CASCADE
ASSET MANAGEMENT

2021

7th Annual ITAD Benchmarking Report

Managing IT asset retirement during a pandemic

Find additional information at:
www.cascade-assets.com/benchmarking/2021Report

About this report

This report provides information and research on security, environmental, and financial issues related to IT Asset Disposition (ITAD) and the more general IT Asset Management (ITAM) discipline.

The findings presented in this report were derived from the following set of research and analysis.

SURVEY RESULTS
Cascade's annual benchmarking survey polled seventy U.S. enterprises and organizations collectively representing over 270,000 employees from 16 different industry segments.

PROCESSING DATA
More than 560,000 assets processed by Cascade for IT asset disposition in 2019 and 2020 were evaluated and analyzed for disposition trends
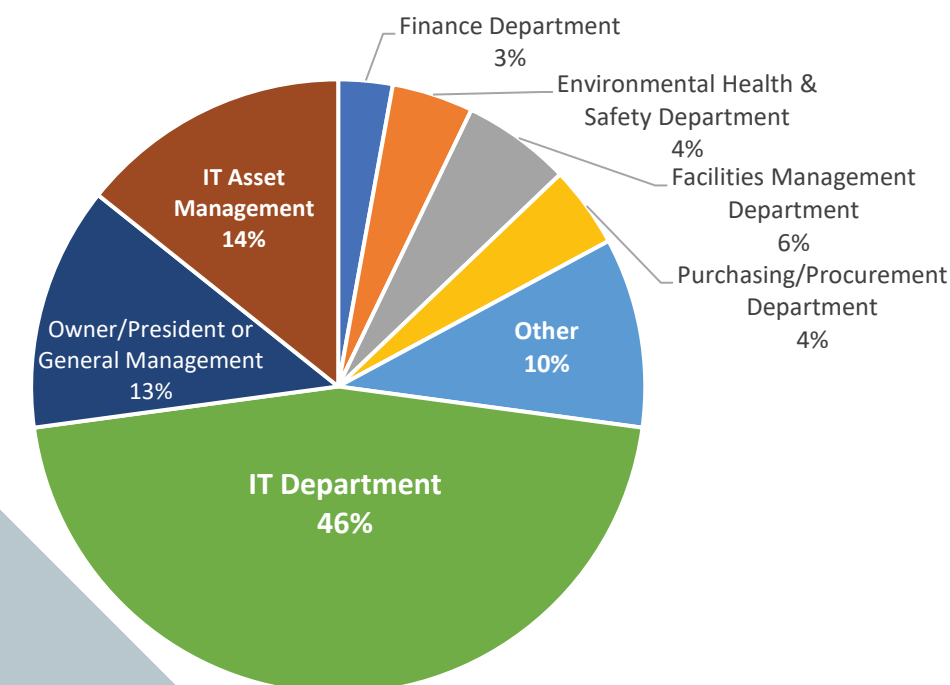
MARKET RESEARCH & INSIGHT
An analysis of key topics impacting ITAD decisions is presented throughout the report.

As a benchmarking tool, we encourage you to use the information to help understand how your ITAM/ITAD program compares to others and how you can further improve your systems to better attain your desired outcomes.
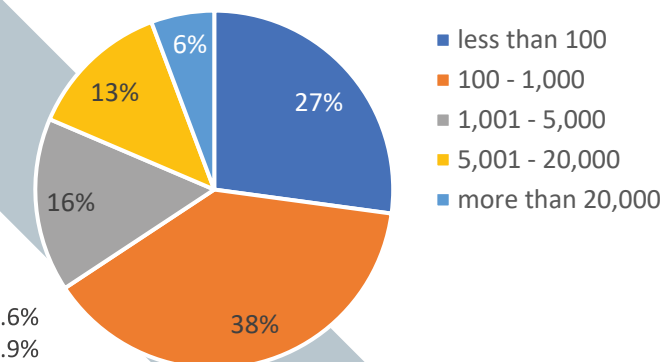
Cascade can also use this body of knowledge to compare your organization's IT asset disposition activity against this benchmark and the leaders in the industry to identify areas of growth and strategic development. Contact us for more information and an individual consultation.

Survey demographics

What best describes your department/role in your organization?

Pie chart:
- Finance Department 3%
- Environmental Health & Safety Department 4%
- Facilities Management Department 6%
- Purchasing/Procurement Department 4%
- Other 10%
- IT Department 46%
- Owner/President or General Management 13%
- IT Asset Management 14%

How many employees are at your company/organization?

Pie chart:
- 27%
- 38%
- 16%
- 13%
- 6%

Legend:
- less than 100
- 100 - 1,000
- 1,001 - 5,000
- 5,001 - 20,000
- more than 20,000

Industry Participation in Survey

Industry	%
Healthcare	18.6%
Manufacturing	12.9%
Government/Municipal	11.4%
Financial or Banking	8.6%
Retail	8.6%
Insurance	5.7%
IT Services/Software	5.7%
Professional Services	5.7%
Education	4.3%
Communications	4.3%
Distribution	4.3%
Non-profit	2.9%
Marketing/Advertising	2.9%
Value Added Reseller (VAR)	1.4%
Agriculture	1.4%
Research/Science	1.4%

Results from this survey are presented on pages 2 - 6.

IT Hardware trends

How much do you expect to spend on IT hardware?

Spend MORE — 22.95%

About the SAME — 34.43%

Spend LESS — 24.59%

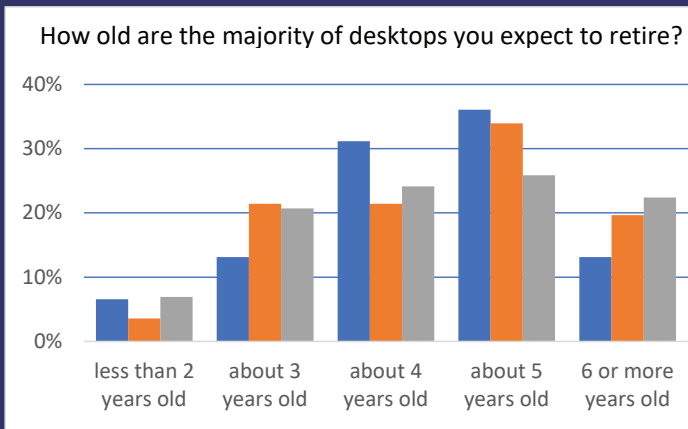Unsure — 18.03%

(Area chart, 2015–2021, 0.00%–100.00%)
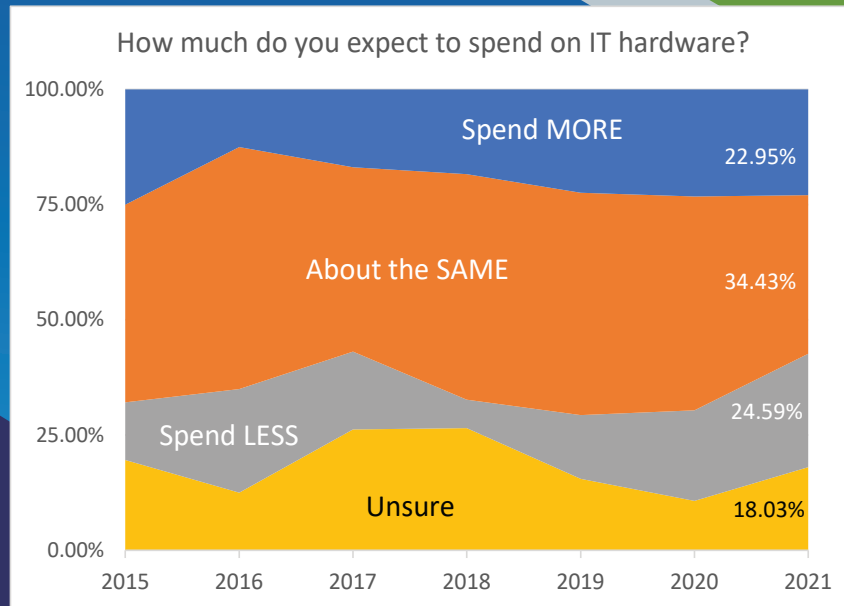
Most organizations plan to spend about the same on new IT hardware each year. Forecasts for spending in 2021 are influenced by the pandemic of 2020. IT spending for remote work was quite strong in many sectors in 2020. In reaction to this, a higher percentage of respondents indicated they would spend less on IT assets in 2021 (24.6%) compared to 2020 (16.6%). Meanwhile, expectations for increased or maintained IT hardware spending declined from nearly 70% in 2020 to 57% in 2021. Also, there was increased uncertainty (18.0%) in future IT investments indicated in the responses.
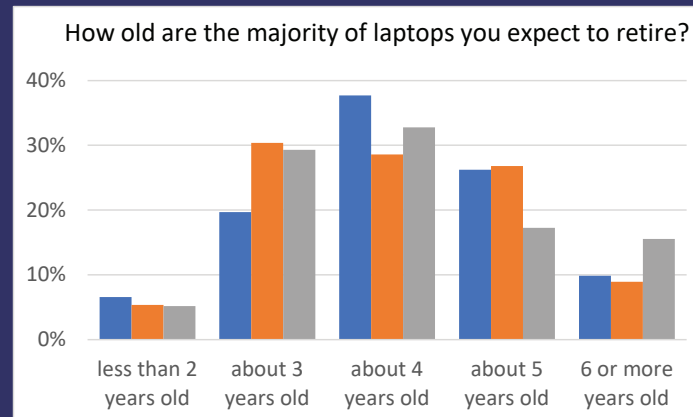
Market research firm IDC reported in 2020 that public cloud spending passed traditional IT infrastructure investments for the first time as of the second quarter of 2020. That being said, our survey continues to indicate that a majority of represented businesses of all sizes still maintain their own data centers, but they are increasingly moving to the cloud.

Data center operations

What types of date center operations do you use?
(may choose more than one)

3rd party cloud services
44.3%

internally owned & managed data center
70.5%

operate data center in co-located facility
34.4%

If you own and manage a data center, do you expect it to expand or shrink over the next five years?

Expand
16.4%

Shrink
26.2%

Stay about the same
18.0%

unsure or not applicable: 39.3%

From an asset disposition standpoint, this creates challenges in managing the retirement of a wide array of products, whether stored on premises or at 3rd party co-located facilities. A robust asset management program tracks and governs devices and data warehoused in all locations.

How old are the majority of desktops you expect to retire?

(Bar chart by age group: less than 2 years old, about 3 years old, about 4 years old, about 5 years old, 6 or more years old — 2021, 2020, 2019)

Going into 2021, organizations plan to remain fairly consistent with their device refreshes. Respondents expect that 64% of their laptops (same as the previous year) and 51% of their desktop PCs (up from 46% last year) will be 4 years old or less when they are retired from use. While 2020 disrupted many organizations' asset disposition activity, it appears they plan to get back on track with normal retirement programs in 2021.

How old are the majority of laptops you expect to retire?

(Bar chart by age group: less than 2 years old, about 3 years old, about 4 years old, about 5 years old, 6 or more years old — 2021, 2020, 2019)

■ 2021 ■ 2020 ■ 2019

Smartphone retirement in 2021: For those organizations that own and manage smartphones, 41% expect their retired phones to be 1-2 years old; 29% are retiring 3 year old phones and 21% have phones that are 5 years or older.

Do you maintain a Mobile Device Management (MDM) solution for your phones/tablets?

(Pie chart)
- unsure 10%
- Yes - for all mobile devices 39%
- Yes - for some mobile devices 21%
- No - not at all 30%
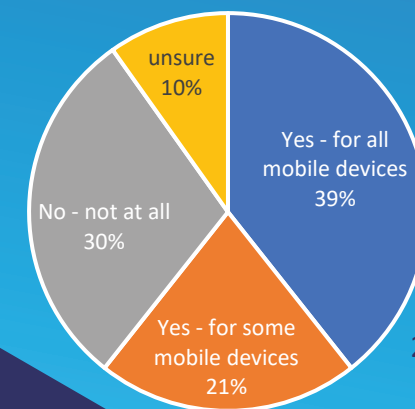
Our survey again indicates organizations are still evolving in their programs to secure and control data on mobile devices and SSDs, which are becoming the predominant storage media at the end user computing level.

Do you have an internal process in place to destroy data on mobile devices (phones)?
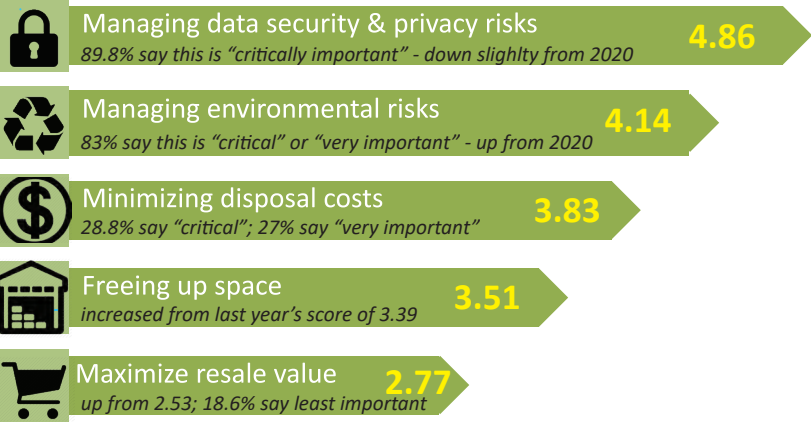
2019 — Yes, 60.8% | No, 39.2%

2020 — Yes, 44.1% | No, 55.9%

(0% – 50% – 100%)
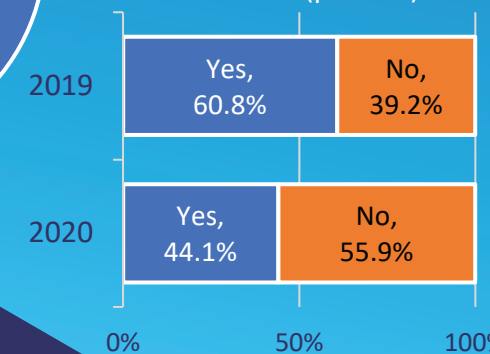
Do you have an internal process in place to clear data on Solid State Drives prior to disposal?

2019 — Yes, 51.0% | No, 49.0%

2020 — Yes, 30.5% | No, 69.5%

(0% – 50% – 100%)
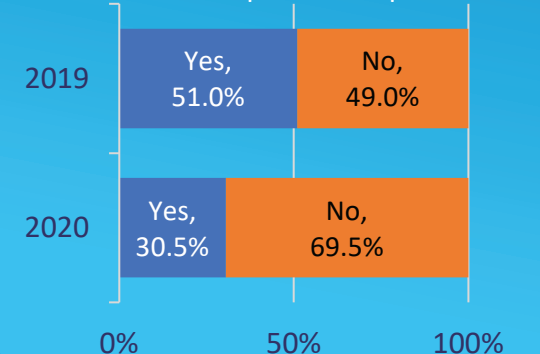
How important are the following criteria when disposing of your IT assets?

rated on a scale of "1 to 5" with 5 being "critically important" and 1 being "least important"

Managing data security & privacy risks
89.8% say this is "critically important" – down slighlty from 2020 — **4.86**

Managing environmental risks
83% say this is "critical" or "very important" – up from 2020 — **4.14**

Minimizing disposal costs
28.8% say "critical"; 27% say "very important" — **3.83**

Freeing up space
increased from last year's score of 3.39 — **3.51**

Maximize resale value
up from 2.53; 18.6% say least important — **2.77**

Security continues to top the list as the most important consideration when disposing of IT assets. The order of criteria has remained unchanged in the 7 years of the survey.

Only "minimizing disposal costs" decreased in importance this year compared to the previous year's survey. It still comes up as the third most important criteria.

Even though retired IT assets generate significant resale value, this is seen as the least important factor when making disposition decisions. Still, this criteria grew more than any other category this past year - by 9.5%.

What stage of the "ITAM/ITAD Process Maturity Model" would you place your organization in?
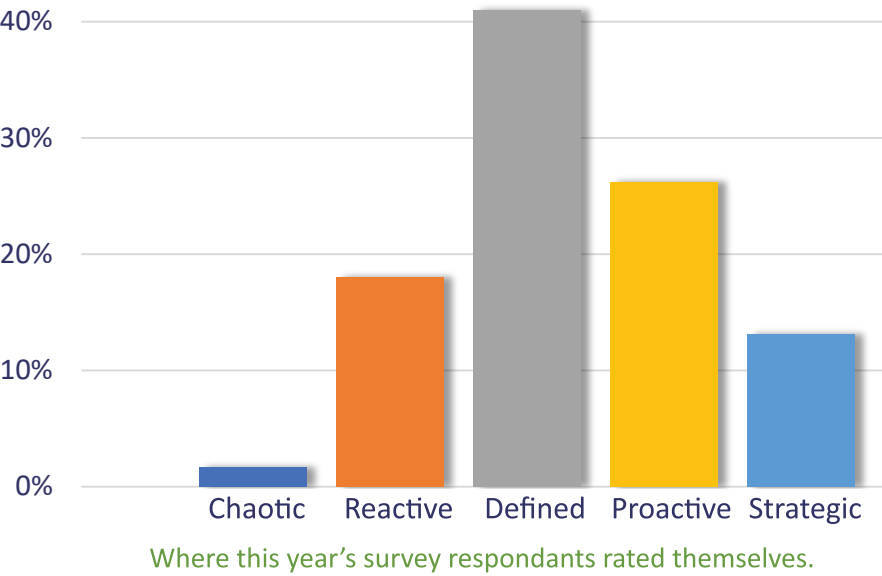
Chaotic: No control over IT assets; no policies, procedures or tools; isolated decision-making.

Reactive: Little control over assets; limited policies and programs; disparate lists of assets managed independently.

Defined: ITAM policies, procedures, and repository in place; data gathered centrally, but not validated; minimal use of data in decision making.

Proactive: Control of assets; policies, procedures, and repository in place; comprehensive, reliable, and accurate data; assurance controls work.

Strategic: Dully integrated solution with continual business process improvements in place; ITAM is a strategic element that adds value to the organization.

Chaotic | Reactive | Defined | Proactive | Strategic

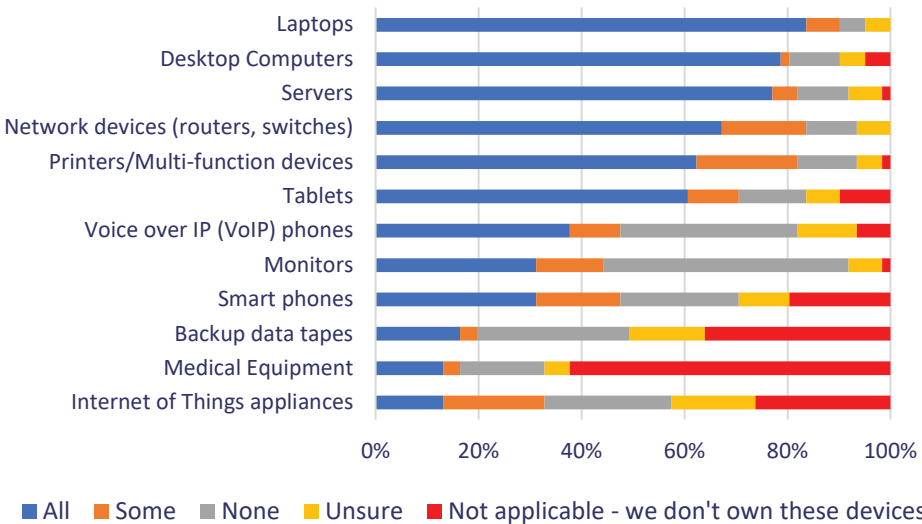*Where this year's survey respondants rated themselves.*

What do you see as some of the most important issues facing your organization in regards to IT asset disposition in 2021?

Responses from survey participants to this question reflected new concerns surrounding the pandemic as well as ongoing concerns with security, cost, and compliance. The word cloud to the right highlights the most frequent responses from people to this question.

What types of assets do you track internally?

Laptops
Desktop Computers
Servers
Network devices (routers, switches)
Printers/Multi-function devices
Tablets
Voice over IP (VoIP) phones
Monitors
Smart phones
Backup data tapes
Medical Equipment
Internet of Things appliances

0% 20% 40% 60% 80% 100%

■ All ■ Some ■ None ■ Unsure ■ Not applicable - we don't own these devices

What methods do you use (internally) to control and destroy data on hard drives?

encrypt drives 32.20%
wipe using free software 25.42%
format the drives 23.73%
3-pass DoD software wipe . . . 13.56%
degauss the drives 8.47%
hit the drive with a hammer . . 8.47%
wipe drives in tool 6.78%
punch through the drive 5.08%
drill through the drive 5.08%
shred the drive 5.08%
Computrace 1.69%
We don't destroy or control data internally - we rely on a 3rd party 54.24%

Tracking assets to their final disposition is the best liability protection for an organization. If you need to prove a device, and the data stored on it, was properly managed throughout its lifecycle, detailed asset tracking is essential.

When an ITAD company loses your data - the Morgan Stanley data breach

What if you hand over your computer equipment and data to a third party that doesn't follow through on its commitments to properly destroy your data?

That's exactly what happened to Morgan Stanley. In July 2020, it reported multiple data breach incidents related to devices sent to an undisclosed IT Asset Disposition vendor between 2016 to 2019. Data remained on the devices after leaving the ITAD vendor and it was unable to account for some servers that were retired from branch offices.

Morgan Stanley responded by notifying affected individuals and offering credit monitoring services. Still, the company faces at least seven class action lawsuits and millions of dollars in penalties related to their alleged lapse in data security protocols.

How can you help prevent this from happening to you? Follow these three best practices: (1) track all your assets until you have proof data is destroyed on these assets; (2) maintain solid contracts and service agreements with processors; and (3) audit vendors regularly to ensure they maintain their commitments to you.
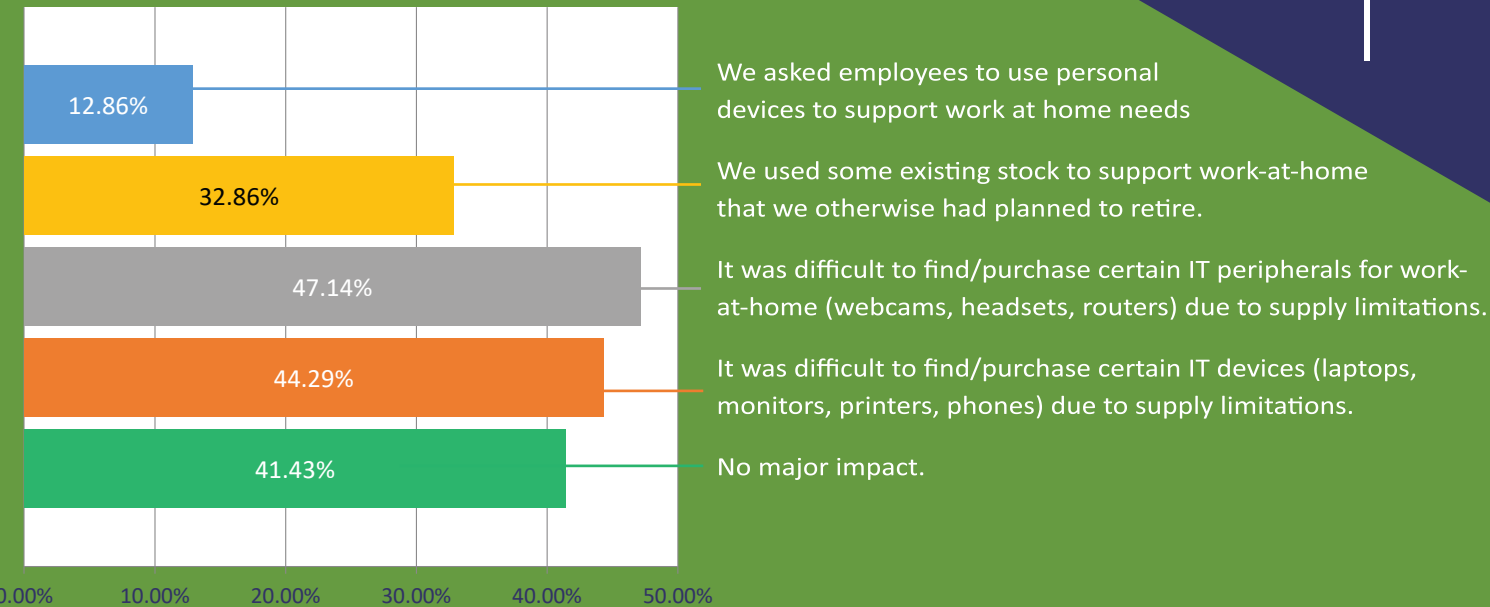
Adjusting to COVID-19

Because of the profound impact of COVID-19 on work and the economy, we included questions related to the pandemic in this year's survey.

We found changes in IT hardware procurement and disposition in 2020 were largely influenced by supply chain disruptions interrupting normal IT purchase schedules, a migration of office staff to work-at-home, and an uncertainty in the future of the economy delaying major refresh decisions temporarily.

How did the pandemic impact your IT equipment procurement and deployment processes?

12.86%	We asked employees to use personal devices to support work at home needs
32.86%	We used some existing stock to support work-at-home that we otherwise had planned to retire.
47.14%	It was difficult to find/purchase certain IT peripherals for work-at-home (webcams, headsets, routers) due to supply limitations.
44.29%	It was difficult to find/purchase certain IT devices (laptops, monitors, printers, phones) due to supply limitations.
41.43%	No major impact.

0.00%   10.00%   20.00%   30.00%   40.00%   50.00%

What percentage of your organization's workforce work-at-home a majority of time . . .

before the pandemic   **during the pandemic**   **after the pandemic**

16.9%   **45.2%**   **23.8%**

The survey indicated nearly three times as many people were working from home during the pandemic and about 50% more will continue to work from home when the pandemic subsides. Some companies switched to a nearly 100% virtual workforce.
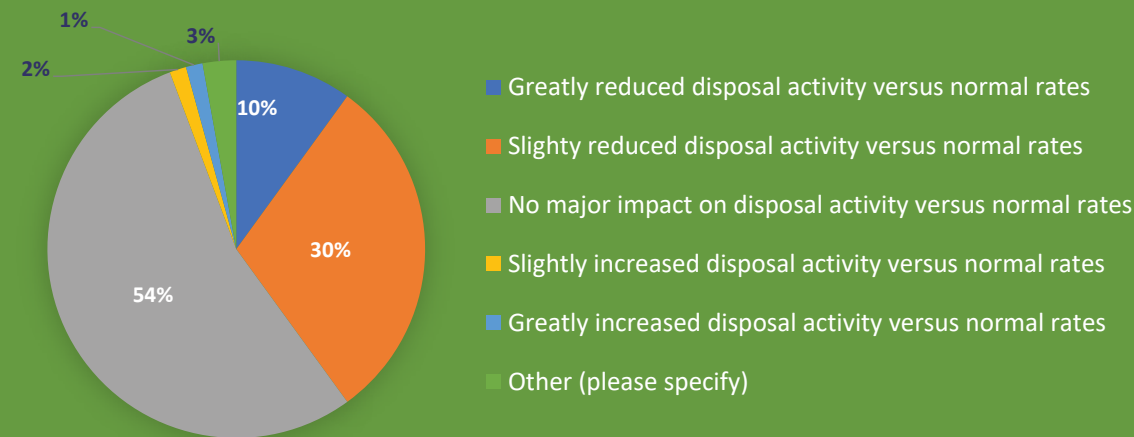
ITAD DURING A PANDEMIC

Like many other ITAD companies, Cascade continued to operate and provide essential asset disposition services to other organizations throughout 2020. In addition, ITAD companies across America provided high demand refurbished equipment to support work-at-home users and remote education needs.

We asked organizations how their IT asset retirement was impacted by COVID-19.

How did the pandemic impact your IT asset disposition/retirement activity in 2020?

Legend:
- Greatly reduced disposal activity versus normal rates
- Slightly reduced disposal activity versus normal rates
- No major impact on disposal activity versus normal rates
- Slightly increased disposal activity versus normal rates
- Greatly increased disposal activity versus normal rates
- Other (please specify)

1% 3% 2% 10% 30% 54%

The majority of respondents indicated the pandemic did not impact their ITAD activities in 2020.

Forty percent of survey respondents saw some type of decline in their IT asset retirement activity due to the pandemic compared to only 3% reporting an increase in dispositions.

These responses are consistent with Cascade's reported 24.1% decline in assets received in 2020 vs. 2019.

How do you expect the pandemic will impact your ITAD decisions in 2021?

Responses to this survey question roughly fell into five categories. Here are some statements that capture the predominant themes.

"Likely will hold onto older equipment longer as more people have multiple devices now."

"I don't see much impact as we haven't had a need to change what and how we procure technology assets."

"We will have to modify how we collect / process equipment."

"Slight increase due to more remote access."

"Hopefully we will get back to normal."

Processing data

Average Resale Values of Retired IT Assets

Legend:
- Desktop Computers
- Network Device
- Smartphones / Tablets
- LCD Monitors
- Laptop Computer

X-axis: 2019-Q1, 2019-Q2, 2019-Q3, 2019-Q4, 2020-Q1, 2020-Q2, 2020-Q3, 2020-Q4

Y-axis: $-, $20.00, $40.00, $60.00, $80.00, $100.00, $120.00, $140.00

Number of devices represented in chart

Laptops - 56,801

Desktops - 81,622

Smartphones & Tablets - 5,381

Network Devices- 5,874

LCD Monitors - 37,788

Cascade refurbishes and resells used computer equipment generated by its clients. The devices are from a wide range of industries and are predominantly 3 to 5 years old. The prices shown in the above graph represent the average cash price paid to Cascade after all shipping, merchant fees and listing fees are deducted from the sale. Cascade shares a percentage of this value with clients.

Laptops	Desktops	Smartphones / Tablets	Networking Devices	LCD Monitors

Laptops

Laptop values increased by 44%, on average, from Q1-2019 to Q4-2020. Rates were up even more in Q3-2020 as demand for portable devices was at its peak.

Desktops

Desktop computer values increased by 65% from Q1-2019 to Q4-2020. Rates rose as higher quality devices with faster processors were retired from use.

Smartphones / Tablets

Smartphones and tablets saw the greatest variablity of resale values due to the wide range of age and condition of devices retired by clients in this "newer" category.

Networking Devices

Network device resale values grew by 9% from the beginning of 2019 to the end of 2020 and server values similarly increased in value by 11%.

LCD Monitors

LCD monitors don't generate much value, topping out an at average resale price of $17.04 per device at the end of 2020. But that's up 44% since the beginning of 2019 due to larger average monitor sizes being retired.

A LOOK INTO THE FUTURE

The rising values for refurbished equipment in 2020 were driven by an insatiable worldwide demand for computing devices to support the dramatic increase in remote work and schooling. In addition, supply chains and original equipment manufacturers found themselves choked by the restrictions of the pandemic limiting the ability to produce and ship new products. As a result, refurbished computing devices became more sought after than ever before.

What many people learned through this crisis is that refurbished computers work well in many applications and they're a great value. Will that be true for years to come?
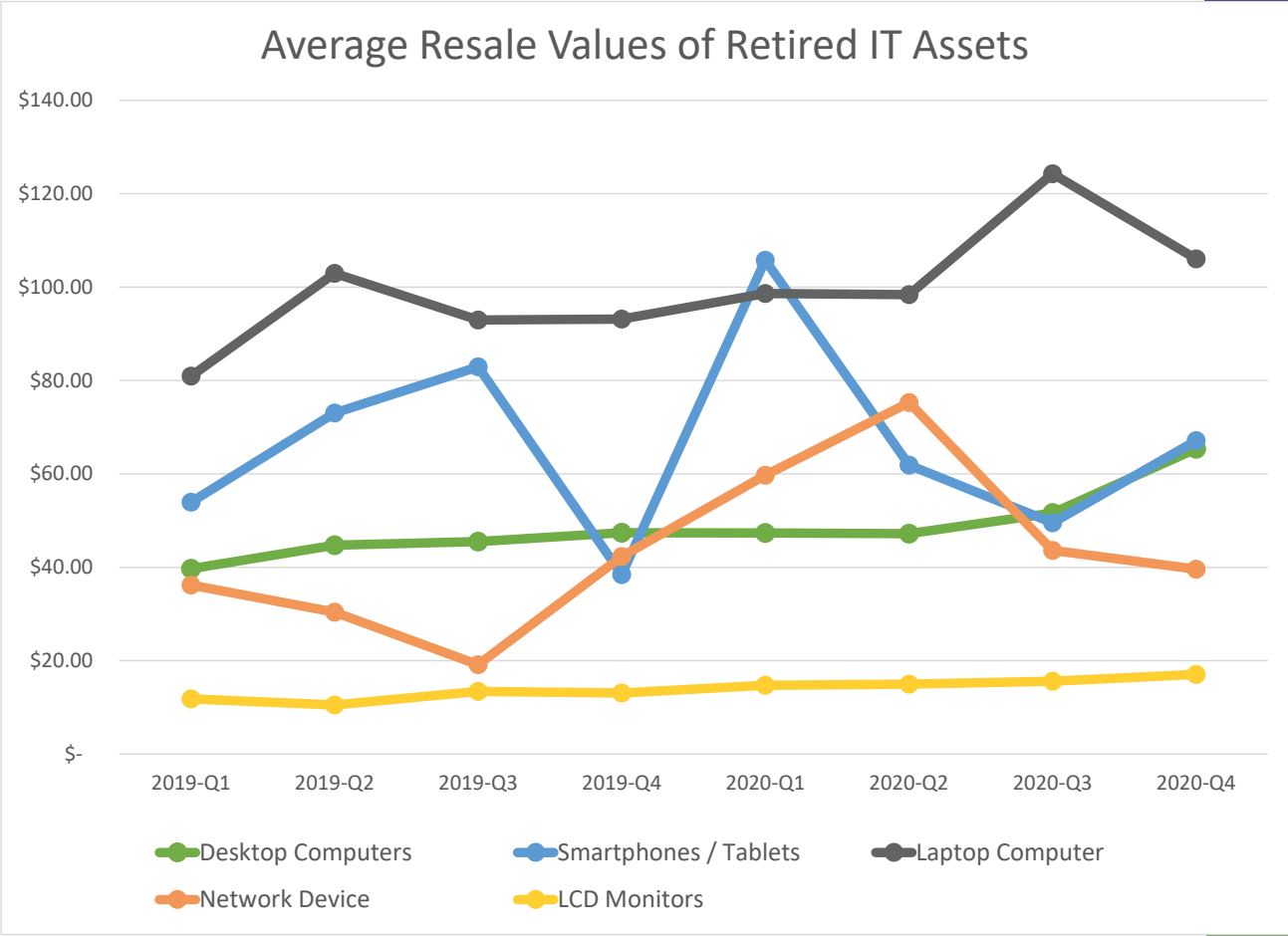
Three key trends in IT asset retirement

Trust in refurbished

More than ever before, organizations repurposed their own devices for work-at-home uses and they were willing to procure refurbished devices to fill short-term needs. The quality, reliability, and value of refurbished equipment is improving and can be seen as a viable replacement to new devices.

Environmental benefits

More companies are reporting environmental impacts of their activities as a part of their Corporate Social Responsibility programs. Look for more programs recognizing carbon trading credits from the refurbishing and recycling of electronics.

Digital Equity

The pandemic revealed the chasm that divides those with access to technology from others left behind. Organizations can help bridge this gap with donations of quality IT devices and more will be expected to do so.

Don't forget about security

While the pandemic has opened organizations' eyes to these three new trends, security and reputation protection are still the primary concerns of most organizations when retiring their IT assets and disposing of their data. All these new programs are dependent on maintaining data security first.

> "Cascade continues to provide us outstanding service and asset management throughout the IT asset lifecycle."

> - Dan G., Manager Global Technologies
> *leading global credit reporting agency*

Partnering to protect security and increase value

Cascade actively collaborates with our customers to ensure their security requirements are met while minimizing the cost of asset disposition. We work in partnership with our clients to maximize resale opportunities (when appropriate) and optimize handling and reporting costs. As a result, we are able to show that a responsible asset disposition program can protect the organization's security and reputation and potentially generate revenue for the company. Through this partnership, Cascade reduced the overall net disposition cost to our customers by over 98% in 2020 compared to 2019.

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6701 Manufacturers Drive
Madison, WI 53704

5215 Decatur Boulevard
Indianapolis, IN 46241