Technology Leadership Forecast | 2022

5 Ways IT Leaders are Elevating their Technology Organizations



Leading the Way

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TO ADVANCE YOUR BUSINESS, YOU MUST BE WILLING TO REINVENT."

MATTHEW MEAD, CTO SPR



Introduction

Matthew Mead СТО SPR

At SPR, we are continually analyzing trends using a variety of methods. We capture what we hear in daily business through customer interviews; gather market data through formal surveys, such as this 400-person survey; and note emerging and newly adopted technologies for their impact and sustainability. Some of the trends are near term, meaning companies can capitalize on them right away. Others aren't as widespread or are still evolving and therefore, can't be monetized just yet.

As you will read in this report, our survey uncovered 5 themes that make up the technology forecast for the near future, the next 12 – 36 months. These themes separate the leading IT organizations from IT organizations that are lagging behind. What's more



exciting, we're seeing these same trends in conversations with our clients. It's encouraging to find that what we're hearing is backed by actual data, and vice versa.

The trends we've uncovered are not about specific technologies, but rather related to higher-level IT trends, leadership trends and market trends. Our five high-level findings include:

- 1. IT in the boardroom. It is clear the role of IT is changing as IT leadership in leading firms are getting a seat in the boardroom.
- 2. The rise of UX and product mindset. While the term UX was coined 23 years ago by Don Norman at Apple, it wasn't until the last 5-8 years that UX and the closely related product mindset have been so engrained in the way that IT leaders organize and



lead their software development efforts.

- 3. Not just a cost center anymore. In leading firms, IT has come a long way from being considered a cost center to being an integral part of the cross-discipline teams that drive innovation and product delivery, and act firm's ultimate as a differentiator.
- 4. Investing in security. As companies are increasingly software driven, security is integral at more levels, meaning the entire IT organization needs to care. In fact, cybersecurity was the top skill required to execute an IT organization's technology strategy, according to the survey.
- 5. Competing for talent. In my 30 years industry, in the there were fluctuations that resulted in higher or lower demand for IT resources -

but what we've seen since late 2020 is unprecedented. The competition is on for top-tier talent, and leading IT organizations are taking measures to attract the best.

These 5 differentiators show the ways IT leadership is addressing changes in today's market. As a companion, here are the top two technology trends we believe will play an important role in the coming months (this is by no means allinclusive, but these *technology* trends make the *leadership* themes possible).

Implementing cloud-native solutions. SPR has helped clients migrate to the cloud - some using a lift and shift method, others thoughtfully rearchitecting solutions to leverage cloud-native infrastructure and features. This move catapulted these



spr

clients ahead, as their previous development budgets can now be spent on software that provides a competitive advantage. In contrast, those organizations that performed a lift and shift may have experienced a small cost savings but are left with a heavy administrative burden that doesn't allow for competitive much differentiation. This shows that leading firms take advantage of the cloud by building cloud-native solutions.

Extracting value from data. With the cloud, storage is cheap, and organizations are amassing data from various sources. Coupled with the data data science services and and frameworks available in the cloud, organizations are seeking to find trends and patterns in their data that can enhance the customer's experience



and/or drive more and new revenue streams. What does this show? Leading organizations are done kicking the tires and are committing to cloud data and cloud data science services and frameworks to uncover trends that enhance their business.

Defining the IT leader

The future of technology requires radical thinking and change. And today's technology leaders are full of ideas and acting on those ideas in revolutionary ways. To gain a full picture of what the future holds for technology, SPR conducted this survey of IT leaders to see what they do differently from their counterparts, to elevate their organizations in 2022. Analyzing the results, we asked, "What do IT leaders do differently than their

counterparts?" To provide an answer, we looked at organizations that rated themselves a 5/5 to the following questions:

- future?
- is in adapting to change?
- to the business?

You'll notice that we refer to "leaders" in the following pages. Based on the answers to these questions above, we define leaders as organizations that



 Thinking about your company, would you characterize your company a leader that is innovating for the

• Currently, how effective do you believe your technology organization is in achieving its goals in 2021? • Currently, how effective do you believe your technology organization • Would you characterize your technology organization as a partner

innovate for the future, are effective at achieving goals, adapt well to change, and consider themselves partners to the business.

In order to advance, you must reinvent. And to do so, you must observe what's going on in the market, reflect on it, and plan to move forward. As you read about the themes in our 2022 Technology Leadership Forecast. consider how you can apply them to your business, to help you strike the balance between the ever-evolving technology landscape and shifting user expectations.

Matthew Mead

Matthew Mead СТО SPR



THEMES

Survey data revealed 5 themes for the next 12-36 months

The Great

for your organization

to get work done

Role of IT: Con

Control Shift	Experience	Dri
Strategic vs. tactical	Anticipating a need	IT al busi
Leading IT organizations have moved into a more decision-making role by	Today, you must make it easier for your customers to do business with you and	Lead orga an in deve

decision-making role by focusing on strategy vs. tactics solely

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In the Revenue iver's Seat

ligned with the iness units

ding IT anizations play ntegral part in developing new products and streams of revenue

Security as an Investment

Elevating security conversations

Security is a top priority in the next 12 months, with leaders focusing on security skills development

Competing for IT Talent

Recruitment and retention for today's workforce

"The Great Resignation" has prompted companies to re-evaluate recruiting strategies



ROLEOFIT: CONTROL SHIFT



ROLE OF IT: CONTROL SHIFT

Leading IT organizations have moved into a more decisionmaking role by focusing on strategy vs. tactics solely

IT leaders are bulldozing their way to the decision-making table thanks in part to a worldwide shift in priorities over the past two years. Spurred out of necessity, perhaps, but nearly all parties agree: Technology leaders are integral to identifying new business opportunities in today's digital-first environment. As Kevin McMahon, SPR's Executive Director of Emerging Technologies, puts it: "Every business is a software company; some businesses just don't realize it yet."

With much of today's business driven by or dependent on - software, C-level executives are turning to those who understand technology. These conversations network beyond go availability, hardware provisioning, and basic help-desk ticket needs. Now,



discussions revolve around the technology strategy as it relates to business goals, finding new products and streams, supporting revenue and business partners.

In SPR's survey of IT executives, we asked what they see as the role of their IT organization. Companies forging ahead identified as leading IT organizations recognize and accept this new trajectory toward strategy. They ranked "identify new business opportunities" as the #1 role of their IT organization, as opposed to lagging companies that ranked it #12. The #1 priority for lagging organizations "technology implementation" was essential, but not always where innovation happens.



This disparity shows a marked difference between organizations that are looking to the future, and those that are treading water. IT leaders know they add more value when they:

- Leverage their business and technology knowledge to identify business opportunities; and
- Do something about it; and
- Communicate the value of these actions to their business leadership peers and the organization.

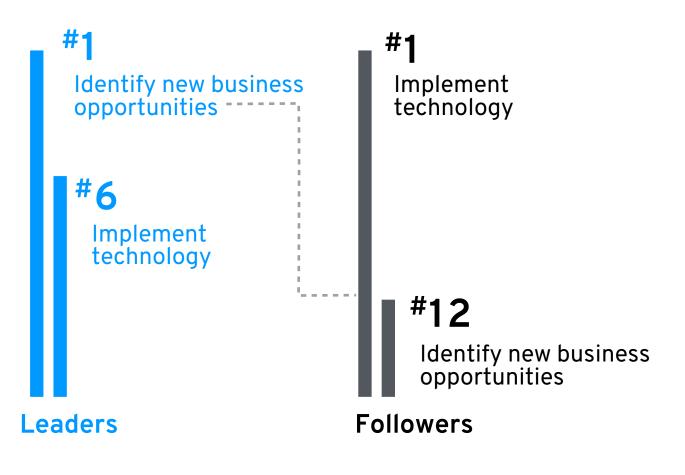
Those companies that can not only up with the demand of keep everyday IT activities, but also help identify prioritize and new

opportunities, will see the role of IT continue to rise in importance and relevance to the company goals, strategy and ultimate success within the organization. Along with that,

> Which role best describes what your technology organization does?



their strong leaders IT will successfully champion the new initiatives presented these by eliminating opportunities, or reducing any blockers along the way.



% of respondents (N=400, L=71, F=329)



Reflect

TAKING A STEP BACK

As recent worldwide events revealed, the future is unpredictable. Some companies saw their entire workforce move completely digital, forcing IT departments to set up systems quickly, plugging holes exposed by the pandemic. Others grew so quickly, they didn't have an IT workforce in place necessary to optimize this growth. Now as the dust settles and we learn to work within this new normal, companies must take the time to evaluate how the past two years have impacted the company's overall goals – as well as their technology infrastructure.





If you feel hamstrung by current conditions, there's nothing wrong with a retrospect to ask, "Where are we?" Now is the time to fix things internally before you move forward. "Take a step back," says Melissa McElroy, Director of Solution Delivery, SPR. "Your observations don't actually become experiences until you take the time to reflect on them. Learning doesn't happen simply because an event occurred you learn from it because you took the time to stop and digest."

With IT inundated with relevant and irrelevant data, it's important to look at the data that's right in front of you. This includes what people are saying in your organization, what's on dashboards or what is causing IT trouble tickets.

"It's between difference the information and knowledge," says McMahon. "We can have information across the organization, but it doesn't become knowledge until we reflect on it." Contextualize what you're seeing and hearing. Test it, validate it - and be deliberate. "Figure out ways to challenge assumptions," says McMahon. "You can have opinions, but don't get stuck with your blinders on."

Based on rigorous reflection, will you pivot because of this knowledge? Consider making the evaluation and reflection process part of how you business. Intentionally conduct pause at the end of each month, or conduct a retrospective at the end of a sprint or project. Lastly, capture your reflections for future reference.



"We can have information across the entire organization, but it doesn't become knowledge until we reflect on it."

Kevin McMahon **Executive Director** SPR



Plan

DEVELOPING YOUR STRATEGY

While in its entirety, a strategy can be complex, it comes down to three things:

- Identifying your goal and key challenges
- Formulating how you will address the risks
- Putting an executable plan in place

"Leaders are now in a position to be more proactive than reactive," says Leon Chism, Senior VP of Technology, Jellyvision. "It allows tech leaders to get that seat at the strategy table. Think about the timeline in terms of the business results and customer impact, as opposed to what tactical things your team is doing."





Free up time for strategy. Leaders recognize that innovation comes when teams have freedom to simply think. Ensure your department is functioning smoothly so you can schedule innovation days, exploratory workshops, or strategy sessions on the calendar.

Assess what you have. Start by understanding your assets and how can you take those to market in a new way. Take stock of your people, processes, tools and data - knowing what you have shines light on potential gaps and where you need to focus in the future.

Note: Building a successful strategy is tied closely to understanding what your customers and users desire. We will dive into this more in Theme 2 of the whitepaper.

How effective do you believe your technology organization is at balancing innovation with "keeping the lights on" (i.e., making sure the business continues to operate)?

Leaders

Followers

% of respondents (N=400, L=71, F=329)



Theme 1 | Role of IT: Control Shift 14

58%

Extremely Effective

37%

Extremely Effective

Align

WORKING TOWARD THE SAME GOAL

Partnering with the business is a key differentiator when it comes to leading IT organizations. By aligning with the business, these IT teams transition from being simply a cost center to being a strategic organization.

"Every business is a technology business, and the way the technology team spends their time is hypercritical," says Chism. "It's not what's on a PowerPoint or the website's mission page. It's what the team is doing daily. And if that's not the same direction as what the CIO thinks is the strategy, you're working against each other."





Chism says technology teams usually through three distinct move alignment phases as they move into their place as a key strategic asset:

- 1. You (the IT organization) are given a list of products to develop, but you have no autonomy to adapt. You are a recipient of the strategic planning process rather participating than in its development.
- changes?



Theme 1 | Role of IT: Control Shift 16

2. You are given the ability to determine how IT can add to the value as defined by the business. You ask questions such as, what are the concerns? What is the value? How do you adapt to those

3. You are driving the strategy. You help business peers think about ways to go to market and

address core strategic concerns using the assets you already have. It is in this third level of alignment maturity where the value comes into play as tech leaders and you fill your role as an executive. Once you have the context of the WHY of the planning process, you can carry this forward to the tech team.

CASE STUDY

The IT organization of an analytics company was in Phase 1 of alignment, confined to order taking without a strong voice at the table. While aligned to the corporate objectives, the team was not in position to make decisions or seize on new opportunities.

The company's product team, however, understood some of the business goals and was further along the alignment maturity in Phase 2. As an agile shop, there was a constant pipeline of information coming in week after week so when the product team got feedback, they could adjust, reprioritize, and rework their plan.

That's when the tech team jumped in with an idea to use machine learning (ML) to analyze data and provide better insight for their customers, faster. The data scientists sat down with some forward-thinking customers to explore how each client could customize data categorization to suit their needs. The IT organization built a handful of analytics tools for their clients and while it was working, it was tough to know if it was reducing churn and improving annual contract value (ACV).



Theme 1 | Role of IT: Control Shift 17

After a complete revamp, the company was able to give customers concrete opinions about the data, telling them outright how to feel about the data, how to use it, and how it should drive business decisions. Over the next year, the company implemented the ML project with 40+ customers. As the customers' spend increased, churn went down – creating a great upsell opportunity. By delivering on this, the analytics company turned their offering from a nice-to-have product to a haveto-have product – and transformed their organization into a mature partner at Phase 3 of alignment.

Communicate

UP AND ACROSS THE ORGANIZATION

То ensure alignment, the strategy conversation must go both ways. "Leaders are there to contribute," Chism says, "but the key aspect is to listen and understand." Both parties – business leaders and technologists – must be involved from the start to elicit productive communication. Technologists bring ideas to the table that may improve business processes; similarly, business users are involved in technology delivery from the start, so when it's implemented, they understand what's coming. This helps improve the adoption process.





"Communication is the biggest key to ensuring everyone is on board and aligned to the initiative," says Mike Saccotelli, SPR Solution Delivery Director. "Show them how their lives will be better. Otherwise, they could become blockers to the progress."

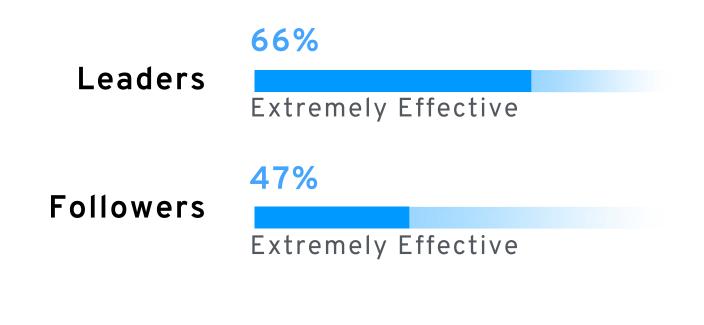
Gain cross-functional buy-in with consistency. Just because different parts of the organization are doing different things, doesn't mean everyone shouldn't move in the same direction. Leaders must disseminate a consistent message by using champions and team leads to share information across all areas of the organization.

it affects job security.



Tailor your message. It's the leader's responsibility to make sure managers have a consistent message; but since you are communicating to all levels of the organization, this consistent message must also be aligned appropriately based on the audience. People won't buy in to something unless you tell how it might impact them. When speaking to the C-level, align it to a goal or objective - for example, the company will gain more customers or earn more revenue. When speaking to users, align to what they are worried about - for example, how easy is it to use or how

How effective do you believe your technology organization is at communicating to senior leadership technology's impact and value?



% of respondents (N=400, L=71, F=329)







DOES BUSINESS ACUMEN HELP TECHNOLOGISTS DELIVER BETTER?

Melissa McElroy **Director, Solution Delivery** SPR

Education builds excitement. Getting people excited about an initiative can lead to positive organic spread of your message throughout the organization. But this doesn't happen without some legwork. As you build momentum, gather a community of champions that will come along for the journey. It all comes back to educating, which can mean different things depending on



Theme 1 | Role of IT: Control Shift 20

the culture of the organization. Where some enterprises may need formal training, other teams want to be part of the requirements gathering phase, or testing. Again, finding the education that works for your culture, paired with an appropriate message, helps keep blockers at bay.



Act

SET YOURSELF UP TO MOVE FORWARD

A strategy on a whiteboard or in a document is valuable; but now it's time to put the reflection, lessons learned, insights, data, and knowledge into motion.

"You must be willing to take what you've learned and make it a **verb**," says McMahon. "Put it to use. The natural outcome on reflecting and learning is better-informed decisions, and those decisions make it easier to take action."





Automate where possible. Many organizations set teams up to act on by automating strategy their everyday responsibilities. Think password resets, workstation requests - the common tasks that must become routine and require little overhead. "There's a minimum technical competency that unlocks your ability to be strategic," says Kinney, Client Solution David Principal, SPR. "If you're drowning in tickets worrying about how to swim the next lap, then strategy isn't on your radar."

Don't forget flexibility. As they move forward implementing a fine-tuned strategy, IT leaders know to keep a pulse on what's going on around them. If the market requires an organization to pivot, there must be a willingness to reprioritize based on new information. Many will say they are flexible - right up until it means adjusting a budget. However, Kinney warns against this: "It doesn't matter what you say you have planned for a whole year. It comes down to this: If there's new information, you must turn it into knowledge and reprioritize."



Theme 1 | Role of IT: Control Shift 22



Considerations

When was the last time you reevaluated your priorities?

- Did the last year push you to adapt strategies and tactics faster than planned? Now is the time to reflect. Identify current projects and determine where you provide value.
- Implement a consistent and intentional review cycle. While not a new tactic, consider implementing a "Start, Stop, Continue" approach to initiatives on a yearly basis. Choose a timeframe (beginning or end of the year are natural times for reflection) to conduct a retrospective. Modify it to evaluate large-scale projects and processes.

How are you exploring new opportunities in technology?

- responsibilities?

Theme 1 | Role of IT: Control Shift 23

• To innovate, you must have everything else functioning smoothly and efficiently. Where could you streamline tactical activities? Can you outsource or automate any day-to-day

• Consider where you can add value in the future. How can you better support other departments both immediately and down the road?

How well are your goals aligned with the goals of the business?

- Define how you will measure your success in technology advancement through appropriate performance metrics. Share this information with leaders so the C-suite is also gauging success on the same measures.
- What exactly are you trying to achieve? Consider the Objective and Key Results (OKR) framework to help you set realistic and achievable goals.



THEGREAT EXPERIENCE



THE GREAT EXPERIENCE

TODAY, YOU MUST MAKE IT EASIER FOR EMPLOYEES **TO FUNCTION AND FOR** YOUR CUSTOMERS TO DO **BUSINESS WITH YOU**

In today's market, user and customer experience make the difference when providing a superior product or service. The more an IT organization can identify, understand, and respond to user needs, the more IT can strengthen the company at its core. IT organizations are providing systems and support necessary to their business's functionality and revenue. Consider these two scenarios, and keep them in mind – we'll refer to them again:

Example 1: Supplier Co.'s business model relies on taking massive amounts of customer orders, albeit, on an outdated system. When the idea came up to explore a new customer-facing ordering platform, no one thought to prioritize what the customer wanted or needed. Long-time employees used anecdotal



Theme 2 | The Great Experience 25

stories and years on the job as proof that they understood the users. When a newcomer suggested reaching out directly to end users, she was met with, "Oh, customers don't know what they need." The ordering platform was never launched and, instead, the outdated system continues to be used.

Example 2: Banking Corp. runs on high performers, employees who want to do great work every day. This type of culture and work environment keeps the bank's IT department on their toes delivering a complicated internal banking system. No matter how fast they work, there's always a demand from the users: "Can you make Banking Corp.'s IT better?" this department is constantly pushed, but they address it head-on - turning the

department's people their into greatest strength. No one in IT is satisfied with "just good enough." They constantly strive to improve to meet their users' demands and expectations.

If you relate to the second example, leading you are among IT organizations that recognize the value of customer and user experience (UX), now more than ever. You are continually asking questions:

- Can the software be faster?
- What's the best way to get feedback on ideas?
- How can we test this and make improvements?
- Are there ways to cut down on clicks, scrolls, hand travel from keyboard to mouse?

Thankfully, the approach used by Supplier Co. is dwindling. In our survey, we looked at the top tech initiatives for IT executives, and user experience and design came in third overall for leading organizations, where it didn't make the top 5 for followers. Leading IT organizations invest in UX and incorporating user research earlier in the software development lifecycle.

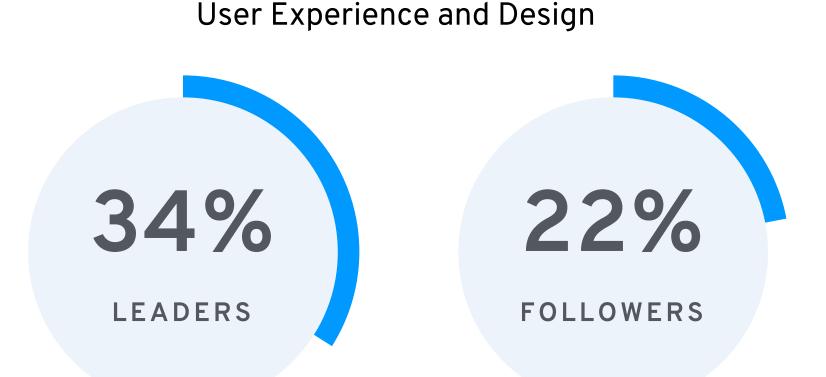
your technology organization

To which initiatives is allocating resources?



Theme 2 | The Great Experience 26

"There's been a profound shift within IT organizations in the past seven years, and really, across businesses as a whole," says Taylor Regan, Director of Experience Strategy and Design, SPR. "The game is played very differently now - everything from the way people approach problem solving and ways of working, to taking new products and services to market."





Human first

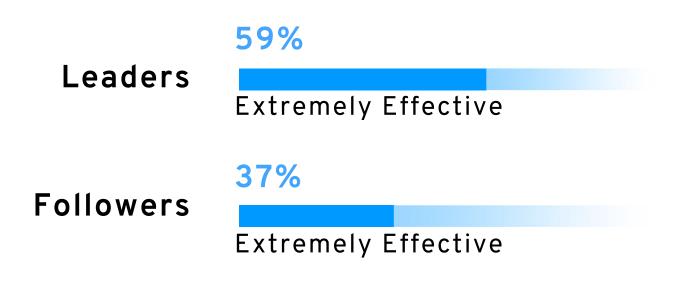
WHAT MATTERS IS THE PERSON USING THE TECHNOLOGY

In our survey of IT executives, leading organizations are much more effective (59%) at responding to customer needs in a timely manner. This is significantly higher than lagging IT organizations (37%). The customer experience, whether internal or external, drives technology. This can't happen, though, unless there is a deep understanding of the user that stems from open communication and ongoing dialogue with users.





How effective do you believe your technology organization is at responding to customer (user) needs in a timely manner?



% of respondents (N=400, L=71, F=329)

A good design process incorporates user research as well as user validation - making a study of the person using the technology. And that study begins with a conversation with the user. "Think of yourself as an anthropologist," says Bo Johnson, Lead Product Owner and Business Analyst, SPR. "Ask questions. And if you aren't great at asking questions, either find someone who is, or get better at it. You *can* teach yourself to ask juicier questions."

To determine what users are looking for, UX professionals use multiple methods: market research, public workshops, events, client and sessions, to name a few. No matter the execution, these conversations



have the same end goal: Make better decisions about the user experience based on actual data.

Once the dialogue has begun, experts agree that a regular cadence of strategic conversations cultivates the relationship and elevates it to one of trust. This way, you expand from one individual engagement to multiple touchpoints and an ongoing "Having relationship. regular strategic conversations helps technology providers find ways to give their users a competitive SPR's advantage," Mike says Saccotelli.

This was an eye-opening experience for one IT executive, who said her



company took what they learned through wireframing, the user interface design process, and feedback sessions, and shared what they learned with others across the organization. This emphasis on UX gained momentum as company leaders - not just UX advocates recognized they must continue investing in building software their users actually enjoy using, in order to stand out in the marketplace with

Hand in hand with these customer conversations, Johnson says, goes proper documentation of findings. In one case, SPR conducted deep, foundational research of a client's base customer journey, the contours of the marketplace, competitors, frustrations, suggestions, and other

both vendors and customers.



Theme 2 | The Great Experience

Terms defined

User research – focusing on understanding user behaviors, needs, and motivations through observation techniques, task analysis, and other feedback

User validation – understanding how users experience certain products or services, particularly useful when evaluating usability of concepts, prototypes, physical or software products and service offerings of an organization

Market research – integrating user data collection and research into the process gives directors or project managers insight when making decisions – based on actual data versus a gut feeling

Public events – engaging publicly through events is a first step to creating a relationship with customers that you can build on over time

Workshopping and client sessions – listening actively during in-depth one-on-ones or group settings is highly collaborative outreach that helps gain customer perspectives

feedback. This was then documented in a library of research, which informed an experience map.

"We set up a virtual room with a whiteboard - complete with red strings connecting ideas," Johnson says. "We walked the client through the research, and they immediately dove into the quotes we had from actual customers. Thanks to this documented research, the client was able to shift their product roadmap to better meet customer needs."



CASE STUDY

A global consumer marketing company teamed up with SPR to redesign a customer-facing portal. However, the team discovered early on that no one knew how the portal actually worked, what it was used for, or who used it. There were no existing analytics in place to help orient the team, and it was challenging to connect and communicate with the tool's end users. The team took a step back to reevaluate the project completely. Using a foundational research and deep analysis phase, the team was able to identify the customers, how they used the portal, and what demands there were in the marketplace. This base customer journey helped the team create an experience map and a research library – resources that helped the client shift their roadmap to better meet customer needs.





HOW CAN UX PROFESSIONALS AND **TECHNOLOGY ARCHITECTS PARTNER TO DRIVE MORE VALUE?**

Taylor Regan Director, User Experience & Design SPR

Cross disciplines come together

A key component to creating an exceptional experience is to have a holistic view - a resounding theme when talking with industry experts. Regan says this omni-view allows for a better end product and user experience when 1.) Creating a solution for a customer, and 2.) Working on an internal system.

"We're seeing different disciplines coming together more and more, and the value in that is incredible," says Regan. "You see that value going across the organization, even up to the executive level. People can see the impact of these teams coming together and realize that they can take all these different ways of



thinking and combine them in a collaborative way that empowers the business, empowers the employees and provides ongoing value for their customers." This new mindset is a shift away from doing things in a There's fashion. siloed open communication, open collaboration, and, even, a shift at the leadership level as people recognize the need for a unifying vision that people can rally around.

Cross-functional representation on teams helps encourage action on user feedback and productivity. "When teams are talking every day, there is better chance their time is being spent efficiently," says Justin Rodenbostel, Exec. Vice President of



Delivery Management, SPR. "People who need help get help, and leaders are aware and can respond to any blockers."

And, Rodenbostel adds, as users share their needs, it's important to keep the feedback loop short, particularly as different functions come together on initiatives for the experience. "Radiating user information within and amongst teams ensures teams are working toward a similar goal – meeting the user needs."

59%

LEADERS



Theme 2 | The Great Experience 32

say they are extremely effective at collaborating cross functionally to deliver a superior customer (user) experience

% of respondents (N=400, L=71, F=329)



The champion

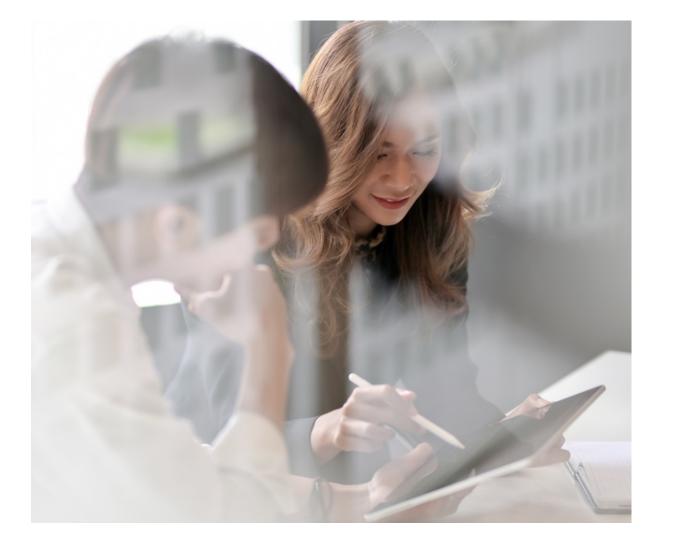
INTEGRATING A CHAMPION FOR THE USER EXPERIENCE

As cross-functional teams are key, so too is having a champion for the experience within the IT organization. "A champion for the experience is often managing what the outcomes are for the business, what the business is driving towards, and what works for the end customer," says Regan.









In the example of the global client company, the consumer partway through the realized research phase that they needed a product owner who would champion the development of the product - a customer portal. Armed with the deep, foundational research SPR provided, the client's UX team was able to socialize the importance of the portal with other business units and create a clear strategy for moving forward.



Theme 2 | The Great Experience

Anticipating a need

Ultimately, the goal is to meet a need, even before the customer knows the need exists. Leading IT organizations explore multiple scenarios so when a customer does express a need, they are ready, not reactionary. Instead of responding with, "I'll need to think about that," they say, "Let me give you a solution." When organizations can anticipate what customers want and need down the road, they lean toward true excellence in the experience.

HOW THE PANDEMIC IMPACTED UX WAYS OF WORKING

From a design operations standpoint, how UX professionals work has changed greatly since March 2020. Common research tactics - such as one-on-one testing and field data collection – were no longer an option. Teams had to get creative.

"The pandemic forced UX teams to become more in tune with everything we do, and to better connect to actually building a solution and taking it to market," says Regan. For example, a UX researcher previously would go through a fast-food drive-thru, observing firsthand the experience for the person using a food ordering app. During the pandemic, such user testing was impossible, causing companies to buy or adapt tools to conduct remote research. While an adjustment, there

were advantages: 1) lower costs and time investment as participants no longer needed to travel to a research facility; 2) feedback more representative of a wider population as a user from any location can now participate.

From an emerging technology standpoint, UX teams are designing different end products, as well. Regan is seeing the focus shift to more augmented reality (AR) and virtual reality (VR), with health care and life sciences as the most impacted industries.

Modernization at the forefront: During the pandemic, some businesses realized they could thrive without a storefront, ditched their brick-and-mortar presence, and now exist fully in the digital world. Melissa



McElroy, SPR Practice Director: "For these companies, a first impression relies solely on the digital experience now, causing development and UX teams to push the boundaries - everything from the way a customer is greeted on a web page to what tools are leveraged by an enterprise user."

The adaptable user: An IT executive recently noted that out of necessity, many at his company were willing to try different ways of working – a quality that would not necessarily have existed pre pandemic (e.g., making electronic markups on a document vs. previously always printing out a physical copy). With users more amenable to change, this adaptability allows IT leaders to push advancements faster.

Considerations

Are your people, processes and systems ready to support exceptional UX?

- You've built something great for your external customers, but if it's a flawed system, all your customer and user data will flow into disarray. Do you have a functioning internal system ready to go before you to take it to the next level? Or will you simply be putting a façade on a crumbling building?
- Do you have UX best practices in place? Use <u>DesignOps</u> or similar methods to set design standards and implement a Design Thinking mindset across the organization.

Who is your champion for the user/customer experience in the development lifecycle?

• Often, the champion for the user is an early adopter of new technology, a gatherer of information with plenty of good ideas. Identify your champion, whether it's an existing CXO, chief customer officer, or chief transformation officer.

• The user champion also keeps a holistic view of the project. Identify the pragmatic voice of reason, someone to keep tabs on everything from budgets and investment of time and energy, to feasibility and end goals.

How do you go about implementing change to address the users' needs?

- To stay ahead of user needs, strategically create roadmaps. Ask, how can we do this better? How do we get from point A to point B? What technology can enable that change?
- Remember, this may not be as simple as flipping a switch. Does this require slow-moving steps to affect change? Or is it time to rip everything out and start fresh? Be aware of opportunities – whether <u>small or consequential – to</u> improve the user experience.

IN THE REVENUE DRIVER'S SEAT



IN THE REVENUE **DRIVER'S** SEAT

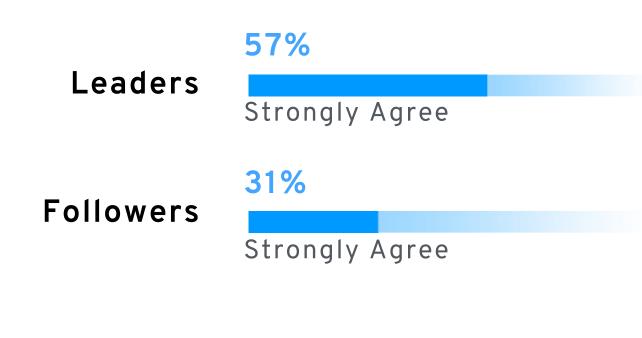
The IT organization is no longer perceived as a cost center, rather as a revenue generator.

As explored in Theme 2, listening to the voice of the user helps organizations not only quickly remedy issues, but also helps identify new products before users ask for them. With this rise of productcentered culture and design thinking, there has been a shift away from siloed, centralized IT. "Organizations have moved IT to be more closely aligned with the business units," says SPR's Justin Rodenbostel. "With that, IT is considered less of a cost center and more of a contributor by helping drive revenue."

In our survey of IT executives, leading IT organizations agree that their IT organization is integral to developing new product and streams of revenue. This revenue generation is the result of crossfunctional representation among team members and shared accountability. By applying this model, teams establish a shared definition of success.



How strongly do you agree that the technology organization is integral to developing new products and streams of revenue?



% of respondents (N=400, L=71, F=329)



Trimming costs

THE "COST" OF THE IT COST CENTER

Let's take a few steps back. To leave behind the perception that IT organizations are cost centers, it's important to manage the IT costs associated with "doing business as usual." Successful teams start by reducing the cost of IT, discovering how their work can be seen as a value-add, then exploring innovation with a cross functional team of IT and the business that will lead to revenue generation.





While there are seemingly countless budget-slashing ideas, here are two ways SPR experts say to reduce IT spend.

Use the cloud the right way. The once popular lift and shift – where a large application is moved to the cloud still in that monolithic state – does not achieve all the value the cloud has to offer. Rather, IT organizations will have a business differentiator and see greater value when they take advantage of <u>cloud</u> <u>native capabilities</u> appropriately. George Burns III, Senior Cloud Engineer, SPR, says from a cost reduction and value extraction perspective, think of lift and shift as a slight evolution, whereas building

cloud-native solutions that use the benefits exclusive to the cloud, are revolutionary. "If you have an onprem monolithic solution that has ballooned too big," says Burns, "an appropriate reimplementation in the cloud can result in the solution being broken up into more consumable pieces." In the cloud, you no longer need a single monolithic application to do everything. Rather, using cloud technologies, microservices can be broken down so each service implements a single targeted function that achieves one goal. By focusing on specific results and using the cloud's á la carte nature, organizations optimize costs and don't pay for functionality that's not currently being used.



Theme 3 In the Revenue Driver's Seat 40



WHAT SHOULD ORGANIZATIONS DO WITH MONOLITHIC STRUCTURES?

George Burns III, Senior Cloud Engineer SPR



By leveraging cloud components, companies gain access to data and applications in an easier, faster, more highly-available, and more faulttolerant way. "They do so in a way that is at the pinnacle of cost effectiveness because they are buying services, not servers," says Burns. They're not paying for hard costs and maintenance associated with standalone servers. Instead, they are paying for the compute and the network bandwidth they're using. Burns stresses the importance of spending money only for what you use: "Everybody should be in the business of focusing on their core product - not in the business of, say, owning a data center. If your core product can be improved with technology, partner with someone that does that well."

George Burns III Senior Cloud Engineer SPR



Theme 3 In the Revenue Driver's Seat

"Everybody should be in the business of focusing on their core product. If your core product can be improved with technology, partner with someone that does that well."

41

Maximize your data. In our survey, IT executives overwhelmingly selected analytics data and business intelligence as the number one area for a technology organization to allocate resources. This is continuing a trend we've seen in the industry over the last decade or so, with a high level of focus on building data warehousing data store and technology.

"If we learned anything from Big Tech from the mid-1990s on, it's that great data collection practices are very profitable," says Kevin Young, Data Engineer, SPR. "The companies that invest in very refined data practices and data platforms are seeing unbelievable results."

Which of the following are the top three initiatives where your technology organization is allocating resources?

Digit



Al/Machine Learning

Cloud Infrastructure	39%
Custom Application Development	
Data Analytics and Business Intelligence	52%
DevOps/Agile Development	
jital Workplace Collaboration Technology	31%
ΙοΤ	
Legacy Modernization	
Mobile App Development	
Process Automation	
Security	
Software Testing	
User Experience Strategy and Design	

% of respondents (N=403)



And, Young says, these businesses are now looking to take data insights into the boardroom with decision makers, which is a testament to the organization's data practice maturity.

However, for organizations on the lower end of the data maturity model - or for those just starting out there is potential for great growth by refining data collection, data processing, and data visualization for the end user.

right the first time by:

- 1. evaluating technologies;
- 2. remembering that different technologies fit different situations;
- 3. starting simple
- 4. iterating

"The most simple models are the best models," says Young. "Simple means you iterate. Create the simplest thing you can and then iterate, adding a little more complexity, then a little more complexity. If you skip those steps and create something overly complex, you lose explainability to your users."



Theme 3 In the Revenue Driver's Seat 43

Fledgling organizations should take the time to set up their data practice



SHOULD IT ORGANIZATIONS FOCUS **ON MATURING DATA PRACTICES?**

Kevin Young Data Engineer SPR



Worth of IT

TRANSFORMING COST INTO VALUE

Historically, companies turned to IT for backoffice functions and employee productivity. Without these basic functions, business productivity would slow significantly, making it easy to think of IT as a commodity. With this mentality, however, businesses limit themselves by the goals they have set for IT – to get the level of service necessary to maintain daily operations for the lowest cost.







Confined to a keep-the-lights-on approach, companies are missing out on capitalizing on IT as a business strategy. "This is emotional stuff," says Rodenbostel. "I don't want to be your servant IT department. I don't want to be the first place that COO goes to when it's time to cut budgets."

However, the way you build and deploy products in an internetconnected world will help prove your worth. "If you can build things that are scalable and secure and have the reach that the internet and the cloud provide, that's the convergence of the business vision of a product, and all the architecture that stands behind it to make it possible," says Rodenbostel. "And now, you can't have one without the other. What's

Product – not necessarily a "widget" per se, or something sold to a customer. The product is often software and could be an internal-facing tool, a cost of sale, hours of service – anything traditionally seen as more tactical in nature. This internal used item is assigned an ROI, transforming it into a product.

Customer – once an internal item is redefined as the "product," so, too, can internal users be defined as "customers." This internal customer is now using a mission-critical product, built by IT, that helps them work better.

being sold doesn't work without a software system. IT is now integral to the product and to the business."

has become part of product development, whether for internal or external users; IT partners with the business to align on goals; and IT



Terms (re)defined

predictably delivers product updates - all examples of value-add vs. cost incurrence.

Internal apps as the product. Whether internal- or external-facing, product teams - which, as we've established, now include IT representation - are

working toward a clearly identified goal. Say your company uses an enterprise resource planning (ERP) software. Designated as an internal product, you can then assign accounting, revenue metrics, and customer engagement metrics to it, says Rodenbostel, articulating a Return on Investment (ROI) of this product on the team.

Partnering vs. blocking. IT as a value to the business means working toward the same thing. "What caused conflict previously was when IT and the business were moving toward different goals," Rodenbostel says. "IT was focused on keeping servers on and databases up; and all the business saw were long queues and wait times to get their requests filled. There was no centralization."

What are the five most important **KPIs used to** measure the effectiveness of your technology organization?



Theme 3 In the Revenue Driver's Seat 46

40%	
Productivity/efficiency	ý V
36%	
Customer satisfaction	
36%	
Technology ROI	
35%	
Innovation	
32%	
Technology spend vs. p	olan
30%	
% projects on time, on	budget, on specification
30%	
Technology talent rete	ention rate/ team attrition rate
28%	
New developed feature	essential and the second se
26%	
Strategic alignment (te	ech strategy lines up with business strategy

% of respondents (N=403)



When – enabled by the cloud – lines of business began taking over their own destinies, the game changed. There was a shift in how the business accessed software, and the barrier to create a software-based product dropped dramatically. "The business was tired of IT telling them no, no, no," says SPR's David Kinney. "The business wanted to innovate in the space with little overhead." This was a hard lesson for IT departments, but it came back to what teams were measured on vs. what the business really wanted. Adds Kinney: "The business says, 'Don't shackle me with the old way of thinking' and IT says, 'Then don't measure me on the old thing and expect to get the new thing." As IT and the business begin to partner and align on business

goals and what's expected of IT to achieve those goals, IT is no longer seen as a hindrance, but rather an integral part of new product development.

Now that IT and the business are working in tandem to drive revenue within the organization, IT isn't seen solely as the thing that keeps the lights on. Now, IT is building what customers are buying. "Now, you've got a seat at the table," says Rodenbostel. "You're a value driver."

The case for Agile & DevOps, predictability & accountability. DevOps and Agile – respectively, the practice of bringing development and operations teams together and the iterative approach that focuses on



Theme 3 In the Revenue Driver's Seat 47

collaboration and customer feedback - both provide a level of control and predictability in development, says Rodenbostel. Alongside this control is a cross-functional team that is transparent on its performance based on customer-aligned metrics.

"This all goes back to delivering peace of mind and stability toward mission-critical applications," Rodenbostel says. "We can deploy four times a day, but if something goes sideways, we can roll back in two minutes without losing any data. If you're the end user, you want the value of getting all these features and getting access to them as soon as possible - and that's even more valuable than losing two minutes a year."



Revenue Generation

UNEARTHING NEW STREAMS OF REVENUE

As our survey shows, IT leaders understand the importance of being seen as a revenue generator – they ranked it their #1 priority vs. followers who ranked it their #3 priority. When incentives are tied to delivering value through products, as opposed to simply getting the next thing done, IT organizations tie together agility and the product mentality – shifting away from IT being a cost center.







Pandemic-accelerated innovation. Companies adjusted to new ways of work during the pandemic – and some adjusted to a new demand from customers. Everything from digital commerce, grocery delivery, to health protocols and beyond, saw a transformation in service and product delivery. Out of necessity, new revenue streams were born. SPR was on the frontlines as one company (case study, right) experienced product innovation due to shifting customer needs during the pandemic.

From 1 to 3, what are your technology priorities for the next 6 months?

LEADERS

- **Revenue Generation**
- Efficiency/Cost Reduction
- **Risk Mitigation**

FOLLOWERS

- **Risk Mitigation**
- **2** Efficiency/Cost Reduction
- **Revenue Generation**

% of respondents (N=400, L=71, F=329)



CASE STUDY

An IoT company needed to refactor legacy code for their air quality data platform, but with a small development team, they asked SPR to help lead their product engineering team. Before long, SPR's engineering team on the project began coaching and sharing knowledge - not only with the client, but also with the client's customers. During troubleshooting calls with customers, SPR quickly saw a changing need from the clientele during the pandemic. Smaller organizations - individual restaurants and shops - wanted to reassure their customers of the air quality in their space. However, this type of customer didn't have the staff, time, or skills for a complicated data dashboard. Our team rethought project priorities and put together strategic recommendations for a simplified interface. Thanks to this advice, the IoT company shifted focus on the future needs of their growing — and changing - customer base. This agile response to a customer need was customer driven, agile and responsive.

Considerations

Are IT's goals tied to business value delivery?

• When your product team is working in tandem with IT toward the same goal, IT will be measured on different metrics than before. Consider including metrics such as Mean Time to Recovery, Mean Time to Deploy, and Feature Lead Time.

Are you ready to try something new in a risk-free environment?

- users.

• In recent years, companies are exploring the beta business, a prototype of your business on a blank slate. In a sandbox-like environment, build the prototype independent of your existing business so there is no disruption to your customers or

• Successful companies experiment in the beta business, pulling from different fields to see what a future business could look like. The four key stages include discovery, getting to market, finding proof, and growth.

SECURITY AS AN INVESTMENT





SECURITY AS AN INVESTMENT

Leaders are prioritizing security and elevating the conversation to the C-level

Security is a top priority for IT leaders going into the next 12 months. Where once it was solely addressed by IT teams, our survey shows it's now being talked about throughout the business. To reiterate from Theme 1, every company is a software company, even if they don't realize it yet. When companies shift to understand that their core assets are the data and information flow from their software, it also means they need to protect those assets.



Theme 4 | Security as an Investment 52

As companies are increasingly software driven, security is integral at more levels, meaning the entire company – not just IT - needs to care. "The power has shifted back to IT, as customers of SaaS companies demand more than simply having a platform that works," says SPR's David Kinney. "They now want platforms that are secure - that don't leak their data to the entire internet."

In our survey, cybersecurity was the top skill required to execute the technology strategy for IT organizations. However, resource allocation for cybersecurity came in fourth behind data, cloud, and digital workplace technologies. This shows a possible discrepancy between what IT leaders say is a top priority, and where companies are putting time and dollars.

The shift of leading organizations to adopt the attitude that "security is everyone's job" requires training for everyone. It's imperative to keep security in mind throughout the entire product development process, disciplines, all not for just developers.

58% Cybersecurity 56% Leadership 56% Cloud computing

50%

Strategic thinking

45%

Business acumen

% of respondents (N=403)



Theme 4 | Security as an Investment

How important are the following skills to the execution of your current technology strategy?

52% 39% 34% 25% 25%

Which of the following are the top three initiatives where your technology organization is allocating resources?

Data analytics and business intelligence

Cloud infrastructure

Digital workplace/collaboration technologies

User experience strategy and design

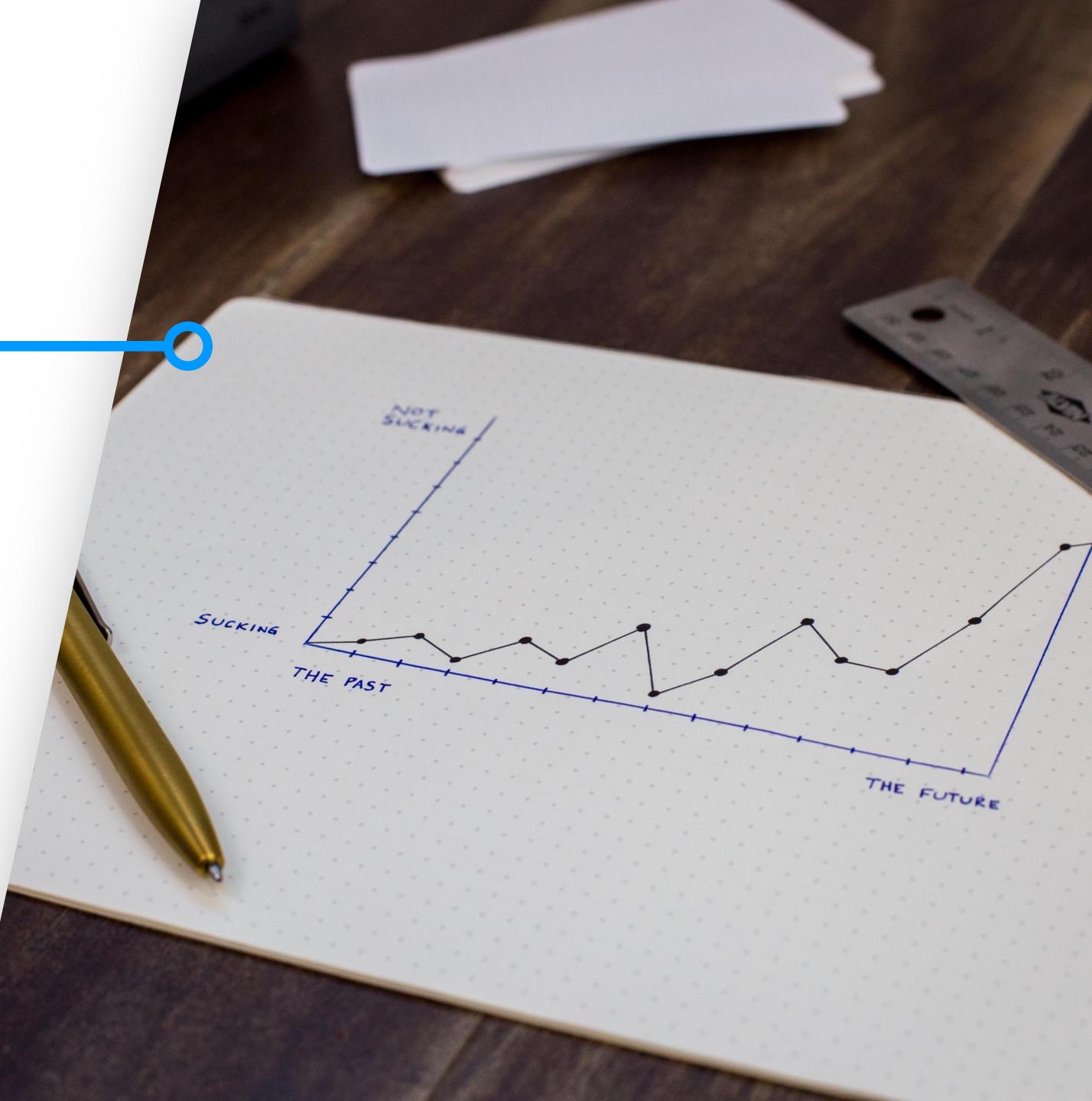
Security

Maturity

ARE RESULTS OVER-INFLATED?

While IT organizations may have the most knowledge and power within the business when it comes to security, many overestimate their security maturity, according to Matt Konda, CEO, Jemurai, a security consulting company.





"Sometimes the more mature a company thinks it is, the less mature it really is," says Konda. "A challenge with security is there are so many different areas and issues. You could be really good in one area and not even aware of another."

And while vendors will attempt to sell you on platforms or tools to "fix" issues, there isn't just one tool that will do everything, says Konda. "Security is one of those things that carries so much technical debt and organizations don't realize what bad shape they're in," Konda says. "They could be doing a great job for three years and still be in trouble because for 10 years prior, they weren't doing anything."

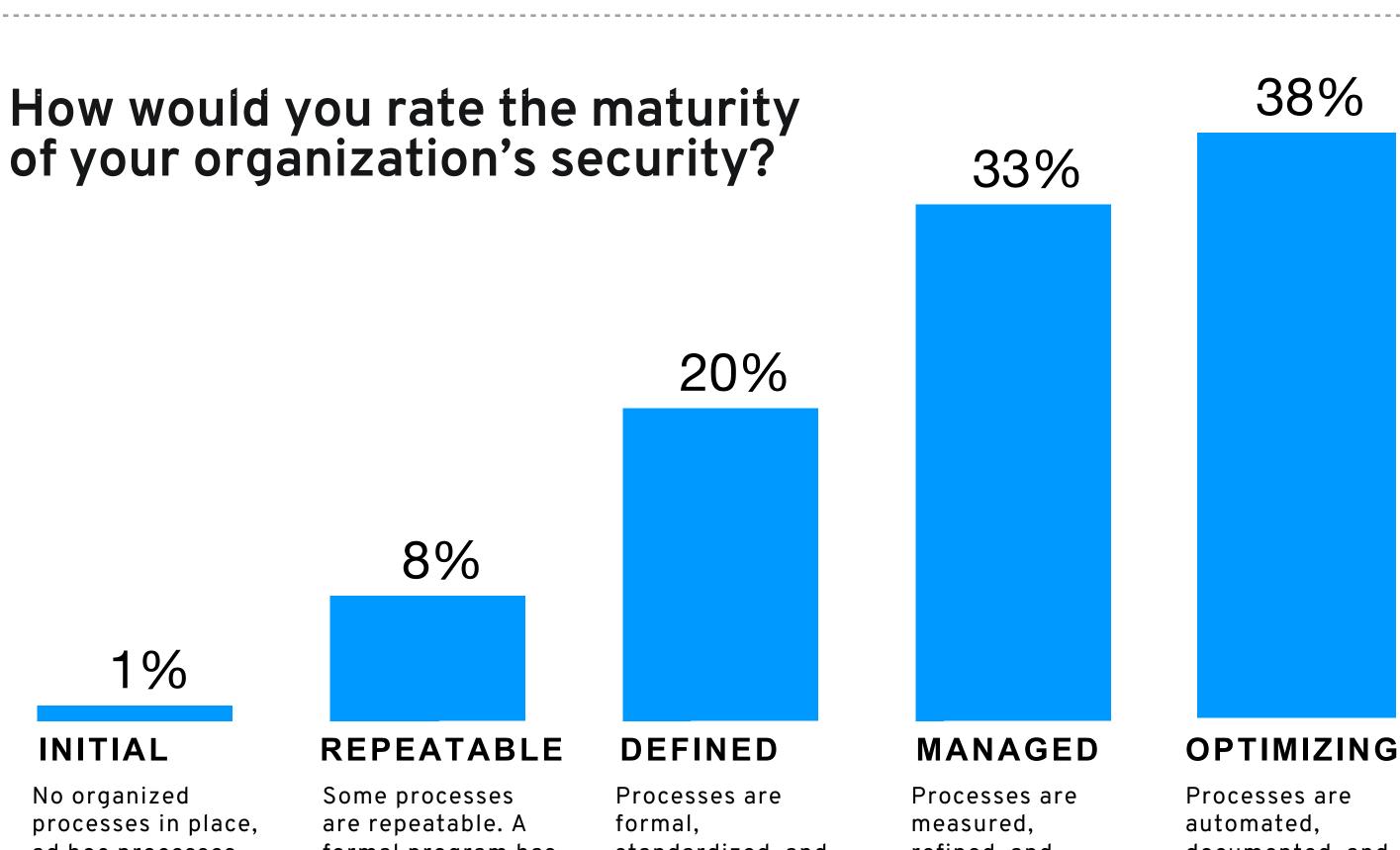
1%

INITIAL

No organized processes in place, ad hoc processes and informal. Security processes are reactive and not repeatable, measurable, or scalable.



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formal program has been initiated, although discipline is lacking. Some processes established, defined, and

documented.

standardized, and defined, creating consistency across the organization.

refined, and adapted to make them more effective and efficient.

documented, and constantly analyzed for optimization; cybersecurity is part of the overall culture.



The reality is, even when all the proper security tools are in place, companies are routinely hacked because usually those tools are not running correctly, nobody is watching them, they're not turned on for certain systems, or a host of other issues under the surface, says Konda. Even an investment in many such tools will not guarantee a high level of security maturity.

SPR's Justin Rodenbostel, agrees: "Security is an ever-changing landscape and achieving a high level of maturity involves the initial investment to get there, but also the constant nurturing to stay there. There are threats emerging in new places every day."



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WHAT ARE SOME WAYS TO **ADVANCE YOUR SECURITY MATURITY?**

Justin Rodenbostel **Executive Vice President** SPR



Approach

PREVENTION VS. RESTORATION VS. DETECTION

Perhaps you have heard it said, "It's not about prevention, it's about restoration." It's the notion that a security breach is inevitable, and instead of trying to avoid It, organizations should focus on putting a plan in place to restore systems after the breach. Konda warns against this mindset and provides a slight alteration.





"Perhaps people say, 'it's not about prevention' because, it's true that you can't keep hackers out," Konda says, adding that to resort to restoration alone is a dangerous line of thought. You can't go about your business assuming somebody is sitting on your computer reading all your files. "Think about it like this: Yes, a breach is going to happen, but you can't punt on prevention," says Konda. "There must be a balance between detection and recovery."

There's also balance that а organizations should find between their sensitive data - which they should take steps to protect - and their most sensitive data, which should be protected at all costs.

"Another way to think about this is prioritization, because you can't prevent hacks everywhere," says Konda. "Prevention, detection, restoration, recovery."

Imagine you have 10,000 servers, of which 100 have extremely sensitive data. You want to invest more in detection. prevention, and restoration around those 100 than the other 9,900. Sure, you can't prevent a hack everywhere, but you can get very close to preventing one in a focused, small surface. For example, a company that processes a large number of credit cards - and has had generalized security events including data leakage and account takeovers - built its own credit card



"Another way to think about this is prioritization: **Prevention**, detection, restoration, recovery."

Matt Konda CEO Jemurai



tokenization service. Even with several other issues, none of the attackers ever accessed credit card data because the company built that particular service very well, investing in the area because the risk was high.

achieve this high level of То prevention, security must be part of the process earlier in the software development lifecycle. In the survey, approximately 92% of the leading firms integrate security to a large extent, whereas only about 61% of the non-leading firms, integrate security into their SDLC.

When talk about we who IS responsible to maintain an application's security, SPR's George Burns says it is everybody involved in building, maintaining and using the system. When all parts of a team are introducing components into the application, it's vital to understand

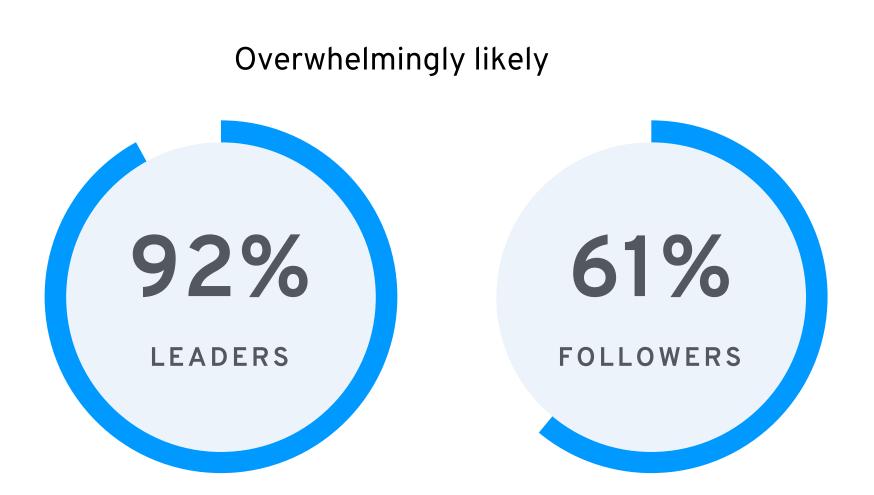
How likely are you to integrate security into the software development lifecycle?



Theme 4 | Security as an Investment 59

the resources, how to manage them, and how to stand them up correctly. "Otherwise, we're either missing the mark on security, we're delivering the wrong thing, or maybe we're

% of respondents (N=400, L=71, F=329)







leaving ourselves vulnerable to something," says Burns. "If we don't think about it holistically and include security from day one, we miss the mark."

SPR's Justin Rodenbostel agrees: "With the rise in product thinking and teams organized around DevOps, it's normal to have cross-functional representation among team members



Technology Leadership Forecast 2022

Theme 4 | Security as an Investment

and shared accountability," says Rodenbostel. "Applying that same kind of cross-functional and shared accountability approach, security experts are invited onto teams to help establish what is included in user stories in terms of acceptance criteria, how project success is defined, and what makes a deployment successful."

Investment

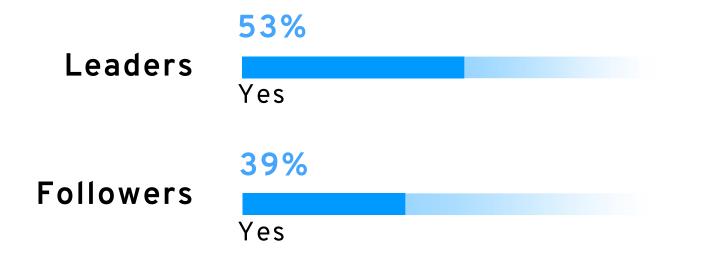
FIGHTING FOR THE SECURITY LINE ITEM

As noted in Theme 1, the evolution of business has pushed IT discussions to the C-Suite level. Some experts argue that security was the driving factor, particularly in the past two years. "Companies were shocked at their lack of security maturity," says Kinney. "Due to remote work during the pandemic, vendors developed new security questionnaires, in turn requiring product-driven companies to answer those questionnaires satisfactorily. This renewed focus on security has driven the lines of business back to talking to their IT teams."





Does your company have a Chief Information Security Officer (CISO)?



% of respondents (N=400, L=71, F=329)

Sometimes, it takes a threat or actual security breach to prioritize the need. Think of how homeowners often don't put a security system in until someone tries to and/or successfully breaks into their homes. Similarly, some companies in certain industries don't feel a threat and leave well enough alone. This is dangerous, particularly if you're in an industry that deals with sensitive data, like financial services."

Konda says there's one way to quickly measure how important security is to the organization. It comes down to funding. If you are not investing in cybersecurity, you run major risks. "Don't pretend you're secure when you're not. Measure the dollars you're spending on security.



That can be an important data point to evaluate how secure you are." On the flipside, also don't assume that if you spend a lot on security that you are necessarily well protected.

Unfortunately, if security isn't already a line item in your IT spend, it can be a hard sell to ask for more funding, especially if technical debt is an issue in your organization. Let's return to our example company from Theme 2, Supplier Co., which was using legacy systems and processes that have not been updated in years. The C-suite runs a tight budget; convincing them why Supplier Co. needs to spend money on security is tough. Plus, the architecture at Supplier Co. requires a long overdue critical look to determine if there are



any risks for servers, if disaster recovery is in place, or if servers should move to the cloud for better management This scenario is an uphill battle.

"If you have already done substantial amount of work and then tack on security that's going to cost an additional 10% or more – the C-suite doesn't want to hear that," says Konda, adding that this problem will only compound itself. "If you do that for three years in a row, but you've been underfunding for 10 years,

You're never going to catch up. There's a level of technical debt and true financial debt that's sitting there that you just haven't accounted for."

To escape the issue of compounding technical debt, include security in planning early on and your implement security strategically. While security costs may seem steep, the cost of a breach-in both dollars and customer confidence in your company—can be far greater.



Theme 4 | Security as an Investment 63



WHAT TO DO IF YOU HAVE BEEN HACKED

The CIO of a transportation logistics company oversaw technology for nine divisions. One of the CIO's first tasks when hired on was to identify a security leader previously, there was none. The CIO brought in someone new who put together a security roadmap quickly, executing it in less than 6 months. The team began with a patching policy, patching applications that had not been addressed in years. They refreshed firewalls, conducted endpoint protection, implementing password protection, tightened up onboarding and offboarding policies. The CIO felt he was making progress.

Fast forward to the following summer – the CIO was on vacation overseas when his infrastructure leader called. They had been infected ransomware. with The team immediately mission-critical backed up

systems in two hours. Knowing they couldn't do everything at once, they then prioritized which divisions would be addressed first. considering who would lose the most revenue, and who could limp along until systems were restored. After five days, they had one operating division back up.

While not an exhaustive list, the CIO and his team learned some valuable lessons:

- Call your insurance company right away. likely have recommended They cybersecurity remediation experts to use for attacks such as ransomware.
- Have a plan and rehearse it. The company didn't have a well-rehearsed plan in place so when hit, the organization was in chaos.
- Hire someone to monitor for you. A designated CISO or other security leader is responsible for overseeing security and



the environment monitoring and alerts.

- Have regular policy meetings and align to a standard. Regular policy reviews better ensure you are evolving according to expert-backed standards (e.g., NIST 800-53). This approach keeps routine security measures top of mind.
- Perform backups. Make sure you are backing up your data and test regularly. Follow standards to keep offline backups for mission critical data.
- If your focus isn't data centers, move to the cloud. If you don't have the staff and don't do it well, move to the cloud to take the burden of data maintenance off you.
- When presenting budget to senior leadership, fight hard for the security line item. Be just as passionate about protecting your product as you are about the product itself.



Training

SECURITY AS AN ONGOING INITIATIVE

Cybersecurity has morphed drastically over the years. "Look back at what security looked like 10 years ago; it is very different from what it looks like now," says Burns. "And in 10 years, it's going to be exponentially different than it is now again. Security awareness is not a one-time thing. Security awareness is something ongoing. We always need to understand what the most recent threats are. We need to understand the best practices around educating our users, creating our applications, creating our infrastructure, designing the solutions that we want to put forward."





Consider this analogy: Security is like a garden. You can do a lot of work upfront, but you can't expect a nice garden unless you tend to it. Water the plants periodically - similarly, you must give people information that helps them make good decisions. Once a year, prepare the ground for planting by fertilizing and tilling; similar to establishing a business

process to validate a transaction

when a user changes a destination

To help educate employees, Konda encourages being open and transparent when a security breach happens. "There's an instinct to hide security issues - you don't want people to know you've been attacked," he says. "But knowing these things can happen at their company, can make employees a little more aware and a little more careful of things like phishing emails."



account for deposits.

Theme 4 | Security as an Investment 66





Considerations

Do you have security training In place?

- Set up company-wide security trainings and ongoing discussions. Keep security top of mind, no matter what an employee's role.
- Implement project-specific training in addition to general security training across the company. Consider the types of work your teams do. For health-care projects, conduct HIPAA training. For cloud projects, have cloud security conversations.

How are you staying current with cybersecurity issues?

• Do you know what the latest security breaches are in the news? Being aware of what's going in the world will help you improve your own security maturity. There are multiple avenues to gather information, including RSS feeds, Twitter feeds, CISA alerts, FBI alerts, security digests, and email newsletters.



COLUMN STREET, STREET,

COMPETING FOR IT TALENT



COMPETING FOR IT TALENT

"The Great Resignation" has prompted companies to re-evaluate recruiting strategies

In July 2021, 4 million Americans quit their jobs, and resignations have remained abnormally high for the past several months. Who is resigning? Employees between <u>30 and 45</u>

- years old

organizations are facing the IT steepest competition for talent ever and what worked in the past to attract and retain talent may not work anymore. Let's revisit our two example companies, Supplier Co. and Banking Corp.





Theme 5 | Competing for IT Talent 69

 Employees in the tech industry – 72% of tech workers say they will quit in the next 12 months

Example one: Supplier Co. uses 30year-old technology in software development. Even the "new" tool, purchased recently, is technology from 10+ years ago. However, their enterprise resource planning (ERP) systems are extremely stable, and they retain good employees - people who know the tool inside and out and genuinely care about the success of the company and what they do. But when it comes to attracting new talent, Supplier Co. faces an uphill battle. The old technology is not a great conversation starter and current employees are stretched too thin, so morale and culture can appear



lacking. If Supplier Co. can't fill a position permanently, they turn to offshore developers to step in temporarily. While attempting to get the work done and save money, this tactic often ends up costing Supplier Co. more as they must repeatedly train new contractors. It also puts added strain on directors as they attempt to offshore manage resources.

Example two: Banking Corp.'s IT department is continuing to grow, even in a challenging talent market. The business knows it faces steep competition attracting data

engineers from other, more appealing areas of interest - for example, tech startups or STEMrelated businesses. Banking Corp. is looking to hire data engineers and data scientists, so they know their best angle is to attract individuals particularly interested in the field of finance. Knowing that the complexity of the financial data will speak to a particular subset of engineers, Banking Corp. has targeted potential talent based on the candidate's areas of interest and showcases the types of projects they will work on, both traditional and emerging tech initiatives such as data-related AI



Theme 5 | Competing for IT Talent 70

research. Banking Corp.'s talent strategy begins with concentrating on the engineer's passion for the topic, followed closely by the technology they will use.

In both cases, the companies may not be the most attractive in their industries. The difference, though, is that one company knows their strengths and built an attraction and retention strategy around those strengths. The other company is using a band-aid method, trying to fill talent gaps in the short term without addressing the core of their talent attraction problems.



In 2020, organizations furloughed or laid off employees in record numbers; now these companies are in position to re-hire again. Couple that with remote-first workforces and a high demand for IT talent, it is widely acknowledged: talent is at an advantage.

While the competition is fierce, IT leaders are optimistic about their ability to recruit the best technologists. In our survey, IT leaders overwhelming outranked followers, 68% to 50%, in their effectiveness attracting top-tier talent. IT organizations beware, though, says Talha Basit, Chief Technology Officer at Deep6 Al. This

confidence could mean there's a disconnect between what leaders think and what employees think when it comes to attracting and retaining talent. Basit reminds IT leaders that employees can take a job regardless of physical location – from New York

68%

LEADERS

top-tier talent

% of respondents (N=400, L=71, F=329)



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to Silicon Valley – and they also can work for nearly all types of companies. As we continue to hear: "Every company is a tech company," says Basit, "and they are trying to poach your people – even now."

say they are extremely effective at attracting



Monetary appeal

SALARY AS AN ATTRACTION STRATEGY

Control ebbs and flows between the candidate and the employer, depending on the economy and other factors. Given the current market conditions, talent has the upper hand in recruitment conversations, says Stephanie Lyons, Recruiting Manager, SPR. Job candidates are seeking more money or managerial roles: "Salary is definitely driving the conversation," says Lyons, "along with add-ons, benefits, and the work environment."





Basit concurs, advising that IT organizations must pay top dollar for talent today. "But don't let that be a bad thing." Basit says he tells both prospective candidates and current employees to bring him their offers, opening the discussion around what they are worth and what top market is for their skills. "Let's have a discussion about that," says Basit. "I need to demystify this piece of the conversation. Transparency and sunlight are what engineers are

looking for. If they aren't getting insight into what you're looking for, they'll leave."

Basit says big companies will pay upwards of a half million dollars for top talent and, most likely, your IT organization can't afford that. If you can't compete on salary, focus on what your company does best providing interesting perhaps projects, work autonomy, or career growth.



"Transparency and sunlight are what engineers are looking for. If they aren't getting insight into what you're looking for, they'll leave."

Talha Basit Chief Technology Officer Deep6 AI



Project appeal

DELIVERING ON EXCITING PROJECTS

"After salary, candidates want to know what they will be doing," says Lyons. This is where great companies can thrive in the competition for great talent, by showcasing the type of work environment that sets them apart. "People want to build, develop, solve cool problems, attain achievable goals, and advance their careers," says SPR's Justin Rodenbostel. "Companies need to attract the best employees by putting people in a position to be reasonably challenged, but in a way that they are supported."





This was Banking Corp.'s strategy: give employees meaningful work in a growing space, and show that the business is going places with an abundance of good projects.

Not only does this work for attracting, but it also retains the talent. Let's look at another example company - let's call them Platform Co. Choosy about who they hire, Platform Co. looks for skilled and experienced employees. It can be harder for Platform Co. to find those resources, but it also means they are confident in their "needles in the haystack." Recently, Platform Co. saw extreme success in their product development, running 99% defectfree. Even with that impressive success rate, the CTO is still looking improve on that success the

following year. The CTO said this is a challenge his organization lives for, thanks to the employees' appetites to strive for better. Platform Co. has a great pipeline of work, keeping employees engaged with interesting

Based on your knowledge and experience, how satisfied do you believe the employees in your technology organization are with working at your company?



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difficult projects. lt also and translates to an excellent retention rate, with Platform Co. hiring more advanced employees not looking to hop jobs frequently.



% of respondents (N=400, L=71, F=329)



The pandemic

HOLDING REAL CONVERSATIONS ABOUT TOUGH TOPICS

As the pandemic makes remote-first workplaces more and more common, satisfaction with work projects is even more important than ever to create a positive differentiator. Amy McDonough, Practice Director, Agile & Project Services, SPR, advises managers to communicate with their teams to understand what issues employees are facing, as companies continue working in altered ways due to the pandemic.





"Pandemic burnout is real. External events have made people really think about the importance of what they're doing," she says. "Employees say, 'I'm putting all of me into this company. Am I getting what I need in return?' So, companies are making allowing changes and more flexibility when it comes to this new way of working."

Woods, Senior Software Chris Engineer, SPR, agrees on pandemic stress. "Before, if you weren't too happy about a project, you could come to the office and talk to others in person," Woods says. "Now, with the pandemic and working remote, employees are feeling pain points

differently, perhaps more acutely, and they don't have their detox time anymore; they don't have their train ride or the drive home to decompress."

Woods says retention also comes back to direct managers paying attention to their employees. While a person may think the only way to get what they want is to leave a company, that's not always true. "Managers, equipped with the right knowledge, can go back to their employees and talk about what the company can offer. Good managers must have empathy. That goes a long way toward retaining your people."



"Pandemic burnout is real. External events have made people really think about the importance of what they're doing."

Amy McDonough Director Agile & Project Services SPR



The culture card. If a company has a strong enough culture to sustain them through the pandemic, it can still prove to be a challenge when searching for the right candidate for a job. Let's check in with our example Platform Co. Their IT organization doesn't need to fill roles too frequently. Since they aren't hiring every day - their hiring cadence is about one new employee every 10 months – the company is extremely particular and willing to wait to find the right fit. They are looking for a fit not only skills-wise, but personalitywise too. While there are many bright individuals in the industry, Platform Co. finds there are egos to match it not a fit with the company's culture. looking for company The is

individuals who want to collaborate, share good ideas, and enjoy their work – not individuals out to prove their intelligence.

Because of the pandemic, in obvious ways, the basics of work have shifted - and a company's culture is playing into the equation in different ways. Trust, says Lyons, is even more important than ever.

"From the organizational level on down, from the relationship you have with your manager - you must have an organization that is upfront with everything that's happening, with opportunities available to employees," she says. "For remote workforces, you



can no longer see what's happening at the desk next to you or within your team." This comes back to Basit's point about transparency, which supports. "When having Lyons conversations with job candidates, I talk honestly about what happened in 2020," says Lyons. "We took care of our people - helping with mental health, physical health, staying busy, and feeling supported."

The transparency and support extend even when employees decide to leave. Keeping the door open for a former employee to return is a refreshing concept for people in a time when employees desire a realistic, honest, genuine work environment.



Considerations

Talha Basit, Chief Technology Officer at Deep6 AI, recently shared with us several tips for attracting and retaining top-tier talent. Consider implementing some of the ideas in this abbreviated list.

- Fire low performers It may seem counter-intuitive but at a time when everyone must carry their weight, letting go of low performers is liberating. Plus, this increases your ability to gain new top talent, as individuals want to be where the best people work. When they know that low performers aren't tolerated, the high performers feel more valued.
- Hire smart people; get out of the way -Stop micro-managing your team. If you must micro-manage, you need to get rid of someone. If you hired the right people, they will figure out creative ways to create revenue for you.
- Pay top dollar for talent Don't let a high salary request be a negative thing; rather, encourage employees and applicants to bring you other offers so you know what it takes to attract or retain top-tier talent. Also, have open discussions about the employee or applicant's worth; if they aren't getting insight into what you're looking for, they'll leave.

- Provide opportunities for real growth - If you are unlocking opportunities, people will grow and they will stay. Don't spend your money on ping pong tables and snacks – this isn't what employees want anymore. Invest in your team, their training, and development.
- Celebrate when someone gets another **opportunity** – People are going to leave. Don't make it a funeral, make it a party! Celebrate that someone got a cool job that's a great fit for them.

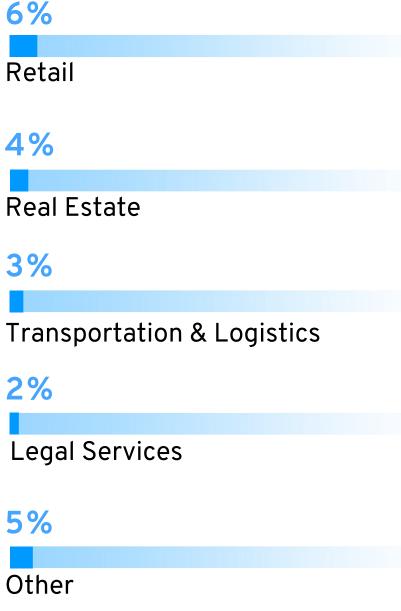


Survey Demographics

Using a third-party research firm, questions were provided through a survey link to a database of 403 technology and IT professionals. The survey data was collected anonymously in September 2021. Respondents were C-level and directors at companies headquartered in the United States.

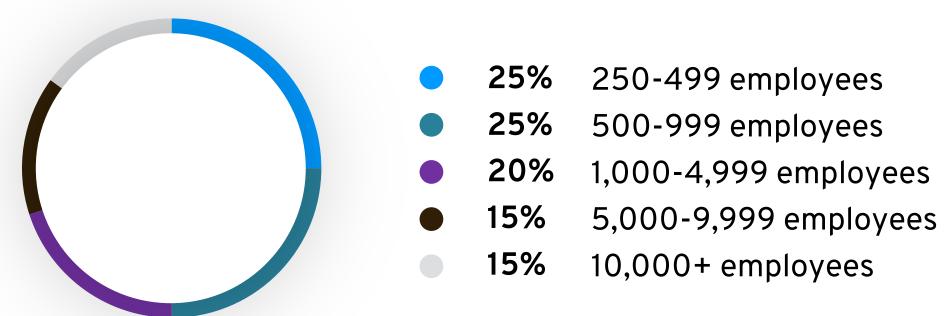
Industries

35%	6%
Financial Services	Retail
22%	4%
Business and Professional Services	Real Es
9%	3%
Manufacturing	T ransp
7%	2%
Healthcare	Legal S
6%	5%
Insurance	Other





Company size



Roles

54%		37%	8%
	in internal IT to manage relationships with	Work in technology for the business	Both
interna	al users and oversee the zation's IT infrastructure	Role is to help grow the business by developing the tools and technology that external customers buy	
15%	C-level/President/Gen	eral Manager	
25%	VP/Senior VP/Head		

60% Director/Assistant VP

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