viewed supply and demand as being largely aligned, with the underlying fundamentals of the economy not at this point suggesting a downturn in demand for 2019.

The more cautious respondents noted that finding value, particularly for value-add projects, will continue to be challenging in 2019. Management fee compression was also a concern for fee managers, particularly since the cost of doing business has been going up, due largely to increasing competition for talent (see Section 4).

3.2. WHAT IS YOUR NUMBER ONE PRIORITY?

Perhaps the question that we were the most curious to ask was the question about their top priorities. We asked the question in two different time frames: the next 90 days and the next 1-3 years, thinking that the consistency or inconsistency of answers might provide some insight into the outlook for our industry. The responses to both questions are synthesized in the table below (responses have been interpreted and, where appropriate, summarized into categories. Bold responses indicate multiple interviewees gave the same or similar response, and responses are listed in order of their popularity).

In reviewing the responses, we were struck by the variety of priorities that we received in both categories. There is some bias towards budget-related priorities and preparations for 2019, which is explained by the timing of the interviews, most of which took place in November. But overall, if priorities are indicative of company strategy, there is a variety of ways in which companies are attempting to grow their businesses. This contextualizes the question of what constitutes a priority for our operators, and accounts for the absence of a dominant trend in their responses.

The projects that interviewees discussed were mostly to do with preparing their businesses for the next phase of growth. Several companies had repositioned portfolios and are preparing to execute on growth strategies in their selected markets. Cultural and training programs and the critical issue of staffing (all of which will be discussed in Section 4) unsurprisingly attract high priorities.

> **If priorities are indicative of company strategy, there is a variety of ways in which companies are attempting to grow their businesses.**

Technology stands out in the responses for a couple of reasons. In the 90-day time frame, one of the most popular responses was that one particular technology implementation, typically a platform change or a new system roll-out, was the number one priority. This is consistent with the more detailed technology findings that we will discuss in Section 5.

Looking forward to 2020 and beyond, many of the priorities are associated with driving benefits from technology implementations. Not only has there been considerable investment in new technology platforms, companies appear to be committed to reaping the financial benefits.

Top Priorities for the Next 90 Days

- **Administrative prep for 2019**
- **A specific technology implementation**
- **Talent management**
- Cybersecurity
- Delinquency
- Driving revenue through ancillaries
- Corporate website
- Technology strategy
- Recapitalization

Top Priorities for the Next 1-3 Years

- **Growth/Repositioning**
- **Staffing & organization design**
- **Leveraging data for insight**
- **Leveraging technology investments**
- **Technology strategy and its cultural implications**
- Cybersecurity
- Smart home/IoT technologies
- Driving efficiencies
- Corporate website

There were also notable absentees from the lists. Although one respondent called out IoT as a longer-term priority, smart home technology did not appear to be a top of mind 2019 priority in a survey, half of whose respondents are technology leaders. The same can be said of AI and short-term rentals, two of the technology and product innovations that were receiving the most extensive coverage at the time the survey was conducted. As we'll discuss later, this doesn't mean there is no work going on in these three areas. Rather, the executives characterize that work as "exploratory," "discovery" and even "dabbling" as opposed to being a top priority.

4

PEOPLE

Given sustained, record low unemployment in the general economy, it's not surprising that attracting and retaining quality associates is universally regarded as one of, if not the, most challenging parts of a senior executive's job these days. Simply put, it's an employee's market!

Respondents also had a consensus experience that recruiting and retention is particularly difficult among their maintenance teams. "With construction jobs booming, anyone can get a buck or two more an hour any time they want," was a common refrain.

In many ways, a light recession could benefit the industry as a material number of the higher-paying construction jobs would likely be the first to go, and an increase in white-collar unemployment would make it easier to find and hold onto leasing, customer service and corporate staff. Not wanting to wish for ill in the broader economy, we inquired about what strategies and tactics worked best in this tight labor market.

4.1. RETENTION: WHAT WORKED IN 2018

It's all about the culture

Almost universally, these C-suite executives pointed first to culture. "When people can get more money elsewhere, you need to create an environment where there are other reasons they'll want to stay," was one variation on the general "It's not only about money" theme. While it's easy to tout "culture" as being important, we found it particularly challenging to get beyond those simple exhortations and into specific behaviors that drive a successful culture.

The obvious risk is that in the absence of a tangible, winning culture, companies rely on "human resources inertia" to keep their people. And unfortunately, it tends to be mediocre associates who stick around just to stick around while better associates take the initiative to find other opportunities.

One respondent characterized his firm's approach with the quote attributed to Richard Branson: "Train them so they can leave; treat them so they'll stay."

Another interesting cultural consideration is the sensitivity to the changing workforce. One respondent spoke of the challenges with developing strong leasing capabilities with mostly millennial agents, who seem less comfortable than previous generations with handling objections, and even asking for deposits. This company had found success building these interpersonal skills through in-person training but noted the need to balance training programs with greater use of online training elsewhere to optimize training resources.

There are tangible things we can do

The interviews showed that executives are active in creating tangible programs and benefits to improve recruiting and retention, including:

- Flexibility with time off
- Education programs
- Changes to employee rent concession guidelines
- Appreciation events
- Employee sentiment surveys
- Relaxation of dress codes

It's time to drop past practices

Several executives discussed how they are trying to broaden the employment pool in which they recruit. According to a 2017 Pew Research Center study, 36% of Millennials and 40% of Generation X have a tattoo, and that share rises to 54% when including people who have dyed their hair an unnatural color and/or have a body piercing in a location other than their ear lobe.

It is worth re-examining the value of traditional appearance policies for two reasons. First, there are the constraints of the tight labor market. While not all tattoos, unorthodox piercings or hair violate current policies, a material number of applicants fall foul of the rules. Secondly, these same appearance traits are increasingly normal among residents and prospective residents.

WHEN PEOPLE ISSUES ALIGN

Andy Helmer, CEO of Shelters to Shutters

The current challenges with attracting and retaining talent could scarcely be clearer. Our interviewees repeatedly cited culture as a lever in an increasingly competitive multifamily employment market. It reminded us of an organization that exists to address a social issue - homelessness - while simultaneously providing a source of new candidates to multifamily operators. Shelters to Shutters is an organization that partners with the multifamily industry to transition people out of homelessness.

In an unusually challenging market for talent, it makes sense to seek new sources of employees. At Shelters to Shutters we work with a network of partners to provide a private industry solution to a public social issue - homelessness. We find that many people are surprised at the difference multifamily companies can make to this problem and by the potential benefits of being part of the solution.

About three million Americans experience homelessness each year. 83% are situationally homeless - i.e., they have recently been made homeless by some event - like a sudden job loss, medical event or natural disaster, for example. A relatively high proportion of Americans live paycheck to paycheck and have less than $1,000 in their bank account, putting some reliable employees one incident from homelessness.

The window for action is short: a high proportion of those who experience homelessness for more than a year become chronically homeless - a much harder situation to escape. It's critical to get people back into work and housing within a year, and that's where our partnership with the multifamily industry comes in.

Shelters to Shutters works with organizations that help those who are homeless or threatened with homelessness to find people with skills that are in demand. We introduce potential employees to potential employers through regional hiring events. When a candidate is chosen for a role, we offer case management and education to ensure a smooth and complete transition into the role. In exchange, our partners provide discounted rent for the first year of employment.

That investment in year one rent pays back impressively. According to NAA, the multifamily industry has 31% churn rate annually - more like 50% for entry-level positions. The churn rate for the associates we have placed is just 13%. Of the 87% who stay beyond year 1, 89% have received some form of a pay increase.

These numbers should resonate with people managers. Finding, training and retaining entry-level resources is extremely resource-intensive for multifamily organizations. Our value proposition is to provide pre-screened, qualified, and ready to work individuals who typically stay with their employers. We find that participation in our program also benefits companies' social responsibility, affordable housing and impact objectives, which in turn contributes to company culture.

The multifamily industry is well-placed to make a difference to homelessness. With our industry partners, we have been able to structure a program that solves both the housing and employment problems at once. Our partners now look to us as another means of securing quality talent, and the associates we place are rewarding the companies that have given them a second chance.

Our residents' expectations of what constitutes appropriate attire are changing.

We need to listen

Several executives shared that they had either started or planned to start employee sentiment surveys, particularly for new employees, viewing this as a way to both keep a pulse on how people are feeling and to identify issues before they affect turnover.

Our experience, both in companies in which we've been executives and companies for which we've consulted, is that well-constructed employee engagement surveys are a great way to identify opportunities to improve associate experience and demonstrate that executives are listening and care. This is not merely a "warm fuzzy" approach to leadership. According to Decision Wise:

- Companies in the bottom quartile of engagement experience 41% higher turnover
- Highly engaged employees are 87% less likely to leave an organization

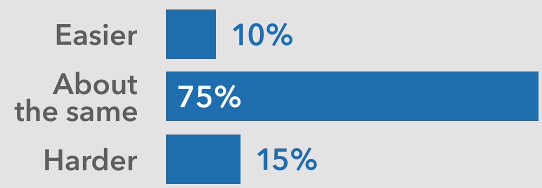
Yet despite this, they also report that only 9% of companies measure the ROI of their engagement activities.

4.2. THE OUTLOOK FOR 2019

When asked how talent acquisition and retention in 2019 is likely to compare to 2018, overwhelmingly, executives expect 2019 to be about the same. A small percentage believe it will be harder with an even smaller share thinking it will be easier.

Lest we be too comfortable with the notion that it will be about the same as 2018, we should note that the most frequent commentary accompanying this question was, "It'll be just as hard as last year." It should also be noted that where retention was predicted to be easier, it was due to something specific to the individual company that had made 2018 harder than usual.

Looking towards 2019, how will talent acquisition/retention compare to 2018?



4.3. 2019 TRAINING AND DEVELOPMENT PRIORITIES

Turning attention to what COOs and CIOs are planning for 2019, we asked what the biggest training and development priorities were for 2019. In response we heard about a broad set of initiatives; however, there was a strong overlap on three key areas.

By far, the most common plan for the next year+ is a stronger investment in sales training. The long bull run in multifamily performance doesn't exactly leave metaphorical sales muscles at their peak level. As executives peer into a future rife with possible slowdowns, they noted that it seems wise to improve those capabilities in preparation for potential clouds ahead.

Next in line is a renewed commitment to developing customer experience and soft skills. "There's a growing shift from trying to develop 'the latest and greatest physical amenities' towards providing experiences," noted one respondent. This fits with the trend towards self-service (which we will cover in Section 5) and well-documented bias Millennials have towards experiences rather than "things." Another executive noted that automation of the more mundane administrative

> **Not only are newer renters digital natives, so are the individuals that we are training.**

work, "means we need our salespeople to be better service providers."

The third most popular response was a focus on mentoring and onboarding. Executives commented on how important it was to avoid early turnover of new employees by ensuring they have a smooth and rewarding onboarding experience.

Technology will continue to drive people trends

Much of the motivation executives have for investing in new training rather than just rolling out the same training they've always done comes from the changing technology landscape. Not only are newer renters digital natives, so are the individuals that we are training. "We need to re-think the way we create and deliver training," comments a well-known COO. "We're looking to deliver more contemporary content in more flexible ways. When is traditional [instructor-led] training best? When would webinars or self-paced online modules be more effective? Etc."

Operators are also completely revamping the way they deliver training to service technicians. The ubiquity of handheld computers (i.e. smartphones) has made all areas of the maintenance teams much more computer literate than just a few years ago. As we'll note in the technology section as well, several executives commented with some version of, "We used to have to build training [and technology] very differently for the service team than we did for the leasing team, largely due to a wide gap in comfort with technology. With virtually everyone having a smartphone with multiple apps, that gap has shrunk substantially."

One thing that we didn't hear

As an editorial note, we would add that we predict virtual and augmented reality will start to find its way into the training and development of service technicians. It's 50/50 whether that happens by 2020, but it won't be much beyond that. There are at least two significant use cases for this technology.

First, with virtual technology, a new service tech could work through a 3-dimensional simulation of a variety of mechanical systems. The advantage here is that they don't have to leave the job site to go to a training class and/or lab with the appropriate equipment.

Second, augmented reality may prove to be the more powerful technology for improving service technician performance. Imagine a tech wearing a pair of glasses that serves up pages of the technical manual on demand, maybe even recognizing visually what the service tech is looking at and automatically presenting the correct page. These could be augmented with step-by-step visualizations of what to do and/or video snippets that train the tech in real-time.

Although the talent market is undoubtedly challenging for multifamily operators, it was clear from the responses that practically all companies have major training initiatives planned for 2019. The backdrop continues to change, as digitally native residents and prospects demand improved experiences and greater convenience from operators. People strategy is increasingly entangled with technology strategy, to which we will turn in the next section.

However, in reviewing the interview responses we were struck by the types of projects that had dominated 2018, and in most cases the disconnect between the reported industry trends and

5
TECHNOLOGY

Unsurprisingly, given the roles of our 20 interviewees, technology accounted for the majority of the discussion in most interviews. It is perhaps contextually interesting that half of the interviews took place at NMHC OPTECH, meaning that current technology trends should have been top of mind for our interviewees.

the reality of implementations. For example, while AI, smart home technology and the rise of short-term rentals are prevalent (one might say dominant) in today's technology discussion, but for a few exceptions they were largely absent our executives' highlights of 2018.

As we will see in the following sections, there was a surprising representation of platform migrations on the 2018 docket for the companies interviewed. Our objective was to gather individuals' perspectives, and we were impressed with the maturity and pragmatism of the responses. We noted a general preference among respondents for building the right technology foundation over "shinier" objects.

With multiple new and exciting technologies seeping into medium- to long-term plans, and with the sense of a maturing technology ecosystem, we decided to reach out to some well-known industry figures to provide comment. Their thoughts will appear alongside our interview results in this section.

5.1. BIGGEST TECHNOLOGY SUCCESSES OF 2018

In asking this question we were attempting to understand the technology projects that had dominated 2018, in the eyes of our interviewees, rather than just the largest or most expensive projects. Below we have summarized the responses; bold text represents an answer that we heard from multiple respondents.

- **PMS/platform implementation or major upgrade**
- **CRM**
- **Business Intelligence implementation**
- **System rationalization**
- **IoT/Smart Home technology**
- Cloud migration/enterprise Office365 rollout
- AI-driven leasing and service pilots
- ERP Implementation
- Complete re-build of company intranet
- Asset Management System design/build

The most obvious point about these responses is the prevalence of PMS platform shifts. Of 20 executives interviewed, seven of them had either cut-over from one PMS platform to another or completed a major system upgrade on their existing PMS platform.

Simple arithmetic makes this result stand out. Companies usually wait multiple years for projects like these. That more than a third of respondents had executed a switch or upgrade suggests a focus that was significantly higher than usual in 2018. There are several reasons why this might be the case. First, the maturation of the platforms themselves and the ecosystem of applications they support has likely pushed these foundational projects higher on the list of priorities.

A second, and related explanation, is that after an unprecedented number of years of continued growth, many operators saw the time was now right to invest in foundational projects that will continue to deliver efficiencies through leaner times to come. In a similar vein, two respondents had seen 2018 as a year of "system rationalization": realizing benefits of previous foundational projects to simplify their businesses and contain costs.

The unrelenting trend towards more digital services also provides a natural need to get the underlying technology platform right. Finally, a number of companies were finally making the upgrade from legacy Yardi PMS to their contemporary cloud-based offering.

It is more generally note-worthy that at least four different companies implemented CRM during 2018. These CRM initiatives (with further

THREE NEEDS FOR INNOVATION

Steve Lefkovits, Joshua Tree Consulting

No one has done more to support and drive technology innovation in multifamily housing than Steve Lefkovits. From pioneering the first technology-focused conference at NMHC to founding both the Multifamily Technology Entrepreneurs Conference (MTEC) and Multifamily Innovation Conference Atlanta (MICA) to reimagining AIM as the Apartment and Innovation Conference, Steve has dedicated untold hours to constructing an ecosystem that creates & sustains innovation.

It's been some years since quite so many exciting new technologies permeated the multifamily industry. As a long-time advocate for innovation, this excites me. However, despite many successes in innovation we still see companies missing opportunities to innovate, attract and retain residents and drive efficiencies.

Innovation can slip from the top of the agenda – particularly in an industry that has been doing so well for so long. But it shouldn't: our recent MICA (Multifamily Innovation Conference Atlanta) event showcased some of the ways that companies are changing resident experiences and operating models. Generational changes are afoot – resident expectations are constantly changing, and for companies delivering successful innovation the rewards are great.

From discussions with successful innovators I am struck by the way that they get things done. There are some building blocks for innovation that I believe can be employed by any organization. Here are three things that would benefit most ownership groups looking to innovate.

Standard investment targets and hurdles for new initiatives. What is your company's pre-set threshold for investing in good ideas? Do you have one or even a decision process to come up with one? It's a step that a surprising number of companies miss, but it can be an acid test for innovation – ensuring that only those projects that improve asset value make it to fruition

Capital for internal innovation. The apartment industry keeps spinning out innovative tech companies because it has no capital or appetite for internal innovation. What about the idea of setting up an internal loan fund from the general partnership that could provide short-term funding for new initiatives and get paid back from incremental improvements to the properties?

In a self-managed portfolio, or with willing limited partners or clients, it might be a way to break the logjam and introduce accretive technology without requiring a capital call. What ideas do you have for funding internal innovation?

A robust project planning and collaboration process. Does your company have a clear project management discipline in place that helps you to manage new initiatives? Complex initiatives need development, leasing, maintenance, IT, construction, legal, asset management, marketing and risk management talking together at the front end of the project.

In my experience, companies try to run projects with one heroic person pushing the organization, each department signing off in serial fashion. At the end, someone throws the contract into a box in the legal office and asks for comments without providing any context. The contract gets butchered, and everyone gets frustrated. Nothing ever happens. If there's an investment hurdle, adequate resources and a clear plan, it's easy to get buy-in and feedback that moves projects from the idea phase to implemented solutions.

mention of CRM projects under evaluation) employed multiple different vendors. Several executives represented the view that CRM technologies are real and mature, and the evidence points to a battle for market share that is playing out in multifamily at the moment.

Business intelligence technology was the next most popular response (see next section). And smart home technology – while not listed as an overall priority – was cited as the main technology highlight for two of our executives and an area that was being tested by several others. We will provide more coverage of this and other new technologies in Section 5.4.

The curious progress of Business Intelligence

After CRM and PMS technologies, BI was the next most commonly-cited technological success of 2018. For a few of our 20 executives to have completed BI projects seems roughly consistent with the trend of the last few years.

Interestingly, the style of the projects shows some consistency with the way that the multifamily industry is adopting this critical technology. One large owner-operator had continued a multi-year project on a proprietary BI platform, and two other operators had implemented an off-the-shelf BI application provided by their platform provider.

Anecdotally, interviewees shared mixed feelings about the success of their BI programs, with several finding that their enthusiasm and effort had yet to be repaid by sufficient tangible results, a perception we'll evaluate in more detail when we share our point of view in the conclusion section.

We also observed the tone of discussion of BI to be different from that of other technologies. Unlike, for example, revenue management (which we will cover in Section 5.3) or resident portals, both of which are universally loved, BI draws more of a lukewarm response. The approach to delivery, the perception of the results, and the enthusiasm for the technology all have implications for the industry's utilization of BI, which we will also discuss in more detail in Section 6.2.

The "One big project" dynamic

From the conversations, we observed a "One big project" dynamic in several the companies interviewed, i.e. a single project had effectively removed the capacity for all other major projects in 2018. In the case of platform changes, the need to eliminate all distractions is obvious. But different types of project, from back-office transformation to custom analytical system design-and-build, demonstrated some single-minded delivery last year.

> **"The unrelenting trend towards more digital services also provides a natural need to get the underlying technology platform right.**

On the one hand, this suggests a maturity in companies' approach to technology implementations. In a confidential setting, several executives shared how they had purposefully "shut up shop", eschewing new projects to secure delivery of the highest-priority initiative. None felt that they had over-extended their organization with too many projects. One feels the answer would have been different a decade ago.

On the other hand, focusing on a single project risks acting as a barrier to innovation, as the dominant project starves smaller ones of focus and resources. One CIO shared how an innovation council is enabling their organization to develop and incubate new ideas (even if they cannot implement them right away). The initiative had already started to attract the brightest and best as it provides a way to get to the cutting edge of technology and product innovation.

The changing technology landscape

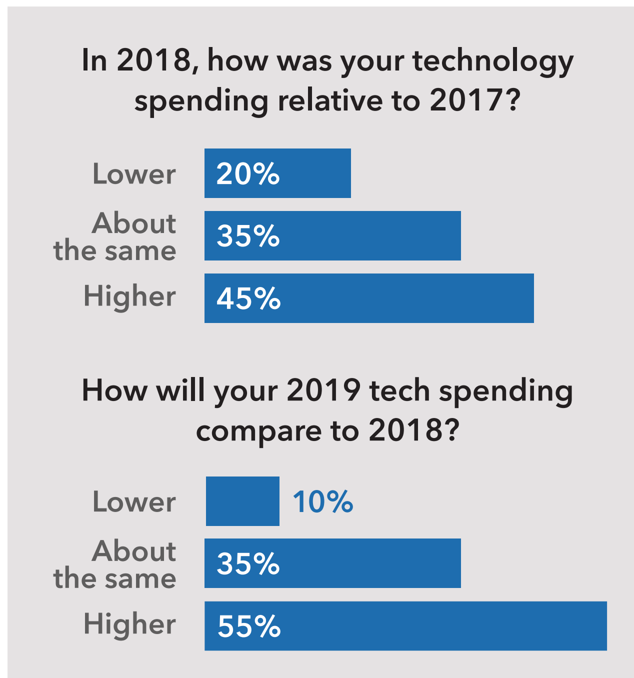
Numerous respondents raised the issue of supplier dynamics in the industry. One described what he saw as a dichotomy of technology providers: "They're either monopolize [the customer] first and deliver later or disrupt first and deliver later." While this presents an extreme view, there is a feeling that the landscape has become more bipolar, or perhaps bimodal, leaving a gap in the market for reliable, best-of-breed suppliers with tried and tested solutions.

This is an inevitable feature of the technology landscape, with vendor strategy often being orthogonal to that of their customers. Entrepreneurs create exciting new technology, with the objective of selling their business, while operators buy technology with a longer-term vision of a capability.

Here we see one final observation, a change in the climate of technology investment. Some of the interviewees shared that they had chosen to invest in RETV, a dedicated vehicle for investing in early-stage multifamily technologies, and though not interviewed, others have chosen to invest through other consortia such as Fifth Wall. This strategy is a far cry from the late 1990s tech boom when industry operators made significant investments with lower (as in almost no) levels of collaboration and sophistication. We take this as another sign of the maturing of the industry's approach to technology.

5.2. PER-DOOR TECHNOLOGY SPENDING

Without asking respondents to divulge confidential information about their organization's budgetary plans, we asked a simple question to gauge the direction of technology spending. We asked each respondent to compare per-door technology spending in 2018 spend to that of 2017, and their prediction for how 2019 will compare to 2018. In each case the question was whether the total was lower, higher or about the same as the previous year.



The numbers (shown in the chart above) are interesting: few companies see technology spending going down, and a majority see them increasing in 2019. Anecdotally, none of the leaders spoke of cost-reduction or even cost-containment initiatives. However, every respondent articulated a clear logic for why the numbers are what they are. The cost dynamics were to do with projects and capabilities, all of which had clear ROI objectives, either through efficiency or improvement of resident experience.

A common explanation of the general increase is that although technology spending is increasing per se, the investment is in replacing costs elsewhere. Numerous respondents had incurred higher technology spend by replacing legacy proprietary technology with off-the-shelf projects, for example. Others had outsourced labor functions, reducing payroll costs but requiring some increase in technology spending.

Where respondents said that they were gearing up their platforms to pursue a particular growth strategy they also reported increased technology spend. Examples include fee managers who, under margin pressure, had deployed new technology to drive efficiency. Another operator's portfolio strategy was changing to focus on the urban core, leading them to adopt new technologies to help service a different resident profile. In the cases where companies had implemented smart home projects, technology costs had increased, with the expectation that the investments will deliver revenue upside.

The fluctuations in spending are, of course, influenced by what happened in the preceding year. The timing of a platform shift was the usual explanation for reductions in year-over-year spend. Given the unexpectedly high incidence of platform projects in this survey set (see Section 5.1), it will be interesting to see where if this changes the direction of this trend beyond 2019.

> **"We are concerned that [a lack of C-suite focus on improvement in pricing and revenue management] could also represent a complacency not seen in related industries, e.g. hospitality.**

5.3. PRICING AND REVENUE MANAGEMENT

As we publish this paper, Pricing and Revenue Management (PRM) in multifamily turns 18 years old, having launched in February 2001 at the Hunters Run apartment complex in Austin, TX—the first ever deployment of a revenue management application (LRO®)[1] in multifamily rental housing. In light of this milestone, we invited our executives to provide their perspectives on the current state of PRM.

The responses were fascinating (at least that's how they appeared to the PRM-obsessed D2DS consultants conducting the interviews!). They broadly fell into two categories:

- Technology leads generally responded with some version of "It's been years since I was involved in PRM"
- Heads of operation struggled to come up with any top-of-mind examples of desired PRM improvements

While this may indicate maturity not only in the technologies but also the organizational structures and capabilities that support them, we are concerned that it could also represent a complacency not seen in related industries (e.g. in hospitality and travel, PRM is viewed as a Sisyphean task requiring continual re-appraisal and enhancements of technology and process.

When prompted by various possible PRM advancements, system-specific feedback fell into two broad categories: how to improve the current models; and more radical improvements and future direction. Both are summarized below.

[1] LRO is s registered trademark of RealPage. Any opinions expressed in this paper are those of authors solely.

How to improve the existing PRM models

- The systems still lack sufficient lease-up modeling capabilities; even sophisticated PRM system-users reported that their companies manage lease-up pricing manually
- The renewal process is not as sophisticated as it could be. Discussion included improved workflow and integration with PMS and better modeling to bring predictive analytics into the renewal process rather than merely execution of user-defined strategy
- Applications lack a reliable, systematic way to characterize local market conditions. The data currently available is either too highly aggregated or inaccurate
- Systems could provide more analytical support for rentable items and unit amenity pricing
- Operators continue to struggle with assessing the true return on renovations and the obvious implications on both pricing and capital allocation
- Systems could provide more insight into units that are difficult to rent
- It remains surprising that there are still owners who have not yet been motivated to do PRM, given the maturity and proven benefits

Where next for PRM?

- Deeper integration into various demand management levers will allow greater use of demand generation levers other than pricing – including credit screening, lead generation, sales execution, etc.
- The increasing use of automated (AI-driven) leasing agents has the potential to vastly improve input (i.e., guest card) data for PRM systems
- The analytical application of AI has the potential to provide insight into some factors that are currently not considered by PRM algorithms, for example, external neighborhood demand-drivers, broader econometric data and/or behavioral economics
- The technology has become so commonplace and even commoditized, that outsourcing of the service now appears to be a more viable delivery model

Some of the more interesting, speculative discussion of PRM centered on AI. The two points above were echoed in discussions about the problems that have bedeviled PRM since its inception. Small data samples make it hard to model the impact of amenities, for example on a property-by-property basis. The almost infinite analytical power of AI, on the other hand, could conceivably identify causality in much larger (e.g., city-wide, portfolio-wide) data sets.

It would be impossible to discuss PRM at this point without addressing industry consolidation. A quarter of respondents raised the acquisition of Rainmaker LRO by RealPage as a potential concern for the next few years. Those fretting about the PRM landscape cited responsiveness, innovation and vendor leverage in the absence of real competition as their main concerns[2].

5.4. WHAT OTHER NEW TECHNOLOGIES MIGHT DELIVER ROI?

While the discussions with our executives focused mainly on current and future technological priorities, we wanted to understand what

[2] The authors want to be clear that these comments represent respondents' speculation about the future. There were no specific examples of responsiveness or support having changed at the time of the interviews.

HOW TECH IMPLEMENTATION HAS CHANGED IN THE MULTIFAMILY INDUSTRY

John Helm, Real Estate Technology Ventures

John Helm has been a successful serial technology entrepreneur in multifamily housing rentals from his days at AllApartment/SpringStreet before its sale to Homestore to his time incubating and leading MyNewPlace.com. Most recently, he had the vision and energy to create Real Estate Technology Ventures, a $100 million private equity firm funded and supported by many of the leading MFH developers and operators in our industry. He is smack in the middle of how technology innovation and implementation has changed.

Real estate technology has significantly matured over the past few years, with seismic shifts in resident preferences changing the adoption of technology. Increasingly tech-savvy, digitally-native residents have the same expectations of their living experiences as they have for all other services they consume.

Think, for example, of the experience of booking and checking into a flight, all of which can be managed through a mobile phone and a self-service kiosk, with minimal interaction with people. By contrast, the experience of renting an apartment, with its multiple touchpoints with leasing and service professionals can seem arduous. A seamless and connected leasing service can deliver a powerful differentiator for multifamily owners while driving efficiency and in some cases creating new revenue streams. The technologies that enable these experiences are unsurprisingly the ones that are gaining the most traction.

Property owners and managers are doing more than taking the long-term perspective with the technologies they select; they are increasingly attentive to the types of companies that are building the technologies. Previous waves of technology adoption brought individual multifamily investors into the technology arena. Some did well, and others didn't, but overall it created an environment of isolated technology successes, where individual entrepreneurs were incentivized to build the next big thing.

Today, the rise of exciting new technologies, like AI, smart-home, short-term rental platforms looks set to deliver some game-changing solutions for multifamily. What's different is the approach to investment, as stakeholders collaborate to nurture promising technologies. RET Ventures is an example of a collaboration between industry players with an appetite for genuine best of breed solutions. Investment is fueling an ecosystem, rather than just individual bets, and this – we believe – will serve to improve resident experiences and industry returns.

innovations they were considering or actively pursuing as potential sources of ROI. To this question, the most popular responses related to smart home technology, AI and some other point solutions, each of which are summarized below.

> **While there is broad agreement that smart home technologies are relevant and useful, the extent to which it is incumbent on operators to deliver them is less clear.**

Smart home technology highlights

Despite the current high profile of this technology, our discussions disclosed mixed levels of enthusiasm amongst our interviewees. While there is broad agreement that the technologies are relevant and useful, the extent to which it is incumbent on operators to deliver them is less clear. The same can be said of the ROI expectations, with only one respondent claiming that their organization had already realized rent increases from their smart home projects.

Several interviewees expressed the opinion that upscale, urban core properties are the current sweet spot for smart home technology. All agreed that the high costs of retro-fitting properties meant that new builds are the natural focus for this technology. The fear of obsolescence and the considerable cybersecurity considerations remain an obstacle to broader roll-out. Some of the most insightful direct quotes on smart home technology are listed below.

"Smart home is a big deal to us, but we're still making sense of it. We don't want to jump on the bandwagon too quickly."

"The technologies that support building management have the potential to lower our operating costs that are under our control. These are the technologies that interest us the most."

"The cool-looking stuff looks like it will be obsolete too quickly."

"We have extensive testing of smart home tech, but we're nervous that investments could end up like bulk cable a few years ago."

"Developers increasingly expect operators to understand which IoT technologies deliver the highest rent increases. We are encouraging them to focus on a simple piece of it."

"We did some work with Amazon at some of our properties, but we are finding it hard to justify on the basis of ROI."

"Our residents want to put their own IoT devices in the units - that's less risky than us trying to out-guess what our residents want."

Where are we with AI?

While there is no surprise that AI got some air-time in this discussion, the levels of current engagement and activity vary significantly. Based on the responses, there appears to be a small vanguard of operators in multifamily who are dipping into actual AI-driven projects. AI-driven chatbots are becoming a common feature of leasing processes, and at least one company was actively piloting AI leasing agents.

Based on this set of 20 interviewees there are mixed levels of understanding and vision of where these technologies are likeliest to take hold. We found a variety of mindsets, with some executives gravitating towards efficiency benefits and others more focused on the potential impacts on customer experience. A few had their eyes on both. Some direct quotes from respondents about AI are listed below.

"We are looking to see how AI can be leveraged to streamline operations as well as leasing."

"We see Robotic Process Automation (RPA) as a way to deliver personalization to our prospects and residents and to free up resources, rather than something that will replace customer-facing people."

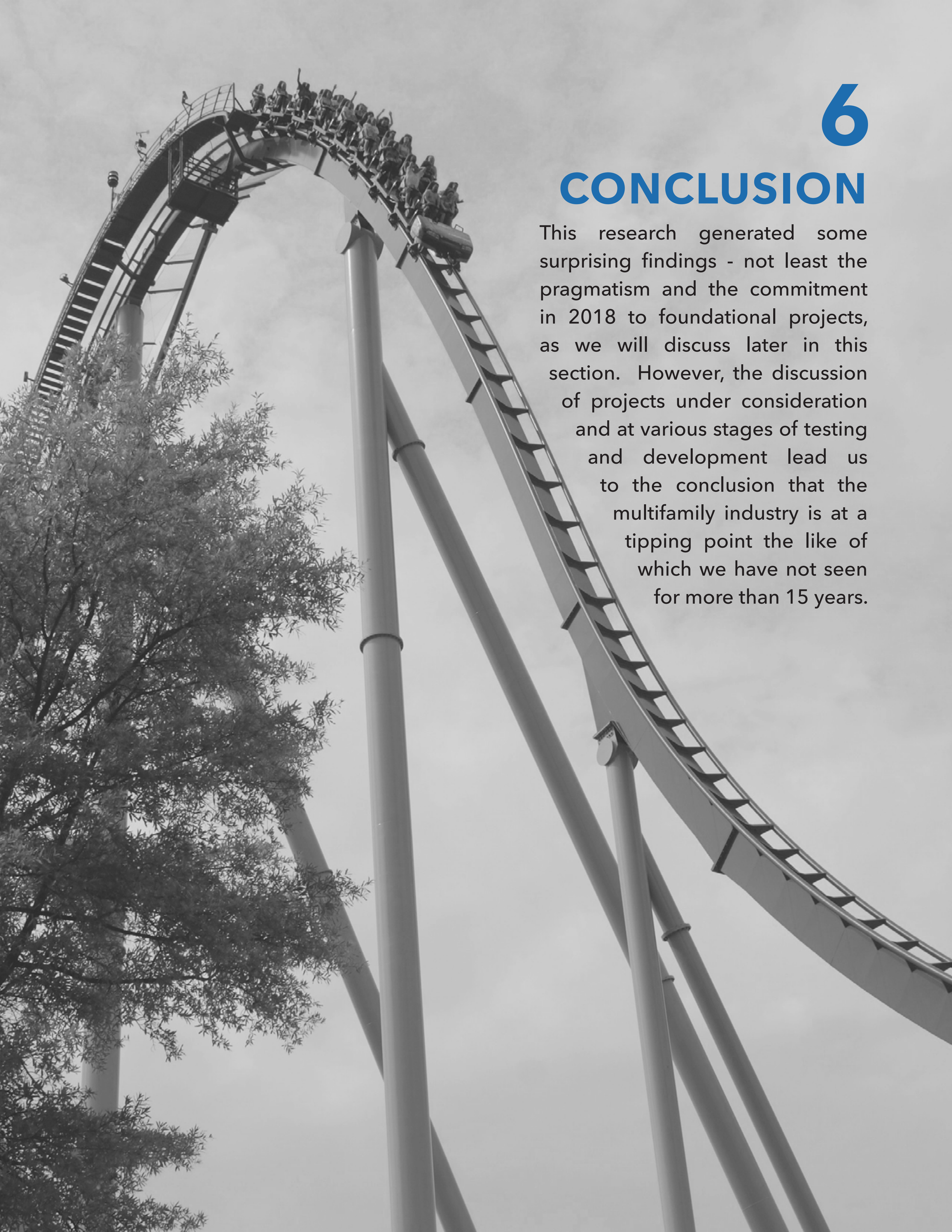
"The success that we have already experienced from AI-driven leasing now has us thinking about the skills that we will need in our properties as the technology becomes more prevalent."

"AI isn't something that real estate operators should be dabbling in or developing as a general skillset. Operators should focus on testing turnkey solutions that solve their specific business problems."

Respondents identified a few other technologies that would be new to their organizations. Mobile maintenance and mobile customer engagement platforms featured in several of the companies' 2019 plans.

Somewhat surprisingly, short-term rentals provided an example of a "top of mind" subject that did not appear anywhere among the executives' top priorities or highlights. This is not to say that the issue is unimportant, rather that the level of coverage it is currently receiving in industry commentary was not reflected in our 20 conversations, at least not as a critical priority.

Finally, while there was frequent discussion of self-service as a mega-trend across all industries, its application among our interviewees was mostly restricted to digital portals and self-service. The opportunity of self-touring was not high on the list of technology priorities – an observation that we will discuss in detail in the next section.



6
CONCLUSION

This research generated some surprising findings - not least the pragmatism and the commitment in 2018 to foundational projects, as we will discuss later in this section. However, the discussion of projects under consideration and at various stages of testing and development lead us to the conclusion that the multifamily industry is at a tipping point the like of which we have not seen for more than 15 years.

6.1. MULTIFAMILY IS AT A TECHNOLOGY TIPPING POINT

Back in the late 90s/early '00s, technology transformed business operations with automated credit screening, pricing and revenue management, web-based property management systems and resident/prospect portals. Today, the confluence of AI, smart home technologies, the self-service paradigm and the continued progress of applications towards mobile devices is causing companies to re-think many aspects of their platforms.

Not only is this transforming residents' expectations for "experiences" vs. "physical homes," but it also promises to crack the "1 front office FTE for every 100 units" rule of thumb. Thus, for the first time, operators may be able to lower their unit labor costs at the site level, a process that likely will accelerate as minimum wages continue to rise, whether through legislative activity of direct democracy devices such as California's Proposition 206.

As new technologies abound, we were struck by the absence of the familiar complaint about spiraling technology costs. As we saw in Section 5.2, per-door technology costs are generally trending upwards and will probably continue to do so for at least the near future. However, this did not appear to be a source of angst with our executives, certainly not as much as we have heard anecdotally in the past few years.

As we noted previously, in describing the drivers of technology spend, respondents were able to identify the ROI or economies achieved elsewhere. This small cultural nuance may foreshadow a fresh round of innovation.

6.2. FIVE BIG TAKE-AWAYS FROM 20 FOR 20

1. The dominance of platforms and the big project

Despite the theme that the industry is now in a period of new technology adoption perhaps not matched since the turn of the millennium, more familiar technologies dominated 2018.

Fully a third of respondents cited a PMS platform switch or major upgrade as the stand-out 2018 accomplishment, an interesting finding by itself as we discussed in Section 5.1. It was more surprising still that other companies spoke of a single project that had dominated focus and resource to the exclusion of others. The activity involving new technologies seems peripheral to most companies' 2018 priorities in a year dominated by "one big project."

What this means for 2019 and beyond is open to speculation. At one level, the dominance of platform projects reminds us of the tug of war between platform providers and more disruptive best of breed providers as the former can suck the proverbial oxygen out of the metaphorical room. At the same time, the investments now made in rolling out foundational projects should unleash more innovation from 2019 onwards.

2. Priorities and the hype cycle

We found a striking difference between the technologies that are receiving the most industry attention and the ones that dominated our executives' attention. For example, for all their coverage, smart home and AI technologies did not feature as top-priority projects for our interviewees (nor did short-term rentals)—at least not in the near term.

However, that is not to say that they are unimportant nor that companies are not actively pursuing initiatives in these areas. From our interviews, there is enough evidence of projects involving these and other new technologies to suggest that they will rise in importance for the next couple of years. Further, the subject of AI is the one place where we wondered whether participants were being more circumspect in sharing details of what they are doing with us. In all the other areas of conversation, we didn't sense anyone holding back.

> **As it was with the previous industry inflection point, there is a mixture of risk and reward for being at the front of the curve for adopting new technology.**

As it was with the previous industry inflection point, there is a mixture of risk and reward for being at the front of the curve for adopting new technology. It is interesting to contrast the potential adoption paths for AI and smart home technologies from this perspective. AI will confer some first-mover advantages on early adopters as they can realize efficiencies in traditionally resource-intensive areas like leasing and back-office processing. However, the nature of the areas of the business that it will touch suggests that the advantage should spread to fast-followers relatively quickly.

Smart home tech, on the other hand, with its mix of physical equipment and technology, has a different risk profile. Would-be first-movers must balance the benefits of having the most eye-catching technology against the risk of obsolescence and the possibility that residents may prefer to choose their own smart home technologies. The last thing any COO wants is to get caught "buying into Betamax[3] in what turns out to be a VHS world .

With all the discussion about smart home technology, the notable absence was any passion for self-showing. Executives embrace the notion that self-service is clearly a megatrend; however, they seem to think of self-service more in the digital realm than in the physical.

We view this as a missed opportunity that companies are currently not offering self-show. The concept has been thoroughly proven in the single-family rental industry, where the realities of distributed portfolios have made self-show a necessity. Operators report no drop in conversions when prospects conduct their own tours, and in many cases see a higher close-rate.

There are legitimate operational headaches, to be sure – granting access to key-access floors, and how to light vacant apartments provide challenges, but not insurmountable ones. When the subject of self-show was broached with interviewees, objections included "what about the liability," "what about the need to tell the property's story," "what about fraud, theft,", etc. The efficiencies – including extending showing hours – and the improvement in customer experience persuade us that multifamily needs to get past its current bout of "whatabout-ism" and make self-show a reality.

Finally, from the discussions of the impact of AI on leasing and smart home technology on self-touring, we have seen the strongest indication yet that companies are beginning to think seriously about the impact on staffing. Site-level headcount benefits are notoriously hard to realize, as no technology has offered the possibility of replacing individual roles and many sites run into "the integer problem" (namely that

[3] Readers under 45 are encouraged to Google "Betamax".

MULTIFAMILY'S LAST TECHNOLOGICAL INFLECTION POINT

Dan Amedro, Former CIO of Archstone Apartments

The last time the industry faced the kind of technology inflection point we are facing now was in the 1999-2004 timeframe with pricing and revenue management, web-based property management systems and resident and prospect portals all being new. Dan Amedro was CIO at Archstone from 1997 through 2012. He not only had a front seat to all those changes but as often in the driver's seat. We asked him to reflect on that time in the industry. As you read this, we think you'll agree that the experience 15-20 years ago provides a great map to help navigate technology today.

Our strategy was to focus on our core business and not get distracted. That was right in the middle of the dot.com bubble -and the climate was crazy. Interest from industry and customers in new products was huge - even products that were ill-defined or where the business proposition was questionable. The strategy we decided on was to use the newly emerging technologies to either improve our internal business processes, improve the customer experience, or both.

For example, portals made tremendous sense. They allowed prospects and residents to do much of the work our associates used to do—and feel more in control doing it. The early product was pretty limited, but once it got going, it fed off itself. Once you could do a few capabilities in the portal, people wanted more. Even (especially) the customers. You didn't have to look for your next project: it came to you!

Once customers experienced a new way of conducting business, whether through our efforts or the adoption of these practices by others, it became an expectation. As a new customer expectation, these online capabilities shifted from "nice to have" to "must have."

The biggest challenge was finding the right partners. Our experiences with web-based PMS and with PRM were similar in that we looked for companies that would take us on and allow us to have a higher involvement in the design and capabilities of the product than one might otherwise let you. Mainly due to our size and reputation, we were able to gain this kind of leverage. At the same time, we were still worried about whether the vendors would be there for the long haul.

In hindsight, it turned out to be more important that vendors could get us where we needed to go in the mid-term. Both vendors we chose did a great job in the short-term, and both were subsequently sold multiple times. In the end, core capability and the opportunity to influence the product design proved more important than ownership stability.

Another lesson we learned was to not place bets on technology working. We and many in the industry placed big bets on a company called Broadband Now. Ultimately, their technology couldn't be made to work and everyone lost. Through that, we learned that our money was best placed to help a vendor grow or to adapt to multifamily housing, but not to prove out the underlying technology. Revenue management was a perfect example. We knew it worked in multiple hospitality verticals; we just had to incubate the transition to ours. The pay-off was huge!

Lastly, I would attribute our success to having top quality talent on our team. I was fortunate enough to be able to hire many people I had worked with at previous employers or people I had previously worked with in the vendor community - known quantities. It was just as important for this talent to be focused on basic operations (accounting, payroll, etc.) as it was to focus on the newer cutting-edge technologies. This allowed us (and me) to avoid the distractions that might have come otherwise.

you can't have a fractional person onsite at any given time). Our interviews revealed that several companies are seriously thinking about how AI technologies, coupled with a self-service strategy, could break the historical lock on the "1 FTE for 100 units" rule most leasing management offices follow.

3. Sales: the number one training priority

In an environment where talent acquisition and retention have been more challenging than most executives can remember, training and development along with organizational culture and benefits have understandably taken center stage.

More enlightening was the clear indication that the most prominent individual priority for 2019 is sales training. Most companies are either rolling out, re-designing or planning to re-design and roll out a sales performance improvement program. This makes sense for a few reasons: after a decade of growth in both demand and supply, a time must come when demand softens. After so many years of relatively scarce supply and abundant applicants, sales skills have perhaps not been the highest priority. When (not if) demand weakens, teams with strong sales capabilities will be better equipped to convert precious leads.

> **"When we consider how technology will remove ever more processing work, it is appropriate to focus on developing the skills that properties will need more of for the next few years.**

When coupled, with the second development priority: customer experience, we see a broader trend. Buying habits are changing. People are valuing experiences over physical objects. When we consider how technology will remove ever more processing work, it is appropriate to focus on developing the skills that properties will need more of for the next few years.

4. BI is not following the normal multi-family technology adoption pattern

Several interviewees listed BI as a major initiative which was in line with our expectations. However, we did notice that the pattern of adoption is very different than we would have predicted based on all other enterprise technology of the past 20 years. Those technology advances were shaped and then piloted by a very few pioneers for a number of years while the skeptical "herd" watched and questioned whether it would really work.

When the benefits of the technology became obvious, the rest of the industry quickly followed. It was not unusual to take 3-5 years for a handful of property managers to adopt one of these technologies before being followed by a rapid adoption cycle whereby most of the NMHC Top 50 and many others would adopt the technology in the ensuing 3-5 years. This pattern played out in most of the technology of the last big inflection point—automated credit screening, pricing and revenue management, web-based PMS and online portals for both prospects and residents.

BI has shown more of an even adoption rate in the multifamily industry, with a decided absence of a sudden inflection point to rapid adoption. REITs and larger owner/operator platforms accounted for almost all of the early activity with the other ground-breaking technologies with fee managers largely sitting on the sidelines until their owners insisted on the technology With BI, fee managers that have been much more active in throughout the adoption cycle. We believe this has been driven by a realization that BI can help solve the scale issues fee managers have running a business with multiple owners and distributed operations, especially as those owners expectations for quantity, complexity and customization of reporting continues to grow.

As we reported in Section 5, despite these large investments, responses showed tepid satisfaction with BI at best.We believe this is due to regular sub-optimal deployment of BI. What should be a core competence for operators driven by overall business needs is too often relegated to an IT-driven software implementation. Even worse, the focus tends to be more on reports than on the powerful BI capabilities of on-demand analytics, dashboards and predictive analytics. Great BI capabilities allow us to “build the genius into the system,” structuring data and metrics to deliver insights that drive field behavior thus relieving operators of hours of data collation and analysis. The result is the large six- and even seven-figure investments that have left the C-suite unimpressed with the results.

In our experience, it has been very hard to “sell” a COO or CEO who hasn’t experienced a great BI platform on why they should invest heavily in creating one (or fixing/replacing a poorly executed platform). Conversely, every CEO or COO who changes companies from one with such a platform to one without quickly makes building out a robust BI capability one of their top three priorities.

5. Pricing and Revenue Management (PRM) turns 18

As noted in Section 5.3, the release of this white paper coincides with the 18th anniversary of the first community going live on automated PRM software.

We were particularly struck by the lack of immediacy in responses to the question about PRM. Heads of operations either had to think hard to locate a business pain or requirement or had no comment on the subject while heads of technology reported that it had been years since they were involved in PRM.

We find this atypical among industries that have adopted revenue management, e.g. hospitality and travel, where PRM is a Sisyphean task requiring regular attention and enhancement.

The tone and content of the conversations about PRM suggested an organizational function and technology that is now mature. With this level of maturity and general satisfaction comes a concern: complacency.

PRM systems work better when operators keep them “fed and watered.” System parameters, unit amenity pricing, comp sets and data all require constant review. Perfect configuration can be rendered suboptimal by a shift in local market conditions. Strategies and market conditions change, and it would be unusual if that did not affect PRM strategy and requirements.

While the luster of PRM projects has faded in the last decade, operators should beware of the risk that complacency represents for a capability that has helped to deliver record results for almost two decades.

ABOUT THE AUTHORS

Donald Davidoff is the Founder and President of D2 Demand Solutions. He is recognized throughout the rental housing industry as a thought leader in pricing, marketing, leasing, business intelligence and related areas. Donald is perhaps best known for leading the development and implementation of Lease Rent Options™ (LRO), the industry's first automated demand forecasting and price optimization system. A former Senior Vice President with ten years at Archstone and a former Executive Vice President with Holiday Retirement, Donald works with C-suite clients to assess their operational and technology platforms and implement complex, highly impactful projects

Dom Beveridge is a Principal with D2 Demand Solutions and has more than 20 years' experience in leadership and consulting roles in revenue management, sales and marketing. Before joining D2, Dom spent six years working with multifamily companies in a variety of roles with the Rainmaker Group, until and through the company's sale to RealPage, Inc. Dom was previously a strategy consultant for Capgemini Ernst and Young after spending much of his early career designing and implementing revenue management systems and consulting projects, with Talus Solutions (the creators of LRO), Manugistics, Inc. and JDA Software, Inc.

ABOUT D2 DEMAND SOLUTIONS

D2 Demand Solutions finds its niche where technology and people meet. We have 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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