2020

STATE OF CRE OPERATIONS 3.0

A Facilio report that spills the secret to future-proof buildings with data-driven portfolio operations

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ABOUT THE REPORT

With the rapid proliferation of technology in the Commercial Real Estate industry(CRE), Building Operations and Maintenance is poised for disruption and we set out to present to you an overview of this phenomenon. Facilio conducted a survey of CRE leaders and FM experts across the US, Middle-East, and India to analyze and understand the 2019 State of CRE Operations. The outcome of this research is a comprehensive resource for helping you understand how Commercial Real Estates run their operations today.
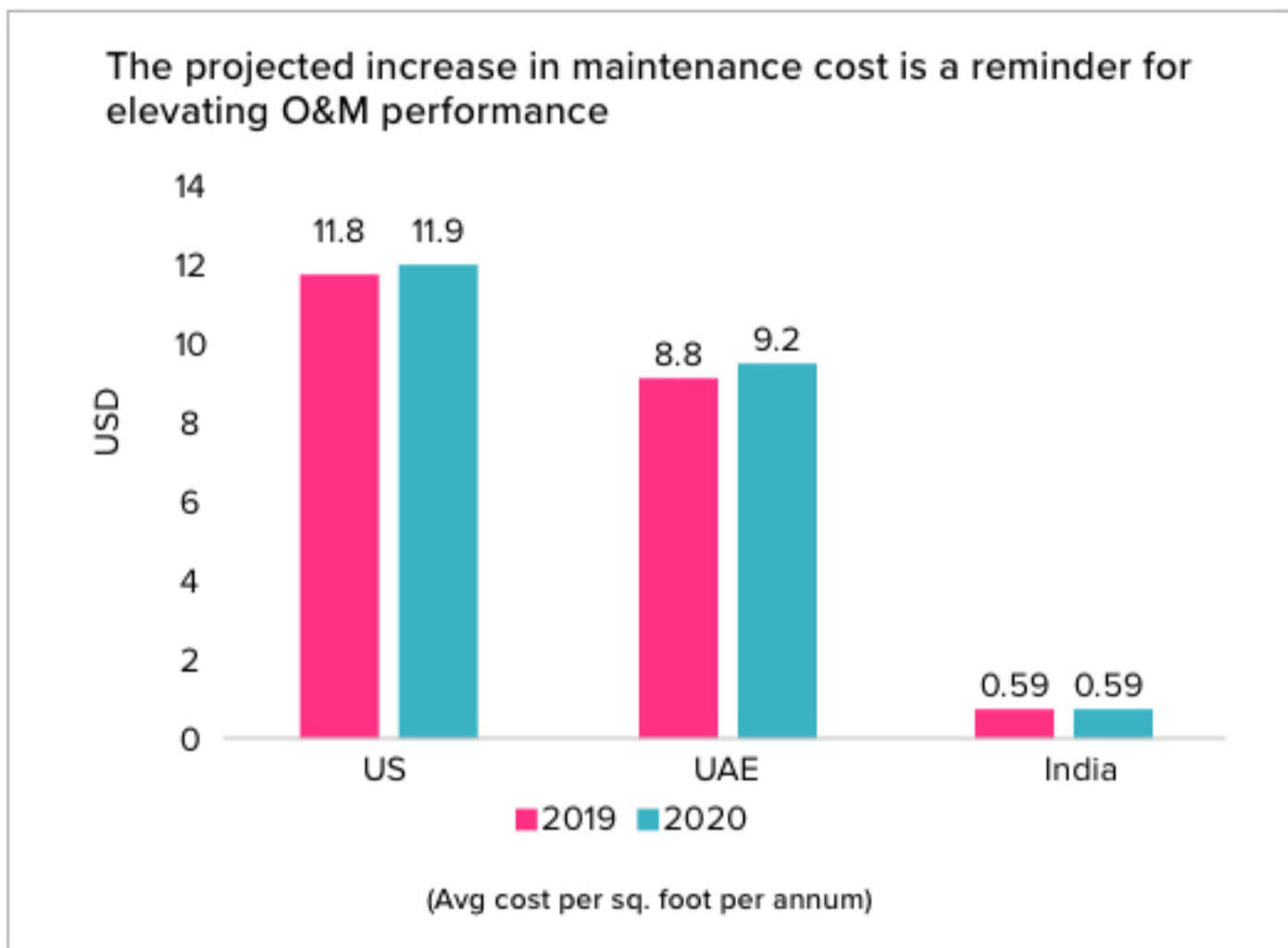
This report will be of value to anyone who is connected to building operations and property management and is eager to uncover the latest trends driving the real estate industry in optimizing the operations of Commercial Real Estate spaces. Whether you've been poring on embracing data-driven operations or looking at counteracting challenges with digital transformation, this is the perfect place to draw the relevant insights.

You will also find 2020 predictions on the sustained interest in contemporary management models or change thereof, to help you better prioritize and strategize enterprise operational decisions for the future.

CHALLENGES IN CONVENTIONAL CRE OPERATIONS

In a quintessential capital-intensive industry like the CRE, firefighting and monotonous multitasking has long been the order of the day. With the advent of IoT and the gradual adoption of data-driven operations, property owners were thrilled by the sea of possibilities it announced. There seems to be a marked departure from the tedious, resource-exhaustive model of building operations, that reigned supreme till about a decade ago. Unfortunately, they've still **not been able to fully exploit the enormous power of data to their advantage.**

The projected increase in maintenance cost is a reminder for elevating O&M performance

(Avg cost per sq. foot per annum)

Building operations is an expansive domain. The mindful split of the domain into different business functions unintentionally carved silos for the OT(Operational Technology) data repositories. Data in isolation multiplied thanks to diverse automation systems (HVAC, elevator, fire-safety, security systems, power control, and more) that differed in vendor-make or communication protocols. So it warranted going back to spreadsheets and requesting hardware vendors for access to building performance data, restricting multifunctional teams to collaborate seamlessly.

With the advent of cloud technology and software, although data became accessible to improve specific functions, portfolio and building managers still faced hurdles. CREs and large portfolio enterprises got possession of dead-end tools - for managing assets, maintenance, store inventory, workforce, tenant billing, and so on - that hindered visibility and pulled down efficiency. This inhibited modern players from accomplishing unified and holistic building operations that they wished digital transformation would facilitate.

Alternating between multiple apps is not only unproductive but obstructs wholesome transparency that is essential to strategize building operations.
The problems with using these tools not just stopped here, but posed everyday hiccups in the form of **lack of customization** or complex workflows. Not granular, these tools were mostly repurposed from other industries and not built for buildings.
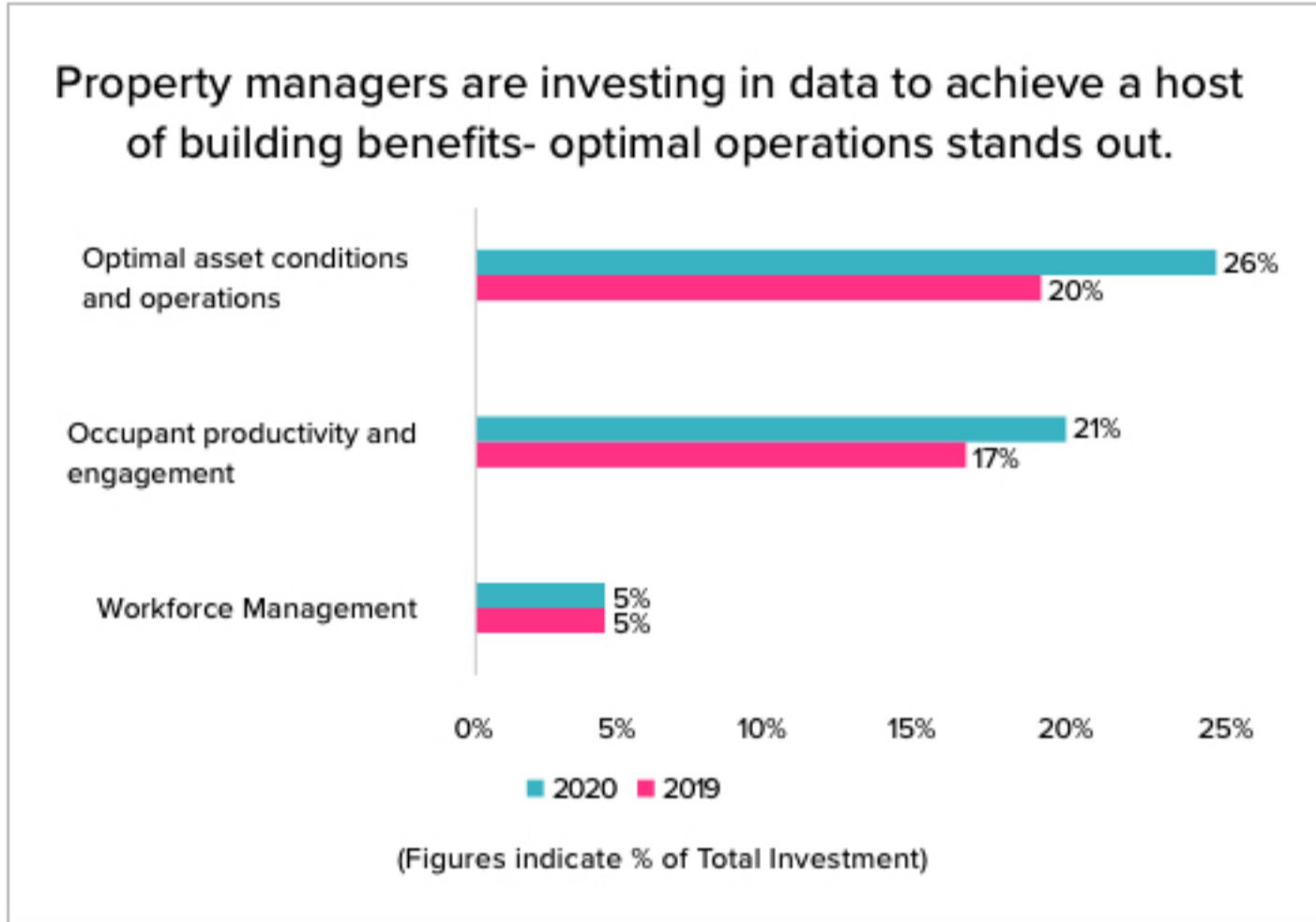
Taken together, these limitations point to a broader underlying issue that's been plaguing the CRE industry for some time.
People have limited access to their own data to extract insights for a holistic improvement in performance and minimized OpEx.

The good news is that centralized data aggregation is burgeoning and promises to ease these frustrations. With the industry being more competitive and margins under pressure, centralization of operational data seems to be the key-enabler to untangle building complexities.

HOW ATTITUDE TOWARDS DATA-DRIVEN OPERATIONS IS CHANGING TODAY

Property managers are investing in data to achieve a host of building benefits- optimal operations stands out.

Category	2020	2019
Optimal asset conditions and operations	26%	20%
Occupant productivity and engagement	21%	17%
Workforce Management	5%	5%

■ 2020 ■ 2019
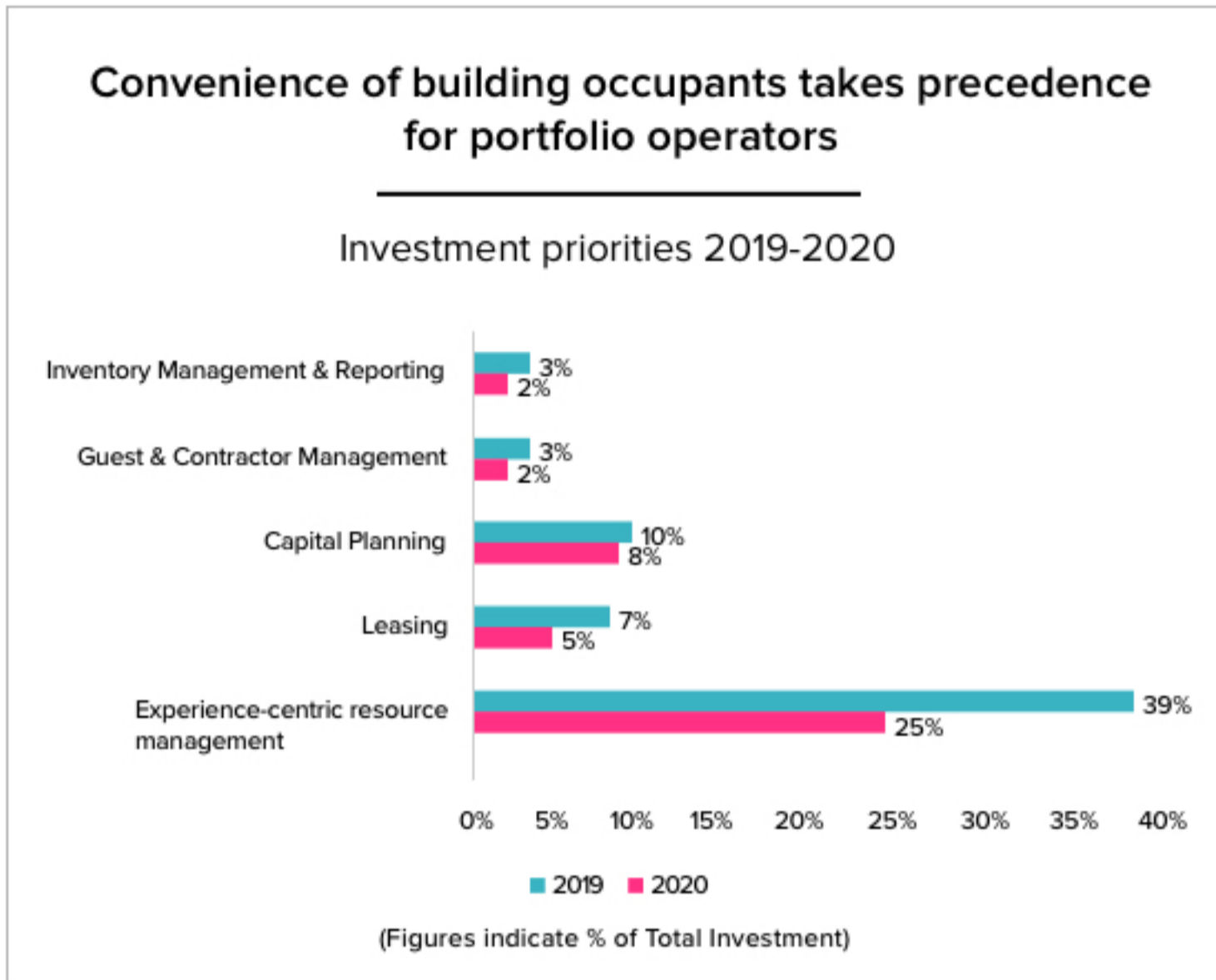
(Figures indicate % of Total Investment)

A. Optimal asset performance & operations

Asset management across a portfolio is a mammoth job. Data stepped into asset maintenance to streamline an otherwise haphazard situational assessment and performance monitoring. And what was the impact? First, Data-driven Asset Managers have the full context of maintenance, downtime and replacement history at their fingertips. And second, by digitizing the tracking of asset information, there's on-time renewal/replacement process and easily accessible supply-chain data and regulatory awareness. Furthermore, the maintenance scenario is evolving with support from intelligent analytic engines. And so, preventive maintenance is fast paving the way for Condition-Based Maintenance(CBM) and predictive maintenance which would redefine the entire framework of asset management. The long-time standalone operational model of Asset management is transforming into connected operations involving various stakeholders of the building. The benefits are multifold.

- **Unified digital record** - Portfolio-wide records of assets with location tag and movements, associated Inventory, store, purchase, renewals.

- **Drill-down asset intelligence** - Access to complete history information, real-time monitor and control of maintenance activities, lifecycle cost, critical asset health metrics like MTTR, MTBF, etc.

- **Continuous asset watch** - Functionally understand which buildings, assets are causing downtime by closely analyzing asset condition and performance in real-time.

- **Real-time fault diagnosis and resolution** - Detect, diagnose and automate accurate resolution to fix energy anomalies from high-value powered assets and avert heavy unplanned downtime cost.

- **Predictive Maintenance program** - Leverage real-time IoT data to enable predictive maintenance by coupling inefficiency insights with operational workflows.

60% maintenance spend is on hard services, which means at least 20% cost savings can be achieved when prediction joins hands with automated resolution.

B. Tenant experience & occupant engagement

Convenience of building occupants takes precedence for portfolio operators

Investment priorities 2019-2020

	2019	2020
Inventory Management & Reporting	3%	2%
Guest & Contractor Management	3%	2%
Capital Planning	10%	8%
Leasing	7%	5%
Experience-centric resource management	39%	25%

(Figures indicate % of Total Investment)

More than ever, building owners are focussed to create frictionless tenant experiences using the IoT-acquired data. In a bid to enhance occupant productivity and their engagement with the CRE space, corporates are now adopting a unified workplace app. What this means is you digitally connect your employees to their physical workplace and enable them to personalize their experience within the building. For example, now, occupants can control their ambience seamlessly.

Once they raise a request to change set point, an automated command to the BMS is executed. And that's how modern building managers are forging the path to improved comfort control for occupants.

An uninterrupted and harmonious facility is essential to keep occupants comfortable which in turn amps up their productivity and makes a business prosper. As our survey reveals, building owners allocate 39% of their operational budget to put their tenants front and center. More owners are eager to hear back from their tenants.

One way they accomplish this is by having a dedicated tenant portal where the occupants can easily communicate their grievances and avail additional maintenance services, including service management, ratings, and vendor service requests.

With centrally connected building systems, operations shares space with tenant management and CREs can provide differentiated occupant experiences. Exceeding tenant expectations becomes a natural progression and retaining them long-term becomes much easier!

A data-driven workplace will fuse the branches of building performance like management of tenant, vendor, and visitor into one connected entity. **It will emphasize on tenant satisfaction by letting them flexibly communicate with all areas of interaction within a building.**

2020 will see CREs focus on consolidating end-to-end operational workflows

IMPART CUSTOMIZED APPS FOR

Maintenance   Tenant / Occupant engagement   Utility   Visitor / Vendor

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Transparent tenant engagement and single window services

Single node for organised vendor management

Foolproof check on campus Visitors

C. Portfolio-wide maintenance management

The digital switch to CMMS proved helpful for CREs to manage a dedicated database for maintenance information. But it's still a far cry from the one-stop-shop for building maintenance that everyone aspired for. Modern CREs don't wish to scramble between multiple tools to assess their enterprise performance; definitely not the best place to devote their invaluable time and resources on. And so, when CMMS doesn't interface with other building systems, it strips them of the chance to leverage a centralized and lucid source to guide them on their decisions.

The problems only multiplied when the C-suite desired to get a peek into the state of maintenance across the portfolio! To start with, it came across as a geeky tool that only a few trained /dedicated operators could wield. It lacked a user-friendly interface that 'CMMS operators' could breeze through with data entry, and analyze and act on building conditions in real-time.

Standalone systems as they were, their 'isolated' modus operandi frustrated the executives who fumbled to stay on top of maintenance activities.

Firmly locked up in systems they were configured on, traditional maintenance management tools offered little to no visibility on maintenance performance to the different rungs in the managerial ladder. Benchmarking workforce efficiency, measuring contracted service performance, or managing complex schedules across a portfolio were out of sight.

CREs are increasingly finding it hard to retrieve value of maintenance tech investments owing to associated long implementation cycles, staff training, upgrades or customisation. Traditional CMMS/CaFM is turning out to be heavily under-utilised, that is veering from meeting the foremost goals of efficiency and improved operations.

And so, it requires no explanation that our survey respondents pinned their hopes on a centralized data-driven platform to simplify the tedious process of maintenance management. It checked multiple boxes in the ambitious FM's optimized maintenance catalogue.
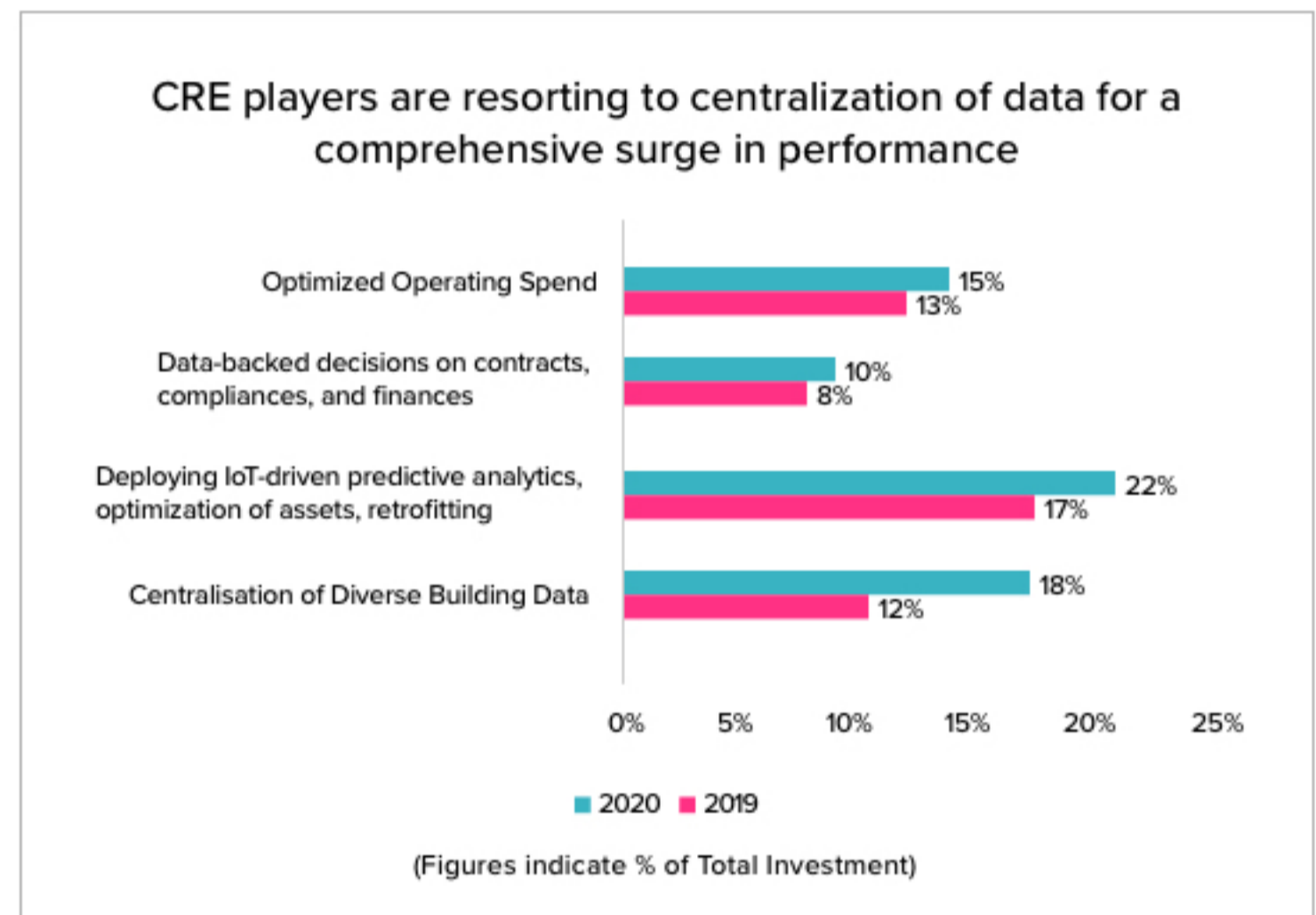
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✓ Data-driven insights to optimize O&M functions like asset health and performance, sustainability and workforce across portfolio of facilities.

✓ Predictive and Intelligent Maintenance capabilities based on system-identified anomaly prediction.

✓ Connected platform leading to automated workflow   kick-off and enhanced workforce efficiency. Condition-based maintenance based on real-time IoT monitoring of assets.

✓ Lower operating and capital costs by facilitating proactive servicing and repair of assets.

The CRE space was sluggish in evolving from paper-managed maintenance to software-controlled process, but the transition to adopting a centralized hub that unifies solutions to manage assets, sustainability, and workforce is picking up fast. With affordable IoT devices enabling a commanding majority in CRE to get their hands on data, the centralization of operational data is proving to be the differentiator. It's the only means to a new dawn of experience-led building management that is seamless, responsive and delightful to tenants.

THE NEED OF THE HOUR : PORTFOLIO - WIDE INTELLIGENCE

The reality is that CREs have had to choose between point tools and make-shift solutions in the past that has added to the complexity of data silos. In practice, **the first step to smart buildings in today's world is centralizing operational data that can be used in a variety of ways** to build applications for tenant engagement, maintenance, sustainability, asset performance and so on.

CRE players are resorting to centralization of data for a comprehensive surge in performance

	2020	2019
Optimized Operating Spend	15%	13%
Data-backed decisions on contracts, compliances, and finances	10%	8%
Deploying IoT-driven predictive analytics, optimization of assets, retrofitting	22%	17%
Centralisation of Diverse Building Data	18%	12%

(Figures indicate % of Total Investment)

A. Holistic efficiency in operations

In 2020, IoT devices, sensors, gateways are commonplace around the globe. Yet CREs struggle to meet their operational efficiency goals and compliance requirement with all the intended investment. They lack possession of tools that elicit data from vendor locked-in systems, engage building owners with strategic issues, and offer intelligible insights in a way that they can readily implement. The operational efficiency is constantly pulled down by a vendor-dependent view of building automation and surrounding enterprise systems, and CREs remain stuck with pursuing siloed data models at the core of hardware implementations.

An overarching integration of systems across an entire portfolio, no matter the geographical distance, synchronizes the working of all assets and operational teams. What follows is a meaningful data flow between the breadth of operational functions that pushes the organization towards promising results. The futuristic CRE investors believe this will generate just the actionable insights required to evaluate opportunities faster and more accurately, and make informed decisions at a portfolio level. With IoT finding a permanent spot in data-driven operations, we believe this outcome manifests as a continuous real-time process in the enterprise.

B. Extensible to future strategic initiatives

CRE professionals are aware of the dynamic market of technological innovations pertaining to building management. The ones owning inflexible O&M solutions fail to respond to emerging opportunities. A flexible and agile enterprise platform lends you the maturity to adopt favourable strategic initiatives in the future without the burden of vendor dependency, long term project, or system integration efforts.

Corporates are impressed by the inherent ability of such extensive platforms to easily integrate customized workflows and dynamically manage workspace across regions. With the rise of co-working spaces becoming the choice of millennials, corporates are increasingly focusing on enterprise-wide technology to deliver dynamic experiences. And so our survey respondents believe that a collaborative and open-ended platform is poised to lend flexibility to occupants making them productive, and promote ease of doing business - a factor pivotal to buildings staying relevant and modern at any point in time.

C. Closer to Sustainability

Energy conservation most pressing concern to modern building operators.
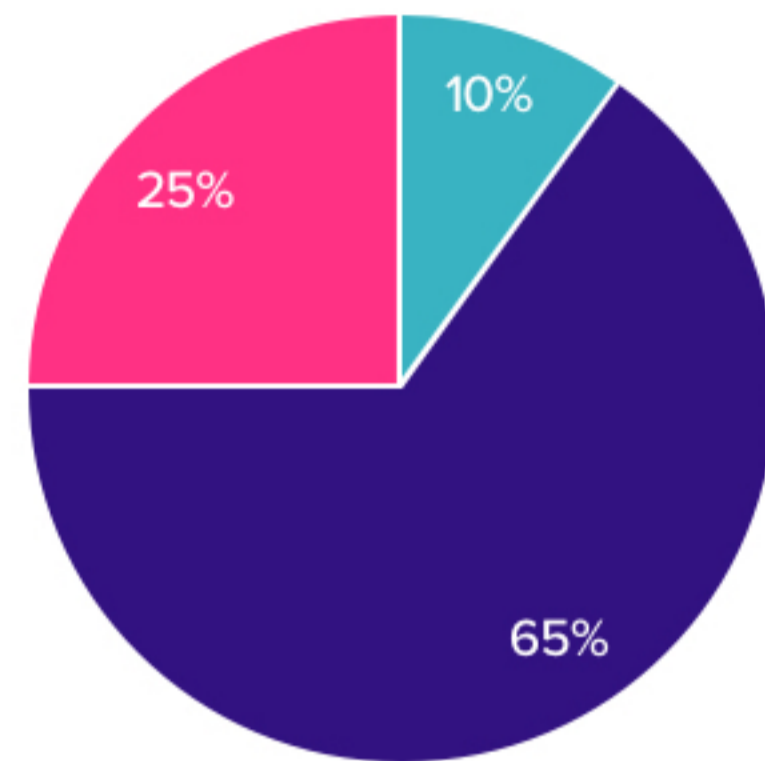
- ■ Less resources for maintenance
- ■ Increase in ROI due energy management
- ■ Making workplace better

Our survey tells us that CREs are looking at a wholesale move to energy-efficient buildings. They are willing to allot a whopping 65% of their OpEx towards energy enhancements. Piecemeal tools that offer building or system-level energy solutions have lost sheen, as they've been ineffective in meeting the sustainability goals of an enterprise. A single point of data control engages stakeholders with portfolio-wide utility comparison and helps identify inefficiencies.

As it happens, CRE owners are more keen to take control of centralized decisions with data-enabled predictive analytics.

The Year of Climate Change. Why Now?

- Buildings account for 70% of the world's electricity consumption and direct visibility into real-time consumption provides perspective

- CREs are looking to partner with tech-enabled ESCos and energy experts to administer a systematic and controlled energy spend

- ESCos and energy experts to administer a systematic and controlled energy spend. Stringent regulatory compliances and mandates from governments world-wide are putting CREs in a tight spot to utilise technology to not only reduce costs but also create environmentally responsible buildings.

Energy managers expect digital-forward solutions that help them drive and evaluate multiple ECM projects together while constantly gauging their effectiveness. For that to happen, you need to be in possession of a unified solution that not only tracks and analyses consumption and asset performance trends, but holistically identifies and resolves anomalies and inefficiencies across the building and portfolio. Only then you can compare your sites against similar property types or global standards, within different reference systems. In this regard, CREs are increasingly focusing on implementing a central NOC centre or what's commonly called a central command and control centre to manage day to day operations and maintenance of large portfolios.

D. Rise in perceived property value

CRE players believe the obvious outcome out of solidifying the operational foundations at an enterprise level is a better-perceived value of their property. This seems to swing around premium occupant experiences leading to high occupancy rates in a property.
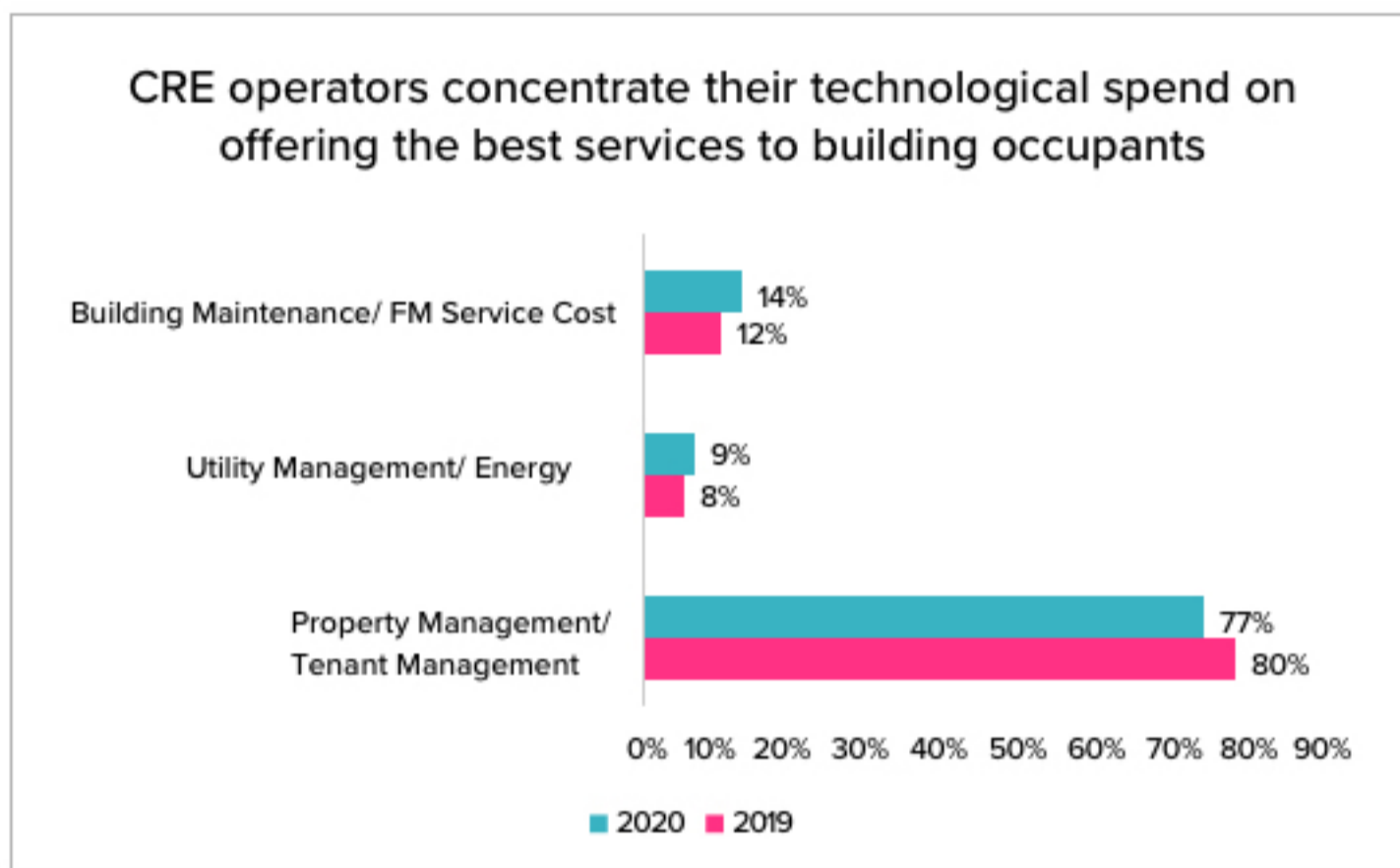As a matter of fact, operators are taking utmost care in ensuring that their facilities serve them with optimum comfort, operating efficiency, and safety at all times. They find all their qualms put to rest by software platforms that collate operational data in real-time to deliver high-quality occupant experiences.

The millennial consumers who are indulged by personalization in everyday life enter CRE spaces with a similar expectation. What impresses them more is when a building exhibits a reflex reaction towards the resolution of any disruption that may arise. And that, as our survey respondents unanimously believe, is achieved by an advanced single portfolio view(integrated centralized platform). Essentially, having visibility to operational data adds to smoother property condition assessments and guideline adherence, translating to competitive advantage and desirable properties.

> **With the multi-layered complexity defining modern buildings, what it needs to become fully smart is not a dense computerized toolkit but an enterprise-grade platform that tightly integrates the suite of O&M utilities. That's the formula for an enterprise to climb the "Futureproof scale" while bridging the gap between customer experience and expectations.**

TOP DATA PRIORITIES OF CREs, CORPORATES, AND FM SERVICES

A. CREs shout out for Uptime & Occupant Experience

CRE operators concentrate their technological spend on offering the best services to building occupants

	2020	2019
Building Maintenance/ FM Service Cost	14%	12%
Utility Management/ Energy	9%	8%
Property Management/ Tenant Management	77%	80%

As personalization enters nook and cranny of customer's space, real estate is fast catching up and there's a concerted effort in humanizing buildings to impart 'Customer experience'. When we asked CRE developers to point out where they drove their money, 77% of them called out experiential spaces led by impressive uptime in facilities.

This finding illustrates that tenants are playing a decisive role in the business growth of clients. And real estate owners have a first-time opportunity to connect with tenants, engage with them and respond to their needs in real-time. A centralized platform that all building stakeholders have access to lends an unprecedented understanding of how tenants are using the building, what services shine and underperform, what investments are good and bad, that can drive informed decisions on the part of the owner.

As we discovered in our survey, there will be a rise in the deployment of AI, ML, and IoT to this effect. They are expected to leverage their distributed data pools to be fed into a singular connected data platform that enables seamless automation and control of assets across the portfolio. Of particular interest to CRE owners are not just data aggregating platforms, but those that run cutting-edge predictive analytics and foretell inefficiencies.

An integrated portfolio-wide network encompasses HVAC systems, smart lighting, CCTV cameras, automated doors, and many more occupant-serving systems. This looks like a hot favourite in the current stage. Not surprising, given the enormous potential it holds in delivering enterprise-wide harmony in building operations- the ultimate customer delight.

B. Corporates are heavily focussed on Energy ROI

Facility Managers are leveraging Energy-as-a-Service, sensor-based energy monitoring, predictive maintenance of equipment, greenhouse compliances, and other solutions to focus on energy management
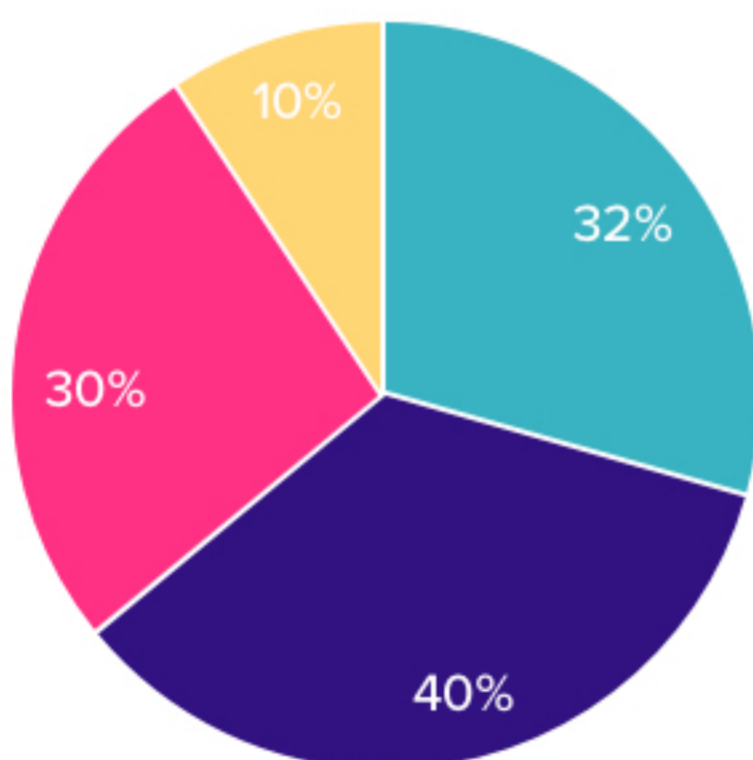
What's driving technology investment?
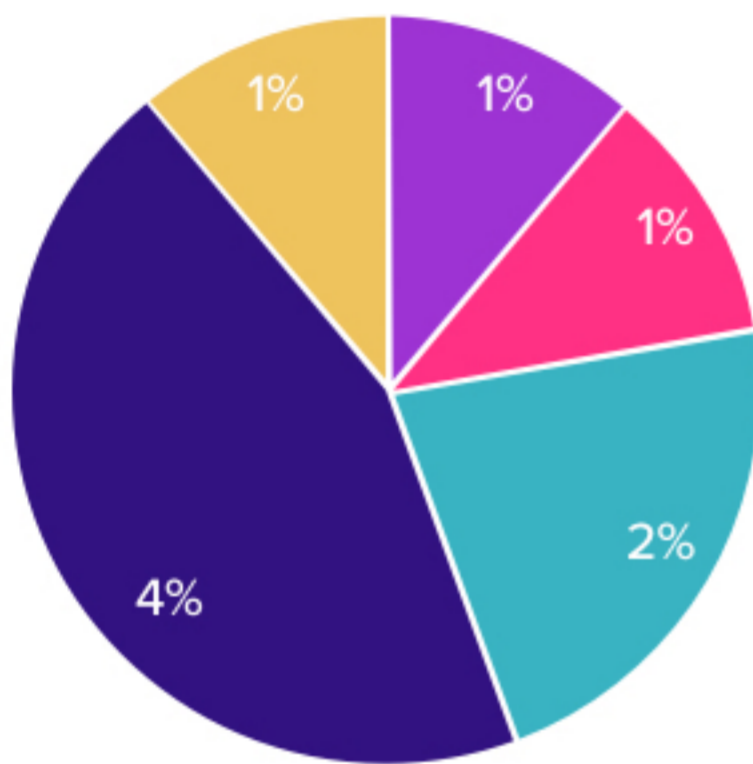
- ■ Workplace — 1%
- ■ Facility Maintenance and Operations — 1%
- ■ Asset Maintenance — 2%
- ■ Energy Management — 4%
- ■ Occupant Comfort — 1%

(Avg. Technical spend - 9%)

Energy management crucial for sustained performance

- ■ Building Maintenance/ FM Service Contracts — 32%
- ■ Utility Management/ Energy Spend — 40%
- ■ Asset value (Equipment Lifetime and Maintenance) — 30%
- ■ Space Management — 10%

It's for real that an alarming carbon footprint in the world is tightening the noose around sustainability compliances. Incentivizing sustainability initiatives is a great move that's driving corporates to be innovative in reducing carbon emissions by connecting with CSR. So when we asked operators how they greenified their buildings, a majority upvoted efficient utility management solutions.

According to our survey respondents, around 65% of their decision-making is around energy management and reduced electricity consumption by optimizing cooling and chiller systems. Industry trends suggest that this has outgrown the scope of HVAC to now include even lighting and other energy-consuming assets. Energy-conscious corporates bank on their building management solution to throw light on energy usage trends across buildings on a comparable basis.
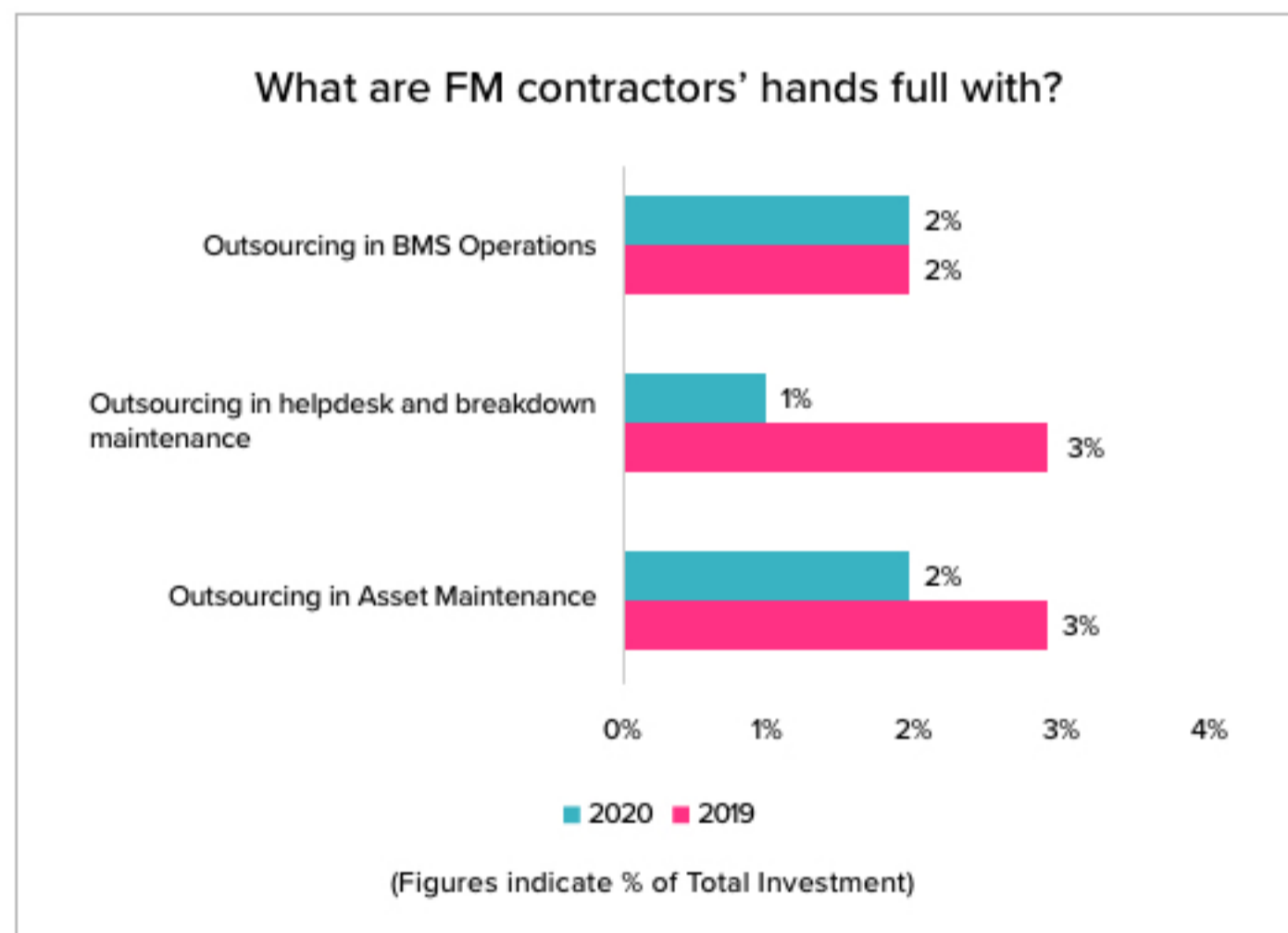
They attach equal importance to be able to continuously monitor and compare assets. And what could enable this better than an intelligent platform that not only links to the entirety of energy assets but also houses analytics to act on real-time data? Such a platform identifies faults of energy assets and immediately translates them to actionable insights.

The building world is slowly getting the picture that sustainability should be practiced as a convention in the enterprise. And for that to happen, uninterrupted tracking and instant rectification of performance drifts are primal.

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With so much talk on energy, how can we let retrofits stay away? It will be interesting to see the downstream effects when retrofits pull off well even beyond the contract period, thanks to a centralized data engine. This setup holds the capability to empower stakeholders to fine-tune monitoring based on their requirements.

To sum it up, the energy behaviour of a building is no longer limited to the cumulative sturdiness of the asset. It will be honed by transparent communication between various stakeholders towards constantly optimizing operations. Round-the-clock! And our survey data backs that up.

They demand flexibility to run complex operations friction-free. We believe a central mobile application that democratizes access to enterprise O&M is crucial in achieving this.
It will disburse contextual information to the stakeholders, ruling out the need for on-field presence for every nitty-gritty of an issue. In addition, it will drive agility and better SLAs by automating work orders. Overall, centralization will bring out the best in the workforce.

C. FM services root for labour performance & hard services

What are FM contractors' hands full with?


(Figures indicate % of Total Investment)

As you can see, there's a steady trend in owners outsourcing different aspects of facilities management. So our survey respondents reported spending 60% chunk of their spends on labour. The obvious reason is the elevation of workforce productivity. They are increasingly on the lookout for tools they can use to synchronize inter-building operations to this effect. Case in point: FM service providers direct a sizeable 17% of their technology budget towards minimizing resources for maintenance.

Labour and maintenance remain primary cost areas for FM services

- Labor
- Planned and Unplanned Maintenance
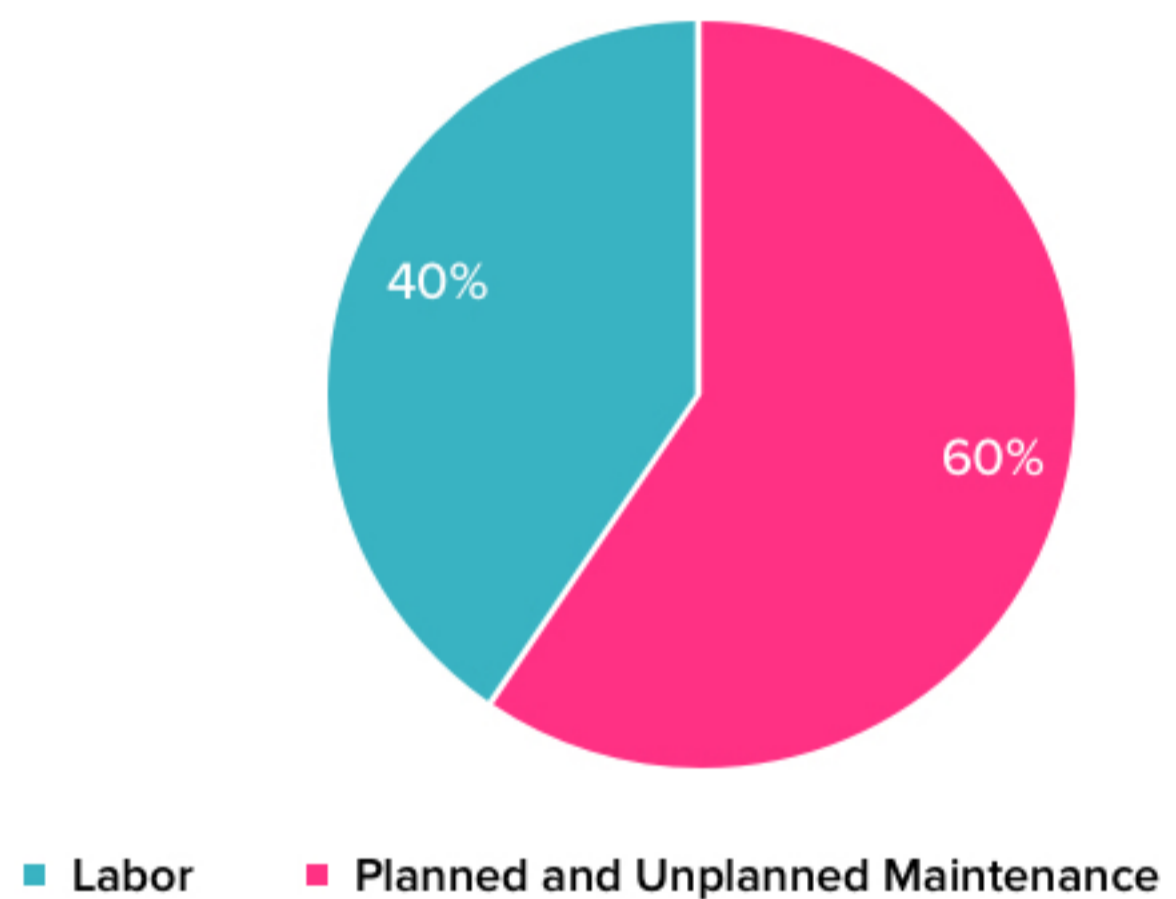
FM services focus on reducing labor-intensive workload and rely on technologies for better ROI

- Maintenance (Hard Services)
- Soft Services
- Intergrated Services
- Asset Management
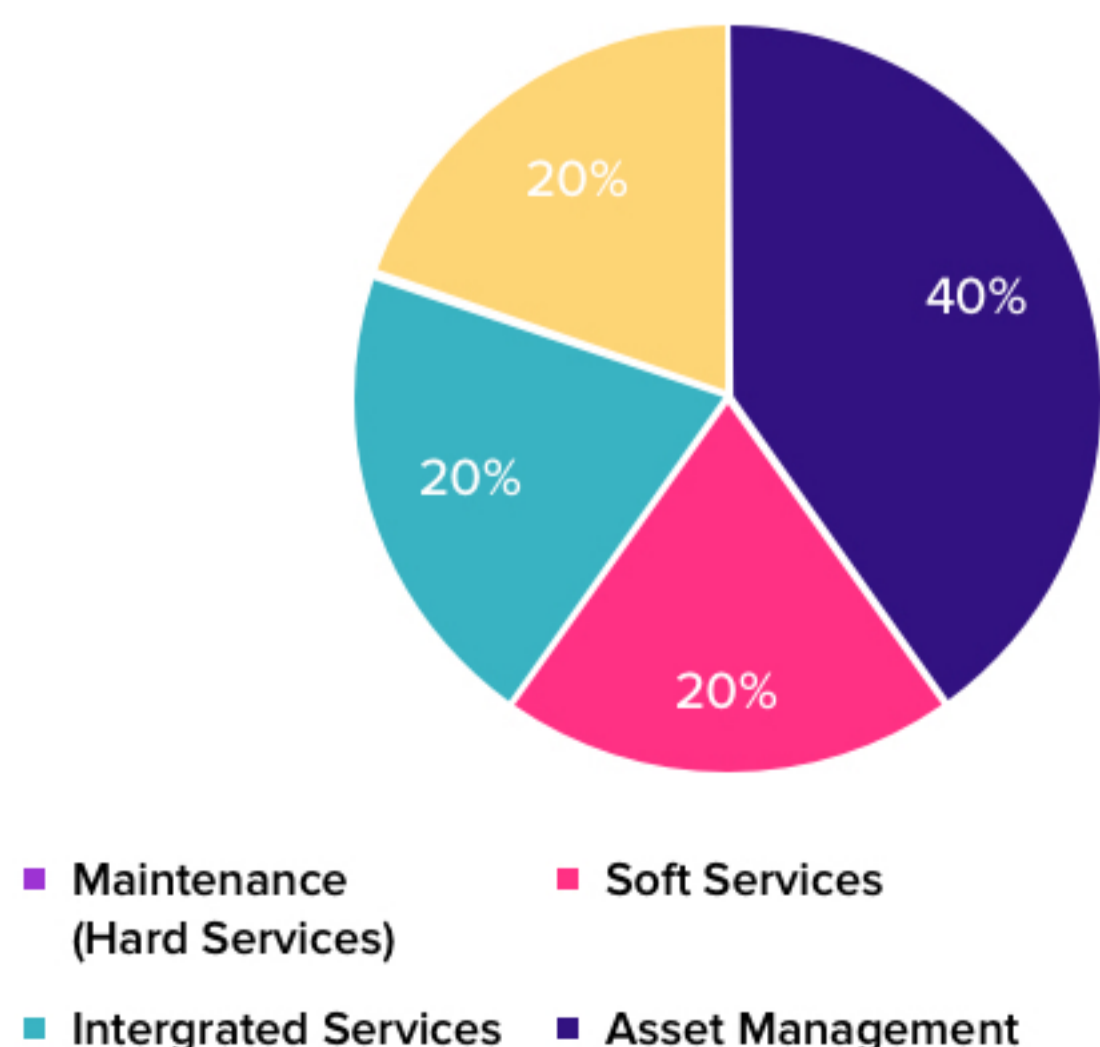
And while labour performance takes top honours in the expenditure category, asset management scores the highest in the category of technology spend share. The building world is moving away from surprise asset breakdowns the Operators are compelled to splurge on. Point to note: A flexible and organized planned maintenance coupled with predictive maintenance will be the most sought after combo for FM contractors. Well, that's just maintenance. Circling back to assets, a portfolio-wide asset repository will enable asset lifecycle monitoring and streamlines planned maintenance on performing or non-performing assets.

These days, most of the RE operators want to be in-the-know with every significant activity in their building. And that's where cloud-based applications come in handy, (apart from a host of benefits over on-prem they offer!). On any change in building condition, expiry, renewal, or audit, automated notifications reach the operators instantly. What follows is an end-to-end efficient asset lifecycle enhancement across geographically distributed CREs in one place.

● ● ●

OPERATIONAL EFFICIENCY SOARS WITH DATA

A. Sustainability propelled by smart buildings

In an ocean of assets in a multi-site portfolio, focussed monitoring of energy-guzzling equipment in real-time is a herculean task. Data simplifies this. CRE players use data to check if energy standards are met and establish a baseline to understand energy expenditure costs. Analytics in energy lends insights on energy saving for large energy-consuming systems, identify peak demands and explore alternative energy sources. By estimating future energy usage with predictive analytics, it's becoming possible to set the context for upcoming actions and decisions.

Emerging enterprise platforms are making it easy to hand-pick high-performing facilities for replicable practices and prioritize low-performing ones for immediate improvement. With integral maintenance workflows and predictive-AI, these solutions help you embed sustainability as an everyday habit. In an automated world, an energy anomaly is pre-detected and a resolution workflow is initiated or setpoint change is automatically performed. This is ably supported by cohesion between (the specialized yet)distributed building operations. As a result, asset lifespan expands seamlessly and sustainability can be enforced on a continuous basis. This is proving very lucrative to corporates as it offers a quick route to green building certifications and lets you garner quick RoI on your energy conservation practices.

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B. How can you up your CX quotient?

It's no secret that Customer Experience(CX) is the key to surviving in the property landscape. Now property owners are vying to grab sophisticated apps that offer occupants personal comfort control and active engagement with the space they utilize.

Safety compliances and a productive environment with automated building systems-HVAC systems, lighting, security systems, fire alarms- are fundamental. A combination of AI and IoT is driving opportunities for CRE owners to amplify CX by improving asset efficiencies and discovering ways to keep indoor spaces relevant to millennials.

CX value goes up several notches thanks to enterprise adoption of O&M platforms that enable property management and FM teams to be in sync. The immense value that can be procured by consolidating the management of - maintenance, utility consumption, visitors, vendors, and property- is keeping the building executives excited. They can now take unified control and deliver extraordinary customer experiences across the portfolio by responding to their needs in real-time.

C. How AI and IoT will shape the future of building operations?

To sift through the vast swathes of IoT-acquired data, executives are inclined to embrace solutions with AI-driven analytics. Apart from deriving actionable insights from data, it enables predictive analytics of defects. This difference in handling crisis in its early stage reflects in reduced OpEx. The monetary effect translates to a savings of at least 2-5x by reducing alarm impact hours.

Comprehensive software platforms are extending the AI-footprint by collaborating with maintenance teams. So the AI-findings trigger automated predictive maintenance, that helps optimize asset performance. Taking the penetration of AI a step further is prescriptive analytics. This surpasses the predictive bit by explaining the why behind a situation and also offering data-backed advice on the future course of action.

> By placing data at the helm of operations, CREs can successfully bring downtime to identify and rectify issues to 1/3rd of its current value!

RISE OF CONNECTED BUILDING

Forward-thinking CREs and enterprises are starting to gravitate towards harnessing data anticipating remarkable growth results. True, data is powerful, but in siloes, it's like a genie trapped in the magic lamp. By integrating data across disparate systems and business functions, contextual insights are born. And that's the sort of valuable data CRE operators seek to leverage.

A. Connected operations

What hikes up today's business performance is holistic transparency in operations. Engaging all stakeholders, mobility, and flexibility are being factored in significantly on tech roadmaps. It heralds the arrival of the much-awaited singular-point of visibility and control that the C-suite executives were pursuing the last decade. Flexible and easily manageable cloud solutions are enabling this transition by rendering mobile, intuitive and customizable services.

B. Fulfilling sustainability

Sustainability is no longer a siloed aspect of building management. It's a culmination of real-time energy monitoring, predictive assessment, analyzing dependent variables, triggering the relevant resolution points, and stitching it all together with day-to-day building workflows, seamlessly. In a sense, this retro commissions the building as an ongoing process - a much-needed outcome to fast track your energy strategies.

C. Hassle-free experience

Connected buildings reinforce the focus of business operations on serving customers with optimum comfort. What's news is the engagement is now both ways. The connectivity empowers occupants to personalize their experience and better engage with their workplace. As for the owners, it gives them a never-before-seen depth in understanding customer behaviour and preferences, and they use it recursively to offer even better services.

The rise of connected buildings is disruptive and the businesses acknowledging this, will make the cut to long-term building viability. 'Acquire, connect, and grant enterprise-wide accessibility of data' - That's the 'smart' mantra for business to truly revolve around customers and scale profits.

REPORT METHODOLOGY

Facilio fielded this survey to over 50 CRE players consisting of Real Estate Developers, Corporations with multiple locations, and Facility Management service providers spread across the USA, UAE, and India. This research used a culmination of qualitative and quantitative methods of data collection, and was conducted by online and telephone surveys. The report was formulated by collating data from respondents and triangulating with secondary analysis.