

January 2021

Tech insights

Based on a survey of IREM members in
North America in September 2020



For those who manage to make a difference.™

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Background of report

This report, Technology Insights, is the result of a survey conducted under the guidance of the IREM Technology Advisory Board.

The purpose of the survey was to:

- Assess where members saw themselves and their companies in terms of technology adoption and satisfaction
- Identify major pain points they are experiencing that could find solutions in technology
- Lay the groundwork for creating tools and providing useful resources for use by members in responding to the pressures they are under
- Identify the extent to which the COVID-19 pandemic has had an impact on technology adoption, usage, and investment

A similar survey was conducted in 2019. It established a benchmark for pinpointing key issues facing property managers that can be addressed by technology solutions. By conducting the survey on an annual basis, changes in technology adoption patterns and trends among property management companies can be identified. Results of the 2019 survey are referenced here.

As with the 2019 survey, this survey was distributed to all IREM members in the U.S. and Canada in September 2020. A total of 887 responses were received, a significant increase over the 515 responses in 2019.

2020 Technology Advisory Board
Greg Cichy, CPM, Chair
Paul Gottsegen, CPM, Vice Chair
Kim Bender, CPM®
Edward Brownfield, CPM®
James Scott
Kasara Smith, CPM®
Austin Widman, CPM®

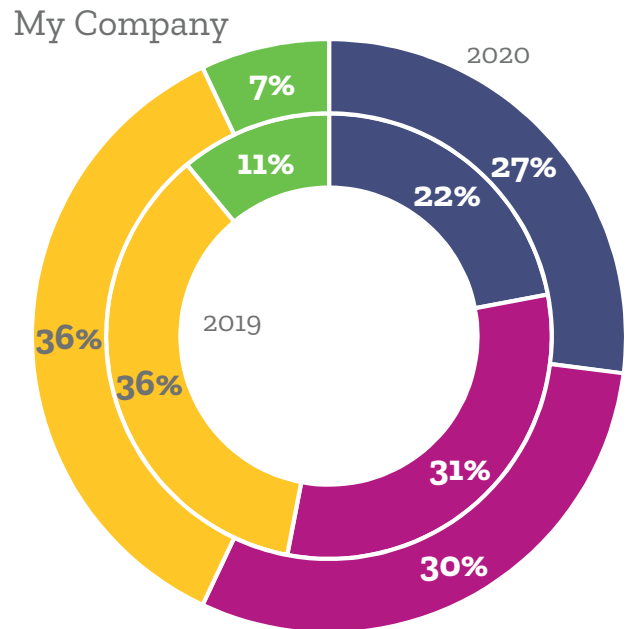
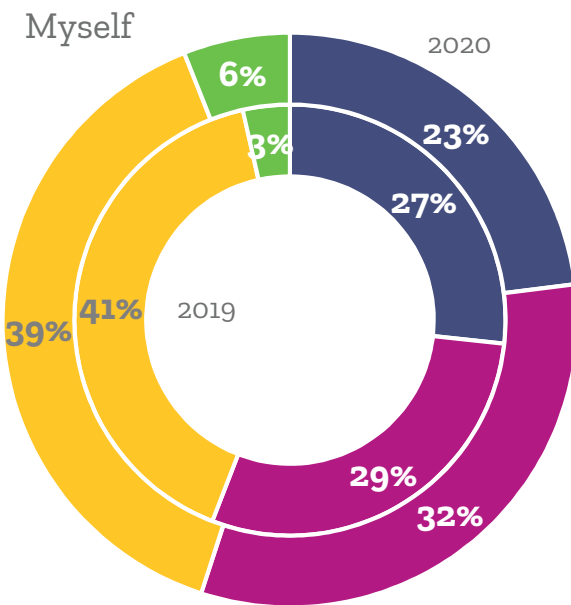
Overview of findings

- Document management remains the top challenge facing property managers regardless of asset class and size of company. This is followed by conducting mobile property inspections, capturing and managing data, managing operating expenses, and managing compliance. Although their order changed slightly from 2019 to 2020, the top four challenges remained the same. Managing compliance was not in the top five in 2019.
- Of the major hurdles that are faced in implementing a technology solution, system integration is clearly the most significant, just as it was in 2019. And, for the second year, right behind it is the hurdle of providing training across the organization.
- COVID-19 has had a significant impact on the work of property management and, not surprisingly, has driven property management companies to embrace new technologies. Of particular attention are those that support virtual and remote activities and interactions with their various stakeholders. This is reinforced by the responses to an open-ended question pertaining to the focus on technology adoption over the next three to five years.
- The degree to which respondents are satisfied with the technology platforms and solutions provided by their companies increased substantially from 2019 to 2020, with 68 percent of respondents being somewhat or very satisfied in 2020, versus 54 percent in 2019.

Technology innovation profile

Questions: When it comes to technology, how do you describe yourself? How do you describe your company?

- Little change was seen in how respondents saw themselves in 2020, when 55 percent classify themselves as innovators or techies, versus 2019, when 56 percent see themselves as innovators or techies
- In 2020, respondents viewed their companies as being slightly more innovative than in 2019; 57 percent see their companies as innovators or techies in 2020, compared to 53 percent in 2019
- There is close alignment between how individual respondents see themselves and how they see their companies



Innovator: Always looking to try new things

Techie: Somewhat selective but still early to the game

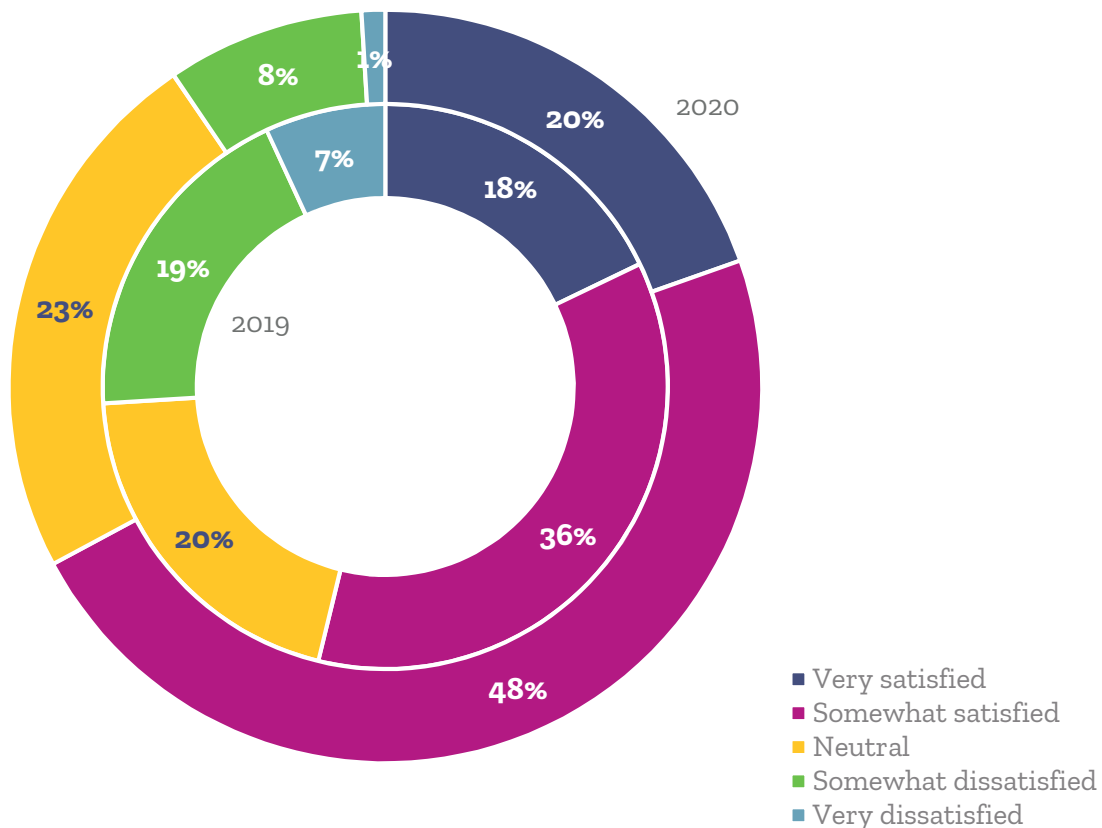
Pragmatist: Wait till I see what works, then will get on board

Follow the crowd: Have to get it, everyone has it so don't really have a choice

Satisfaction with company's technology

Question: How satisfied are you with the property management platform/technology solutions your company provides?

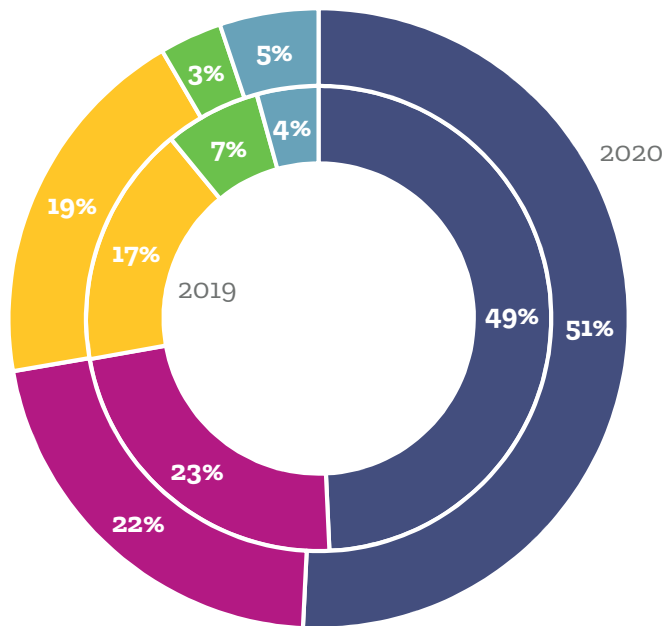
- The degree of satisfaction with technology increased substantially from 2019 to 2020, with 68 percent of respondents being somewhat or very satisfied in 2020, versus 54 percent in 2019
- A deeper look into the survey findings showed that this was generally the case regardless of company size and primary property type



Technology decision-making

Question: When it comes to technology decisions involving property operations within your company, who typically takes the lead role?

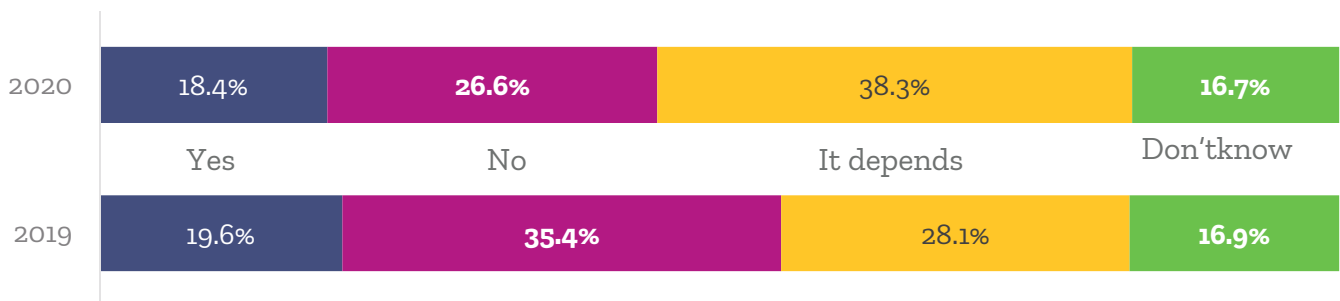
- For slightly more than half (51 percent) of all respondents, decisions about technology that impacts property operations are made collaboratively by IT, property management, and accounting
- Property management departments are regarded as the primary decision makers in 22 percent of the respondents' companies



- Collaboration among IT, property management, accounting
- Property management department
- IT department
- Don't know
- Finance/accounting department

Question: Do you typically use consultants in the technology purchase process?

- Responses to this question showed little change from 2019 to 2020, with about 19 percent of the companies using consultants in the purchase of technology solutions



Top technology challenges

Question: Of the challenges listed below, which are the top 5 challenges you are facing now?

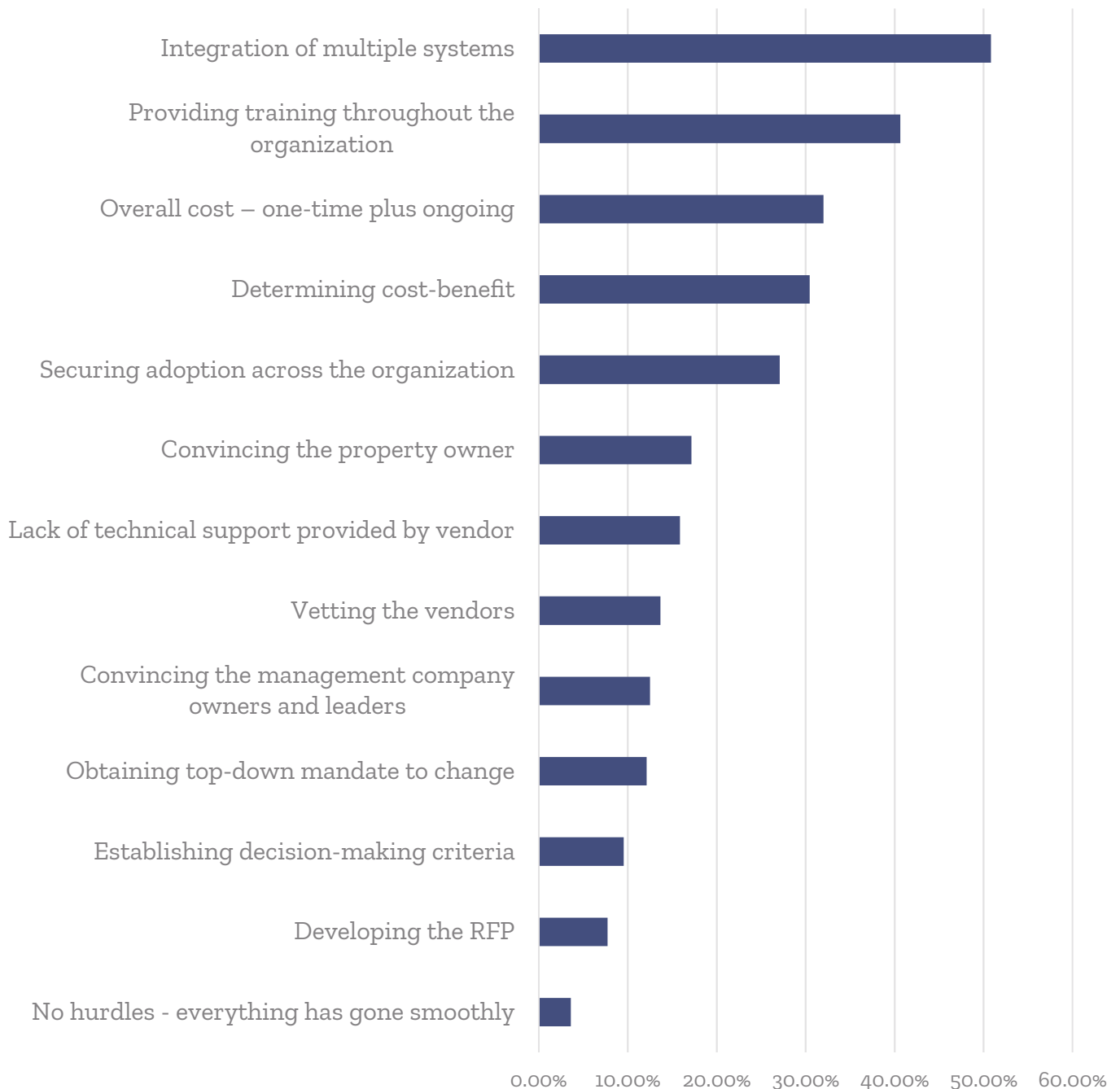
- From 2019 to 2020, although their order shifted slightly, the top four challenges did not change; managing documents remained number one, with conducting mobile property inspections, capturing and managing data, and managing operating expenses filling the next three slots
- In 2020, managing compliance and optimizing rent and other income rose higher, while providing service to tenants and reporting to owners dropped in the ranking – no doubt affected by the impact of COVID-19

Major Challenges	2020	2019
Managing documents	1	1
Conducting mobile property inspections	2	4
Capturing and managing data	3	2
Managing operating expenses	4	3
Managing compliance	5	11
Optimizing rent and other income streams/revenue management	6	14
Managing energy usage and costs	7	5
Accepting online rent and other payments	8	9
Work order processing	9	10
Performing financial analysis	10	12
Data security	11	15
Facilitating communications	12	8
Reporting to owners	13	7
Providing building security	14	18
Providing maintenance service	15	13
Conducting market research	16	16
Providing service to tenants	17	6
Providing service to owners/clients	18	17
Lead tracking	19	20
Package management	20	19
Screening tenants	21	21
Working remotely/managing remote workers	22	N/A
Monitoring space utilization	23	22
Analyzing air quality	24	23
Tracking real estate tax payments	25	N/A
Analyzing water quality	26	24

Major hurdles

Question: In considering and implementing technology solutions at your company in the past, what have been the major hurdles, if any?

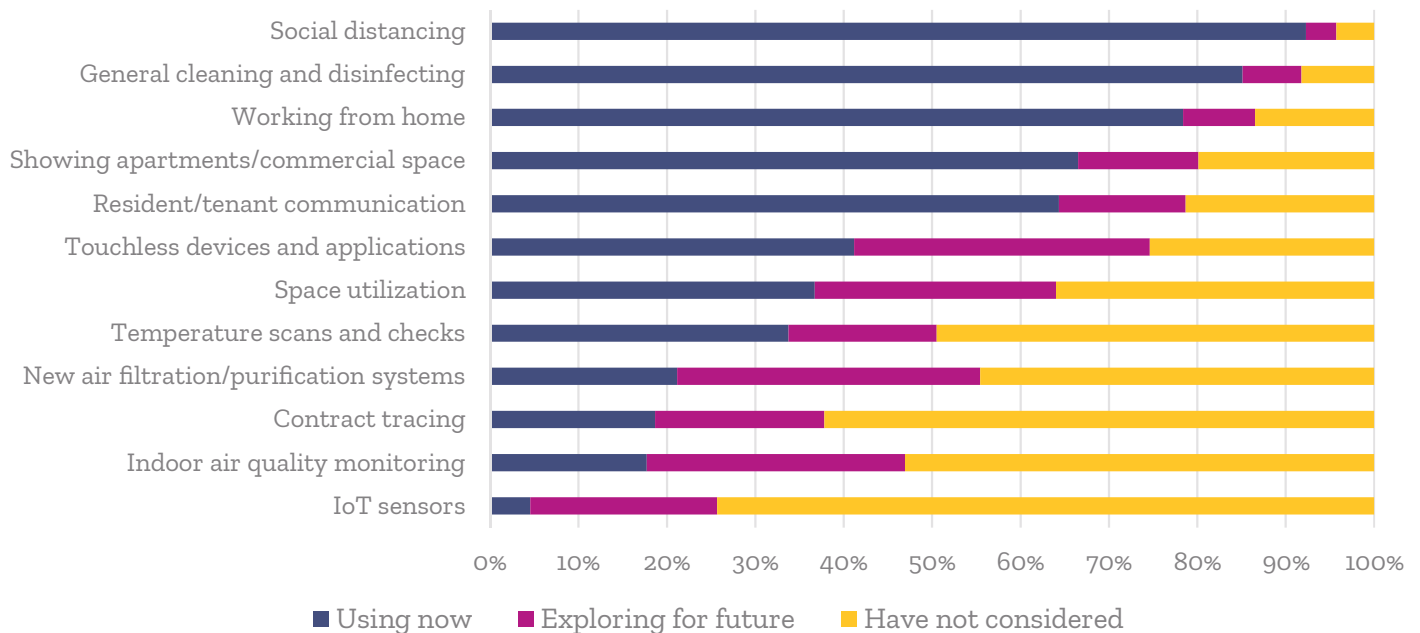
- Integration of multiple systems continues to be the primary hurdle to implementing technology solutions, followed by providing training throughout the organization; these results mirror the findings in 2019
- The overall cost of new technology solutions and the ability to validate the cost-benefit remained in the number 3 and 4 spots on the list



Impact of COVID-19

Question: With the onset of the COVID-19 pandemic, has your company adopted new technologies to support these activities:

- Questions about COVID-19 and how it is being address through new technologies were included in the 2020 survey
- The answers reflect the adoption of technologies that enable a return to the workplace or increase comfort level with living spaces (social distancing and cleaning and disinfecting), support a remote workforce, and facilitate remote prospect and tenant interactions and communication



Question: Do you anticipate that:

- Respondents anticipate that their companies in 2021 are likely to increase their investment in technology and that working remotely will continue and tenants and residents will be looking for new technologies in the post-COVID environment

	Yes	No	Don't Know
Your company will increase technology spending over the coming year due to COVID-19?	56.18%	19.09%	24.73%
Your company will continue remote work in some form post-COVID?	60.82%	22.74%	16.44%
Tenants and residents will require newer technologies (e.g., touchless devices) post-COVID?	60.49%	12.07%	27.43%

Technology platforms in use

Question: With property management platform/technology solutions does your company currently use? Select all that apply.

- Yardi is the most frequently used platform, used by nearly half of the respondents
- Overall results in 2020 closely parallel those in 2019

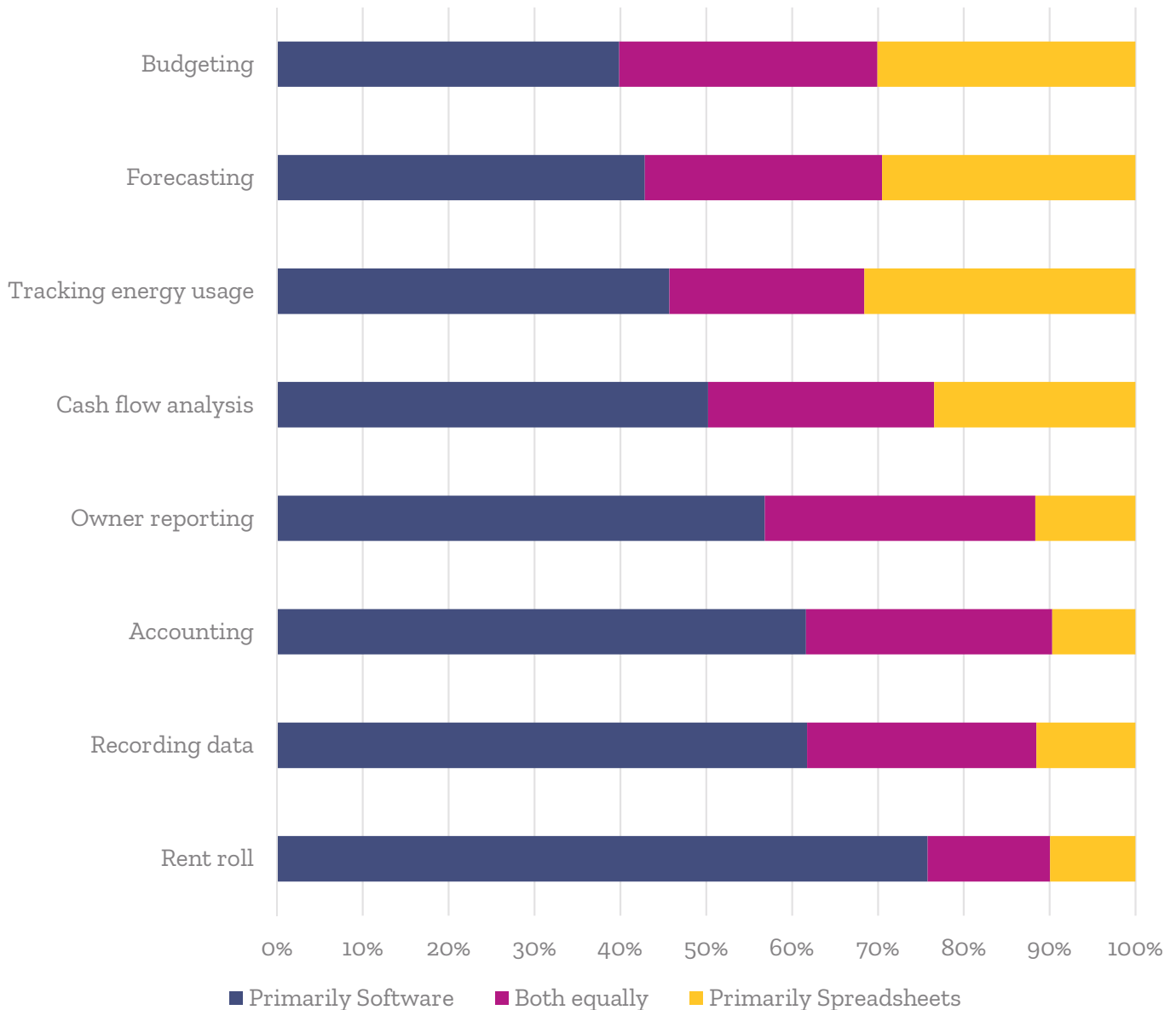
Platform	2020	2019
Yardi	49.0%	51.3%
MRI	20.6%	21.9%
RealPage	17.1%	14.7%
Avidxchange	15.3%	12.9%
Appfolio	10.5%	12.9%
Building Engines	8.9%	N/A
Custom/proprietary	8.7%	N/A
VTS	6.0%	7.1%
Entrata	5.3%	N/A
Timberline/Sage	4.0%	N/A
Rent Manager	2.9%	2.1%
Skyline	2.4%	N/A
Buildium	1.9%	1.1%

- The selection of platforms was expanded in the 2020 survey to include some not listed in 2019
- Other solutions identified were used by fewer than 1% of respondents

Spreadsheets vs. software

Question: Which is your primary go to technology for each of the following:

- Spreadsheets are ubiquitous among real estate management practitioners, with all functions involving a mix of software and spreadsheets; a response to an open-ended question in the survey referenced the extent to which analysis and reporting requires downloading data from software into Excel
- Budgeting, forecasting, and tracking energy usage are most heavily dependent on spreadsheets either in whole or part
- Maintaining rent rolls is most frequently accomplished through property management software, followed by data recording, accounting, and owner reporting



Looking ahead 3-5 years

Question: What technologies do you see as making the biggest difference to property management in the next 3-5 years?

In the 2019 survey, this open-ended question was asked: What are the top technology challenges your company is facing today?

The most frequent challenges identified tended to focus on system integration, training and adoption, data management and data security, and cost.

In the 2020 survey, the open-ended question was reframed as shown above and shifted attention to a look at the near-term future and the technologies that would have the greatest impact on property management in the next 3-5 years.

When the 2020 survey was distributed, the pandemic was six-months in and a seismic shift in the nature of work had changed. The desire for integrated systems continued into 2020. However, responses more frequently resonated around going virtual with the objective of, as one respondent put it, "Everything being done online and nothing in person."

The issues that arose most frequently were directed to those focus areas:

Virtual and remote interactions – of the 575 respondents who responded to the open-ended question, 21% of them referenced the term "virtual" and encompassed a wide spectrum of activities conducted remotely through online platforms as distinct from in-person interactions – among the interactions mentioned were virtual showings, virtual leasing, virtual training, virtual meetings, virtual communications with all stakeholders from tenants to vendors to employees, technologies that enable working remotely and avoiding contact – not surprisingly, there were frequent references to Zoom

AI/artificial intelligence – particular focus was directed toward interactions with prospects, improving productivity, reducing cost, minimizing errors, integrating building management and accounting, helping with work orders and building controls, providing tenant communications, enabling managers to be ahead of issues and being able to anticipate

Online processing of payables and receivables – through online rent collection portals, use of ACH, payment technology, more user-friendly online payment systems

Going paperless – to enable remote work, paperless document delivery, electronic signature capability

Cloud computing – for security, for accounting and procedures, for documentation coordination

Collaboration tools – ability to collaborate online with real time document editing and file sharing, with frequent references to Microsoft Teams

Maintenance – mobile inspections, work order processing and tracking, maintenance workflow optimization, maintenance request portals

Smart buildings and devices IoT technology – for security, for t-stats, for locks and entry, for lighting, for energy and utility tracking

Other topics that were mentioned multiple times included: system integration, dashboard reporting, package handling, touchless and keyless access, COVID-related cleaning and sanitation technologies, lighting, robotics, and drones.

Here's a selection of comments that capture the flavor of the responses and speak to the technologies that could have the most impact on property management in the next three to five years.

- Tools that will allow managers and admins to work virtually, have flexible hours and more accessible beyond the management office.
- Technology that gives property management all of the information pertaining their portfolio at their fingertips and connects with real-time data. Leases, income, expenses, assets, asset performance, smart dashboard and allows all of the planning to be done in one single tool.
- Continual advancement of the mobile platform. Whether it is with our maintenance team, resident portal applications, or property managers communicating with residents or communities
- It seems to me that more and more residents, owners, and agents are looking to move as much as possible online. I know this is the trend and expect to see it happen even quicker now due to coronavirus.
- Having the ability to jump on to whatever software you need at any location
- The technologies I see making the biggest difference in property management is cloud computing or the creation of apps for our property management software. It allow convenient access for both the resident and property management company.
- Cloud-based services will allow property managers to outsource much of what would traditionally be onsite and these services/applications run the gamut of what we do today (i.e., data backup, email, property management systems, MS Office Suite) This will leverage small offices that cannot have an onsite IT person or resources for onsite hardware.
- Maintenance sensors that indicate when preventive maintenance is needed based on use, vs. scheduling it on a calendar interval (much like some car maintenance reminders).
- I can foresee a time when the rental office becomes completely virtual with leasing performed virtually and all inquiries from residents are handled by a centralized call center. Prospects or existing residents would interact with management via a video link up. Documents signed virtually, etc. Maintenance is either stationed at the property or roves based on incoming tickets (some companies are doing this now) kind of like how some commercial properties are handled. I can foresee when most maintenance is completely outsourced.
- Software or system to use for property inspections (add notes, photos, site plan etc.) to an app on your phone while completing the inspection that then converts to an easy to read and well formatted document

- Online payment platforms and online property management tools to maintain a paperless workplace . . . Anything that can assist in streamlining process and continue to support paperless practices.
- All-in-one services including rent payment/utility payment and then insurance. I think this will become a requirement, in the event renters cannot pay rent they must have insurance to cover all their bills.
- Continued development of smarter building systems and energy management technologies.
- Automated workflow solutions. On the corporate side, this is a must have for managing projects, on-boarding and off-boarding properties, and cross-departmental shared-work responsibilities.
- Applications that integrate existing property platform elements and bring efficiencies as a result.
- Although we are always looking to try new things, in my personal opinion, none of the technologies that are currently being using work effectively. I would not know which one would make the most significant difference as we are frequently as an entire company submitting tickets for IT. (Example: There are too many software programs that feed data to each other, thus, causes more glitches). In today's world, I find that we focus on more reports vs. customer service. I believe that software that would make the biggest difference would be MRI due to being user friendly with reports and allowing more time for customer service vs. having to constantly submit tickets to IT.
- Building AI will continue to get better and the results could be a game changer for the "connected/smart" building.
- Report generation with charts/graphs are being used more and more as a better way to accurately reflect data.
- Better integrated systems. Accounting with work orders with building systems. I think the key will be smaller companies with products that integrate, not one large user solution. In my opinion, the bigger the service provider the worse their product.
- I cannot tell you what technology. However, those programs that evolve to become easier to use and train, not harder by becoming more robust, and can deliver better decision-making information quicker, will make the biggest difference. I see very little of the first; the second is getting better slowly.
- Complete dashboards for managers showing financial, maintenance and security issues.
- Fully integrated accounting systems from initial lease, rent collections, maintenance works and supplies, payrolls etc. hands free communication and record keeping systems.
- Fully integrated property management systems. I do way too much spreadsheets that are prone to error and labor intensive.
- Continued enhancements to software for inspections, tracking projects, tracking payments, etc. More user-effective software – a one-stop shop.

- I think that virtual tours and non-contact move-ins and showing will continue to grow in popularity even in a post COVID world.
- When I think of technological trends, I'm certain that analytics are going to be expanded on, demographically we will know more than we ever have and will be able to capitalize immensely. Building practices will be optimized with usage of new design tech and practices. Mostly, I believe that the use of digital amenities will increase greatly. Offering at home workouts as an amenity through a huge service will be useful to all, especially in the socially distance world we live in now.
- A system to "sync" all the systems. For example, all move-in and move-out procedures should be completely automated into one click of a button.
- Integrating more software platforms into one system so there are not so many sites, log-ins, and associated expenses.
- My hope is for a reasonable cost key and inventory tracking system for the engineering side. Would like to be using occupant sensors due to COVID (regarding where to clean, etc.). More sensors to detect water, etc., and costs to come down.
- User-friendly technology. If it's hard to navigate, it won't be adopted. Specifically, tenant engagement/service software, financial reporting software that allows for less manual entry, virtual connectivity (like Zoom) that allows for privacy and ease of connection.
- Anything that makes services easier and more convenient for the customer. It will be interesting to see how much self-guidance with technology approaches the industry given the pandemic.

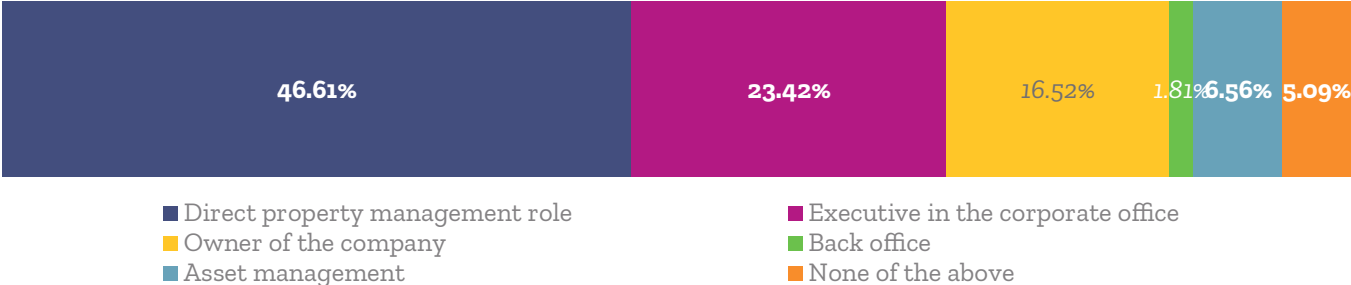
Demographics

Individual respondents

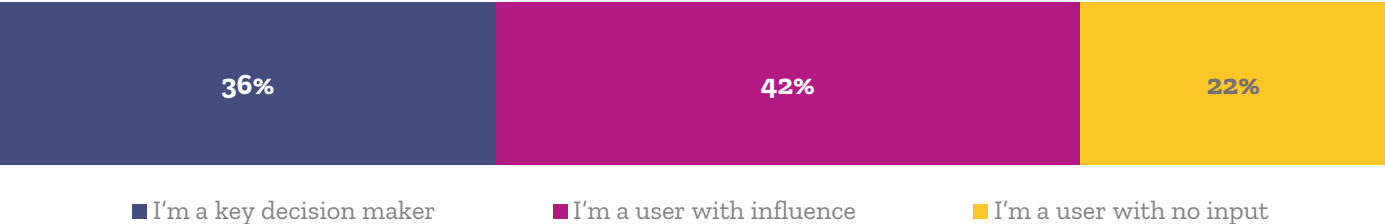
Primary property type



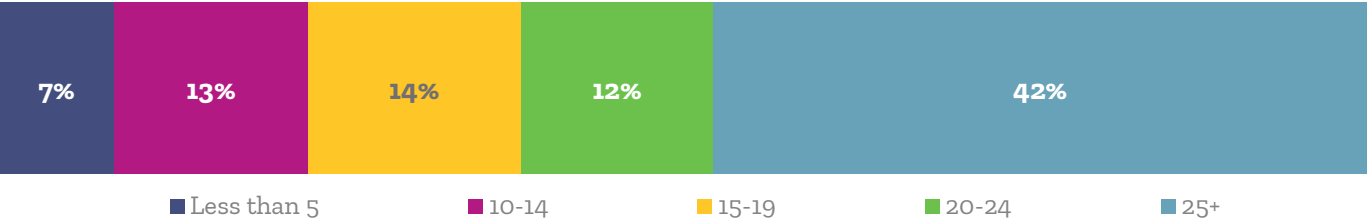
Role in company



Decision-making role



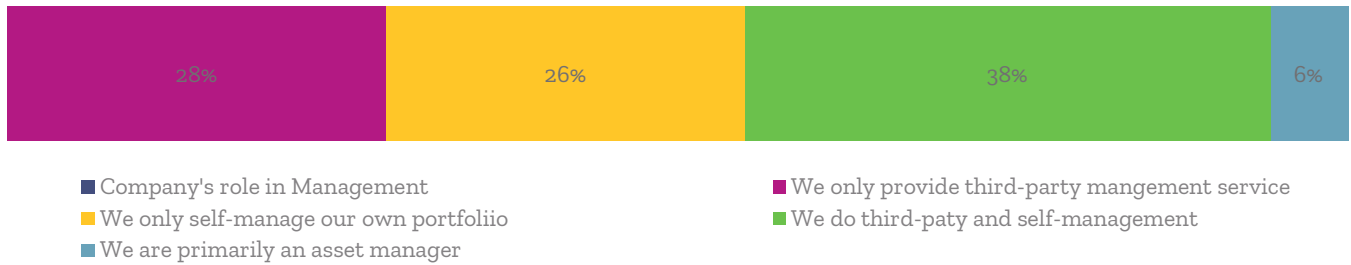
Years of experience



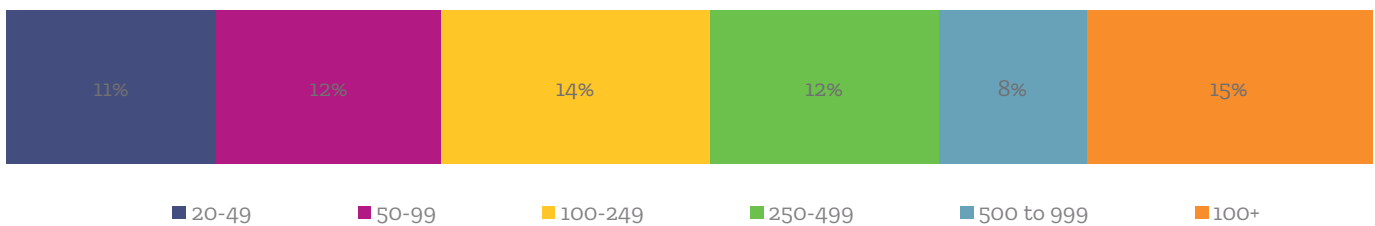
Demographics

Respondents' companies

Company's real estate management role



Size of company based on number of employees



Primary property type



Portfolio of those that manage residential

Residential Units Managed	Percentage
Under 100	16%
100-500	17%
501-1,000	12%
1,000-5,000	20%
5,001-10,000	14%
10,001-20,000	11%
Greater than 20,000	11%

Portfolio of those that manage commercial

Commercial Square Feet	Percentage
Under 100,000	24%
100,000-500,000	17%
500,000-1,000,000	10%
1,000,000-5,000,000	24%
Over 5,000,000	25%