SPECIAL REPORT

Tech budgets 2019: A CXO’s guide

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Tech budgets 2019: Surveys and projections

BY CHARLES MCELellan

As we pointed out last year (and the year before), businesses dislike uncertainty as it hampers their ability to make informed plans for the future. Uncertainty is a fact of life, of course, but there’s no doubt that geopolitics and macroeconomics have become considerably less predictable in recent years.

For example, in its World Economic Situation and Prospects as of mid-2018 report, the UN’s Economic Analysis & Policy Division noted an upturn in the world economy, forecasting 3.2 percent growth for 2018 and 2019, but also sounded a warning:

“However, the improvement in economic growth has been accompanied by an increase in downside risks, including a rise in the probability of trade conflicts between major economies; increased uncertainty regarding the pace of monetary policy adjustment in developed economies; high and increasing levels of debt; and greater geopolitical tensions.”

In particular, the UN report speculated that if trade tensions and barriers were to “spiral over the course of 2018, through widespread retaliations and extensive disruption to global value chains,” then we could see a sharp drop in global investment and trade. If this drop was equivalent to half that seen in the global financial crisis of 2008, the UN estimated, it could “bring world trade growth to a halt and slow world gross product growth to 1.8 percent in 2019, compared to baseline projections for growth of 3.2 percent.”
In the UK, the major source of uncertainty remains the country’s impending departure from the EU. Last year, we noted:

“The UK government’s detailed plans for Brexit remain frustratingly unclear even after triggering Article 50 in March, embarking on negotiations with the EU27 in June and a ‘clarification’ speech from Prime Minister Theresa May on 22 September in which a two-year transition period was mooted.”

A year on, with EU exit day just months away, the UK is more divided than ever over Brexit, and the shape of a final deal (if any) is still hotly debated. No wonder the UN’s mid-2018 report declared that:

“As the United Kingdom of Great Britain and Northern Ireland prepares to leave the EU, the transition phrase will entail significant uncertainty, particularly over future trade relations between the two parties. This increases the risk of businesses diverting investments away from the United Kingdom.”

Businesses cannot stand still, even in the face of unpredictable business conditions, because digital transformation is a major ongoing evolutionary pressure whatever the political and economic weather. That said, CxOs could be forgiven for adopting a more cautious ‘wait and see’ approach to IT and other investments—particularly longer-term ones—than they otherwise might have done. Do the surveys and projections bear this out? Let’s have a look.

**IT SPENDING: THE BIG PICTURE**

Gartner’s latest forecast, released in April, put worldwide IT spending for 2018 at $3.74 trillion, up 6.2 percent from 2017. Spending is projected to reach $3.85 trillion in 2019, up 2.8 percent from 2018. This year’s growth looks good, but uncertainty and trade disputes once again raised their ugly heads in Gartner’s analysis:

“Although global IT spending is forecast to grow 6.2 percent this year, the declining U.S. dollar has caused currency tailwinds, which are the main reason for this strong growth,” said John-David Lovelock, research vice president at Gartner. “This is the highest annual growth rate that Gartner has forecast since 2007 and would be a sign of a new cycle of IT growth. However, spending on IT around the world is growing at expected levels and is in line with expected global economic growth. Through 2018 and 2019, the U.S. dollar is expected to trend stronger while enduring tremendous volatility due to the uncertain political environment, the North American Free Trade Agreement renegotiation and the potential for trade wars.”
Communications Services remains the biggest IT spending category across 2017-2019, although the growth rate is predicted to be relatively flat for 2018/19 (1.1%). Enterprise Software has been the fastest-growing category in all three years, peaking at 11.1 percent in 2017/18. Also noticeable in Gartner's figures is steadily declining growth in spending on Data Center Systems, from 6.3 percent in 2016/17 to 1.1 percent in 2018/19. Growth in Devices (PCs, tablets and mobile phones) also drops to just 1.3 percent in 2018/19:
Gartner’s forecasting, which is elaborated further in this webinar, suggests that CxOs are likely to be spending more on enterprise application software, mobile devices, infrastructure software and business IT services in 2019 and beyond, and less on (on-premises) data center systems and associated services.

One mega-trend that’s gathering pace in business is technology spending controlled by lines of business (LOB) rather than the IT department. LOB spending—often called ‘shadow IT’—is set to overtake IT department spending in 2019 worldwide, according to analyst firm IDC. The LOB/IT split is currently around 50:50, but LOB spending has been growing faster than IT spending for several years and is forecast to be 6.9 percent versus 3.3 percent (CAGR) between 2016 and 2021. By 2021, only two of the 16 industries profiled in IDC’s spending guide—construction and telecommunications—will still see their technology spending led by the IT department.

As business managers rely less on IT departments for technology purchases, CIOs will need to keep tabs on what’s being deployed, and why, and whether LOB-driven technology poses a security threat to the organisation.

WHAT THE SURVEYS SAY

Computer Economics IT Spending & Staffing Benchmarks 2018/2019

Market research firm Computer Economics has published an annual IT Spending & Staffing Benchmarks report since 1990 and is a valuable source of IT budgeting metrics for North American organisations. The 2018/2019 report was based on survey responses collected between January and May 2018 from 205 US and Canadian organisations—35 percent small (IT operational budget <$5m), 36 percent medium ($5m-$20m) and 29 percent large (> $20m).

Leading industry sectors in the survey sample were manufacturing (22.3%), government/non-profit (18.9%) and financial services (13.6%).

This year, Computer Economics reports that “IT organizations are accelerating their rush to the cloud and are increasing spending in an effort to reap the benefits. Our composite sample shows broad, modest growth in operational budgets and even stronger increases in spending as a percentage of revenue, while IT capital budgets and hiring remain flat.”

The main difference from the 2017/18 survey is an increase in IT spending as a percentage of revenue (from 2.3% to 2.7%), which the research firm interprets as evidence that “IT organizations are encouraged by their experience with cloud computing thus far and are willing to supplement those efficiency gains with additional spending, especially for business transformation and the continued move to the cloud.”
IT operational spending growth is running at a modest 2.8 percent for 2018/19 compared with 3 percent last year. Medium-sized organisations lead the way on growth with 5 percent, ahead of small and large firms (1% and 3.3% respectively). As far as sectors are concerned, professional/technical services and construction/trade services are seeing the biggest increases in IT operational budgets (5%), with manufacturing (2.5%) and government/nonprofit (1.5%) bringing up the rear.

Spending is increasing in 64 percent of organisations and decreasing in 17 percent, giving a net percentage of 47 percent—the same figure as last year. As with last year, there’s a pretty even split between IT execs who feel their budgets are somewhat (43%) or very (8%) inadequate to support the business and adequate (46%) or more than adequate (3%). Mostly, CIOs are making do with what they have rather than asking the CFO for large budget increases, says Computer Economics.

IT operational spending per user is up significantly this year -- $7,988 compared to $6,987 in 2017/18 (a 14.3% increase), although the research firm expects the historical downward trend—driven by cloud efficiencies, virtualisation and automation—to continue in the long term.

When it comes to IT capital budgets, which tend to be used for longer-term projects, just under half (47%) of the surveyed organisations reported an increase, with a quarter (24%) about the same and the remainder (29%) decreasing. Capital spending as a percentage of total IT spending is at 18 percent, the same as last year. “Virtualization, the cloud, and other technologies are lessening the need for capital expenditure growth even when times are good,” says Computer Economics.
The major IT spending priorities are security/privacy and cloud applications, each cited by a net 75 percent of organisations. These are followed by cloud infrastructure (64%), BI/data warehousing (52%), mobile devices (39%) and DR/business continuity (37%). Computer Economics notes that only 20 percent of companies in the survey have migrated at least half of their business applications to the cloud, leaving plenty of scope for this spending priority to grow.

As far as new spending is concerned, the main focus remains business applications, followed by IT personnel, networking, end-user technology and data centre. Over the last three years, the noticeable trends are increased emphasis on business apps, IT personnel and end-user technology, and decreasing prioritisation of networking and data centre infrastructure—all consistent with a widespread move to cloud-based infrastructure, storage and applications.

**Harvey Nash/KPMG CIO Survey 2018**

Celebrating its 20th anniversary this year, the Harvey Nash/KPMG CIO Survey is claimed to be the world’s largest global IT leadership survey. It’s certainly extensive: the 2018 survey gathered 3,958 responses from CIOs and technology leaders across 84 countries.

In its headline findings, the Harvey Nash/KPMG report noted that although geopolitical instability remains a significant factor, CIOs are now enjoying “bigger budgets and headcount growth” compared to last year. As well as continuing investment in digital and cloud, “we also see data privacy, governance and security draw the attention of boards,” the report said, adding that CIOs need to “think smart about how they control and influence technology within the business” given increased investment in ‘shadow IT’ by business units.

Almost half (49%) of survey respondents reported an IT budget increase in the last 12 months—the highest level since this metric was first tracked back in 2005:

Looking ahead, a similar proportion (48%) expected a budget increase in the next 12 months, with just 14 percent predicting less money for IT next year. For Harvey Nash/KPMG, this reflects a general return to ‘business as usual’ following the economic downturn, and organisations around the world investing in digital transformation projects. As far as sectors are concerned, leisure (60%), technology (53%) and professional services (53%) were most optimistic about budget increases in the coming year, while decreases were deemed most likely in power/utilities (23%), government (22%) and education (21%).
CIOs are optimistic about headcounts too, with 47 percent expecting an increase and just 13 percent—a seven-year low—predicting fewer staff over the next 12 months. Despite widespread cloud adoption, the report also noted increased insourcing of business-critical and innovation-led activities, which may underlie this finding.
As it has since 2013, the Harvey Nash/KPMG survey examined CIOs’ IT priorities, which this year were headed by ‘Improving business processes’, Delivering consistent & stable IT performance to the business’ and ‘Increasing operational efficiencies’ (all at 62%). Along with ‘Saving costs’, these priorities have figured prominently over the years. Topics that have increased noticeably in recent surveys are ‘Developing innovative new products and services’ and—unsurprisingly—‘Improving cyber security’.

2018 State of the Global Technology Economy (Apptio)

Apptio’s 2018 State of the Global Technology Economy report analysed 25 years of technology spending data from over 3,000 companies worldwide to identify patterns. Apptio develops cloud-based Technology Business Management (TBM) software, and teamed up with benchmarking consultancy Rubin Worldwide to produce the report.

A key plank of Rubin Worldwide’s approach to IT spend analysis is to include labour and support costs, rather than simply summing technology vendors’ sales. For 2016, this gave a total global IT spend of $6.3 trillion, compared to $3.4 trillion in Gartner’s more traditional forecast for the same year.

At $6.3tn, the 2016 technology economy surpassed the GDP of all nations except China and the US, and is growing at nearly 2.5 times the rate of the global economy, while IT spending per capita is growing at 3.3X the rate of GDP per capita and is expected to reach $1,100 per head in 2020.

In a healthy growing economy, the report argued, IT spend as a percentage of revenue should fall (as IT drives higher business growth) but rise as a percentage of opex (as digital automation drives business efficiency). Taken together, these metrics should result in rising revenue, declining opex and greater profitability. However, gross margins declined over the report’s study period, so there’s clearly a disconnect somewhere.
Drilling down further, Apptio/Rubin Worldwide found that the top ten percent of companies by operating margin (‘top performers’) have significantly different spending patterns and outcomes. Top performers grow their technology spending three times faster than average performers and deliver 2-3 times the operating margins (and rising). Top performers’ tech portfolios differ too: they spend 25 percent more on growing and transforming the business, 55 percent more on technology relative to opex, and 46 percent more on technology per employee. And when it comes to ‘keep the lights on’ spending, top performers support 69 percent more income per dollar of IT expenditure to run the business.

Another factor common to these top performers? All of them used some mixture of Apptio’s ten core TBM tenets, and 90 percent used all of them.

OUTLOOK

Although the global economy is on an upturn, political instability in various parts of the world could derail this improvement. Trade conflicts and tariff barriers, in particular, will remain a worry for the IT industry in the short to medium term.

Around the world, IT budgets and headcounts are generally increasing, as businesses continue to pursue digital transformation projects. Noticeable trends are decreased emphasis on data centre spending and increased prioritisation of business applications, new products and services, and cybersecurity.

Successful companies, with the biggest operating margins, generally invest more in technology that grows and transforms the business, and get more from their ‘keep the lights on’ expenditure.
Research: 2019 IT budgets growing in several key areas thanks to favorable business climate

BY MELANIE WACHSMAN

It’s that time, when technology decision makers start building budgets for the 2019 fiscal and calendar year. How much funding organizations dedicate to IT and where that funding is allocated were the topics of a recent Tech Pro Research survey.

In August 2018, Tech Pro Research surveyed technology professionals about their company budgets for calendar and fiscal year 2019. Questions ranged from how this year’s budget differed from the previous year, how money will be spent, and how tech professionals felt the IT budget was valued by executive leadership.

According to survey respondents, executives view IT budgets pretty favorably. So much so, that IT budgets will see a more aggressive spend in 2019, operating within a 1-10% increase over 2018 IT budgets. This growth can be attributed to a favorable business climate, as well as the growing recognition of technology’s ability to fuel revenue opportunities and cost savings for businesses.
KEY INVESTMENT AREAS

Businesses continue investing in key technology areas, such as security and cloud services. (Security remains a top IT priority for 2019, as it did in 2018.) However, one shift in IT spending emerging in 2019 is employee training. Forty-four percent of the 2019 survey respondents say employee training is a top IT priority.

This shouldn’t come as a surprise. Simply put, organizations are hiring, and new employees need training. Further, existing workforces also need retraining as work processes and technologies constantly change.

Central IT continues to drive technology funding and adoption, but survey respondents report a slight move away from IT as the main decision maker for technology purchases. Instead, end business areas outside of IT are gaining more control over IT decisions. In 2018, 48% of IT survey respondents were key influencers in technology purchase decisions. That number drops to 42% in 2019.

This shift is supported by other industry findings that show an increase in Shadow IT, where users make technology decisions and bring technology on board, often without IT’s knowledge. When this happens, central IT’s role in technology budget decision making diminishes, and technology funding moves to business unit budgets. As organizations adjust to this new IT purchasing model, IT and end users will collaborate more on technology evaluations and buying decisions.

IT PURCHASERS EXPECT MORE FROM VENDORS

Overall, companies are excited about the potential of new technology transforming the enterprise and improving results. While this may seem like a win for IT vendors, businesses will expect more rapid return on investments or recoups on cost of ownership than in the past. Further, businesses will expect technology vendors to conduct successful proofs of concept before they buy.

Tech Pro Research surveyed more than 100 IT professionals around the world, representing a diverse array of industries and company sizes. A majority of businesses responding to this budget survey are in the small to midsize business category. The majority of survey respondents work in IT with 37% identifying as IT managers, 18% identifying as IT executives, 14% identifying as IT staff, and 7% identifying as IT consultants.

The infographic contains selected details from the research. To read more findings, plus analysis, download the full report: 2019 IT Budget Research Report: IT Spending increases due to business conditions, security and revenue opportunities (Tech Pro Research subscription required).
Building a viable IT budget for 2019: Seven critical steps

BY MARY SHACKLETT

In 2019, IT budgets will maintain 2018 levels, thanks to favorable business climates, and organization’s recognition of the needs to advance initiatives in security, digital transformation, and cloud-based technologies.

More IT budget spend will move to end user departments, which are often in the best position to prescribe the types of IT needed for business. Whether it is end users or IT that does the budget precut proposing, CFOs and CEOs will expect convincing reasons for acquiring new technology. They also want to see expected payback period on investments.

Internet of Things (IoT) will continue to experience tempered spending as it did in 2018 because IoT remains a nascent technology in many organizations and many are still learning about it.

As in 2018, major IT spending in 2019 will continue its focus on security and on investing in other internet-facing hardware and software that secures the edges of enterprise networks.

Here are seven keys to 2019 budgeting for CIOs and other IT leaders.

1. EXPECT MORE TECHNICAL QUESTIONS ABOUT THE TECHNOLOGIES YOU ARE PROPOSING TO FUND

The CFO and other budgetary decision makers continue to catch up on new technology trends. They are likely to ask more specific questions about technologies—how the technologies work, and what they bring to the enterprise. They will also ask more questions about pilots and proof of concepts, and they expect these new technology investments to work.

Finally, CIOs and IT staff are advised to walk into budget meetings with return on investment (ROI) figures, as they will be expected to talk about the financial side of each technology project that they propose.
2. BE ABLE TO ANSWER QUESTIONS ABOUT FINANCING OPTIONS

CIOs and IT leaders will expect to come to the budget table with an array of financing options that they already discussed with their vendors. These options might include outright equipment purchase agreements, agreements to buy back old equipment, lease-to-buy options, pure leasing options, pay-per-use options, deferred financing options, and even options that use a cloud-based pay-per-use financing model to apply to both on-premises and cloud-based systems. These pay-per-use cloud models used to be strictly based upon users. Now with IoT part of the cloud usage equation, pay-for-use might also include and charge for IoT device access in addition to “real person” user access. Definitely prepare to discuss all of these options with the CFO.

3. COLLABORATE WITH STAKEHOLDERS BEFORE BUDGETS ARE PRESENTED FOR REVIEW

Shadow IT is growing. This means that end users—not IT—are making technology buy decisions. Knowing this, best-of-class CIOs actively collaborate on the technology budget with end users. These end users can be vital allies in budgetary reviews. For example, the marketing VP can join the CIO in arguing the importance of establishing an analytics program for sales and market forecasts.

4. UNDERSTAND THE ROLE OF THE CFO

Great CIOs understand the balance sheet and income statement ramifications of IT investments based upon how these investments are expensed (capital, longer-term investments are amortized over a period of years, and operational expenses are expensed within the year’s operating budget, for example).

These CIOs also understand the cost of various financing options and what it’s like to stand in the shoes of the CFO—who usually is the toughest person to sell on a new technology purchase. To ensure that there are no unforeseen technology surprises, many CIOs get together with their CFOs in advance of budget discussions.

5. CHALLENGE YOUR STAFF

When budget season opens, your staff will come to you with all kinds of tech recommendations. However, not everything they ask for will be what they absolutely need. Ask them to identify their must-have items and present their budget justifications. If your staff can’t convince you, it’s unlikely that others will be convinced either.
6. REVISIT AGING ASSETS
Making sure your house is in order is part of any budgetary process. What ageing assets are coming off depreciation schedules? Will this have a favorable impact on budget formation? If these assets are coming off the books ask if they also need to be replaced?

Most IT departments keep track of the large assets—but the tracking of old PCs, printers, and other equipment that’s collecting dust in the IT backroom or in remote sales offices is often overlooked. Don’t forget these items.

7. PAY ATTENTION TO HOW YOU SCHEDULE DISCRETIONARY BUDGET ITEMS
Companies have good and bad years for revenue and expenses. Since your budget could be revisited and downwardly revised midyear, always schedule your most critical discretionary expenses in the first and second quarters so that you can make sure they get done. Items you can afford to defer should be scheduled out to the third or fourth quarter, in case you’re asked to hold the line on your budget in midyear.
Using the IT budgeting process to your advantage

BY PATRICK GRAY

IT budgeting can be a painful process. There’s never enough money for all the organization’s priorities, running day-to-day operations is costly, IT is now tasked with digital innovation (whatever that means), and despite all this, there are usually demands to trim the budget year over year. It all seems like a process that should be completed as quickly as possible to move on to the “real work.” However, that would be a costly mistake.

FOLLOW THE MONEY

Willie Sutton, the famous bank robber, was supposedly asked by a reporter why he robbed banks, to which he responded, “That’s where the money was.” (Apparently the quote was fabricated by the reporter, but Sutton later used it, including it in an autobiography title.) Similar thinking is appropriate for the budgeting process: The IT and larger organization will ultimately place funding in the areas they see as priorities, so budgeting is a great way to validate whether your IT strategy actually mirrors the organization’s priorities.

According to the latest Tech Pro Research report, 2019 IT Budget Research Report: IT spending increases due to business conditions, security and revenue opportunities, 63% of survey respondents said that security is a top IT budget priority, 48% said cloud is a IT budget priority, and 44% said internal employee training is a top IT budget priority.

However, if your organization has lots of flowery talk about the importance of security, digital, customer experience, or some other hot area, but no budget is available to back up the talk, the organization either places minimal importance on that area or has a minimal understanding of the benefits provided by that technology. The budgeting process ultimately allows you to see if the organization follows the old adage of placing its money where its mouth is.

This presents the perfect opportunity for IT leaders to spur discussion around these mismatches between what’s been said and what is being funded. Generally, a gap is the result of one, or a combination, of four things:

The topic might be important enough to warrant discussion but ultimately falls well short of being important enough to garner funding, despite stakeholders having a good understanding of the costs and benefits. This is an indicator that these areas are not as important as you may have been led to believe and should be de-emphasized as you execute your priorities.
The organization is not mature enough to fund initiatives around that area. For example, there might be lots of talk about a “digital customer experience,” but the organization can’t meet basic customer expectations, and therefore isn’t ready to embark on more advanced initiatives. In this case, look for foundational and related initiatives that might better position the organization in the future.

Stakeholders might publicly support an initiative but don’t fully understand the benefits in the context of other items in the budget. Keeping basic IT functions like email and networking up and running might be seen as more important than longer-term initiatives to migrate to the cloud, for example. If this becomes the case for most of your big-ticket budget items, it may be time to have a talk with your leadership, as IT could be perceived solely as a utility—a tricky situation if the IT leader is trying to act in a strategic capacity but is being regarded as a utility.

Stakeholders lack confidence in the organization’s ability to successfully execute an initiative, thinking that they might end up throwing away money on a failure versus an initiative with a higher probability of success. In this case, examine your track record and realize that you may need to get your execution capability in order before you’re funded for more complex, strategic initiatives.

UNDERSTANDING THE BUDGET IS UNDERSTANDING THE ORGANIZATION

Assuming your budgetary numbers are reasonable, when some of your proposed initiatives are not funded at the levels you’ve requested it’s critical to understand why, based on the drivers listed above. This can require some detective work. For example, in a collegial organization, stakeholders might be hesitant to express their lack of confidence in success and point to a generic line of reasoning like “market conditions” or “other priorities.”

Sanity check these reasons around the organization. If you’re being told times are tough, while gold plated handles are being installed in the restroom, deeper forces are clearly at play. Once you’ve identified the high level mismatch, you can start having productive discussions to change key stakeholders’ positions.

If there’s a lack of confidence in the organization’s ability to execute successfully, perhaps partnering with a vendor will mitigate that concern. According to the Tech Pro Research: 2019 IT Budget Research Report: IT spending increases due to business conditions, security and revenue opportunities both IT and end users want vendors to help them successfully answer any questions that CFOs and CEOs will ask about a technology proposal.

Further, 41% of survey respondents expect vendors to help them develop a return on investment or total cost of ownership for their particular implementation that is convincing for themselves, their CFO, and other
budget reviewers. Fifty-four percent of respondents want to see the vendor provide a no obligation, proof of concept implementation of the technology so that those who will present it for budgetary approval can see with their own eyes that it will work for the business purpose they intend it for.

If there’s a gap between what’s been stated and funding—a frequent occurrence around budgetary items like security and employee tools—discussions can uncover the true organizational priorities and either highlight the mismatch or aid your future planning.

A dramatic mismatch between your proposed budget and what the organization is willing to fund could indicate a troubling gap between IT’s priorities and the rest of the company, providing an early indicator of the need for some significant discussions and mitigations. For example, if you perceive IT as being a key player in pushing the business’s strategy forward, but your budget is trimmed to merely run and maintain activities, there’s an obvious and disconcerting difference between how you view IT and how the broader organization sees it.

This is a recipe for disaster as you try to manage your organization one way, while the broader organization expects something completely different. Interestingly, according to the 2019 IT Budget Research Report: IT spending increases due to business conditions, security and revenue opportunities half of the respondents said that perception of value of the IT budget by executives is equally important to other business units. Seventeen percent of respondents said that the IT budget is more important than other business units.

While the budget process will likely never be an activity most of us relish, it’s perhaps the best tool for separating what the organization says and what it actually does. It provides an unparalleled view into what the organization values, how it perceives technology, and how we as IT leaders have performed in educating our peers about our capabilities and abilities.

The budgeting process also provides the ultimate report card on IT’s competency. Leaders who look at the budget process solely as a painful administrative exercise are missing one of the most powerful tools at their disposal for evaluating their performance and moving the organization forward.
How investing in IT helps to deliver the goods

BY MARK SAMUELS

Parcel delivery firm Hermes processes at least 1.2 million packages a day; at peak times like Christmas, that figure can exceed two million.

“Technology is the biggest differentiator in our industry,” says the company’s CIO Chris Ashworth. “We deliver parcels for major retailers. Our services potentially affect the customer journey as much as the work undertaken by our retail clients. They want to know that, if they’re going to put their trust in us, that we’re going to protect their reputation. That’s the journey we’re on.”

But it’s a journey that is not without risks.

“In business, there’s nothing like a performance peak in logistics—if you’ve got two million parcels in your network and you can’t clear them, there’s another two million about to join tomorrow. When it starts to go wrong in logistics, it really goes wrong,” says Ashworth, who says that IT investment is key to creating a competitive advantage.

SPENDING ON TECHNOLOGY TO BUILD SOLID FOUNDATIONS

Ashworth joined Hermes in August 2016. An experienced IT leader who’d previously worked for Genting Casinos and Yodel XL, he was attracted to Hermes by the enthusiasm of the executive team and the opportunity to use technology to drive business transformation. While the opportunity for change was great, Ashworth also encountered some challenges.

“It was a legacy business,” he says. “They’d established a great business model and they were very competitive, but the technology wasn’t keeping up. It was a big transformation job and they wanted to change at pace. I love that kind of challenge—and there was a strong remit for the CIO, with significant financial backing.”

Ashworth received a strong indicator of the challenge he faced just eight weeks after joining Hermes. The firm’s IT systems fell over at peak time. Ashworth had to decide which process—courier payment, parcel tracking or parcel delivery—was going to be stalled temporarily to keep the business running.

“We had to take tracking, in terms of management information, away for about three weeks and it was only because of the strength of our relationship with our clients that they stuck with us,” he says. “It was both challenging and liberating for me as CIO. I knew what I had to do to transform the business.”
Ashworth has received key backing from the executive team. His focus so far has been two-fold: big data and the cloud. The firm’s new data model is based around the implementation of a data lake that holds all operational information. Ashworth is using a consumption-based cloud architecture for cost and flexibility reasons.

“As cloud matures, horizontal scaling is key for a business like ours. A consumption-based infrastructure in a spikey business means we can ramp IT resources up or down on demand. Becoming fully digitised has been a significant journey—and we don’t finish that journey for another 12 months,” he says.

Ashworth says progress thus far represents a great foundation. About 70 percent of business processes are now in the cloud and all major system information is held in the data lake. Hermes is also starting to build operational data stores in SAP Hana across this lake. These integrated data stores will help the firm to create a single view of the customer.

INVESTING IN INNOVATIVE SERVICES

While technology can help Ashworth ensure high-performance activities and smooth business operations, he does not invest in technology for the sake of it. As a commercially minded CIO, Ashworth only uses technology when the business case is clear.

“My work isn’t about finding a sexy bit of kit and wondering what I can do with it. I’m always looking at a business problem first and thinking about how I can address that through technology.”

—Chris Ashworth

Timing is crucial, too. Ashworth has about a six-month window to innovate and deliver change projects. The business is in lockdown between October and the end of January, which is peak season in terms of deliveries. Deadlines for the financial year mean budgets are not signed off until the start of April. Once a decision is made, Ashworth and his team must move quickly.

Ashworth is eager to attract new talent to the firm. Hermes’ development efforts are currently directed towards customer experience. The firm’s Digital Futures programme aims to create great parcel diversion and tracking processes for its retail clients and their customers.
Developments include a pay and print in-store service. This service allows customers who are sending or returning a parcel to receive a QR code through their devices. When they visit one of the firm’s 4,500 drop-off points, customers can show the code and receive a return label automatically from a shop assistant.

The Digital Futures programme also stretches to work in the contact centre, where Hermes is implementing web bot technology. These bots provide an automated response to initial questions posed by customers during an online enquiry. The approach should provide quick answers to queries, helping improve the speed and reliability of service levels.

Ashworth keeps an eye on further innovation—and Hermes, rather than avoiding change, embraces risk. “If it’s something crazy, we try and bring it closer; we’ve got an innovation team that has its own budget but which reports into me,” he says. “We don’t constrain them and we try and bring services through to the business via that approach.”

The innovation team, for example, developed the print and pay service. This service moved from an idea to a working prototype in five days. The team also created Hermes Play, which allows retail clients to create personalised labels, such as birthday messages, for customers.

Hermes also taps into external entrepreneurship. The firm ran a partnership with Starship Technologies last year, which allowed the firm to collect parcels through self-driving robots in Southwark, London. “We collected live parcels via that system—less than 100, but it was a trial,” says Ashworth.

“It was a tight test environment and the process wasn’t embedded in our core proposition. We wanted to see how it might run and to test the demand from customers. They liked the service. I think there will be a place for robots, but we’re still at an early stage. There’s going to be further innovation in the final mile of delivery—and I just have to make sure I have the foundations in place to make sure we can innovate rapidly.”
Why CIOs must lead 2019 IT budget planning with digital transformation

BY ALISON DENISCO RAYOME

Companies are projected to invest more in technology across both IT and lines of business during the 2019 budgeting season. With that being the case, it’s key for CIOs to get a seat at the table and lead budget planning with digital transformation projects in mind, to deliver the most value to the business and remain competitive, analysts say.

Total US tech spending will rise an estimated 5.5 percent in 2019, while business technology spending will rise by 9 percent, according to a recent Forrester report. An improving economy and growth in cloud usage are partially responsible for the uptick in budgets, Forrester found.

“Our latest analyses have budgets still growing strong,” said Matt Guarini, vice president and research director at Forrester. “We’re optimistic that now’s the time to strike.”

While IT budgets overall are increasing, the traditional CIO budget is less so, according to James Anderson, research director at Gartner. CIO budgets are now typically either for managing legacy infrastructure or moving to cloud-based services, Anderson said. Most of the digitization funding for things like software or automated solutions are being paid for out of business unit technology funding—outside of the purview of the CIO, Anderson said.

“A lot of the CIOs that we work with are looking to move from a service provider to a partner role to be able to influence the spending of those budgets,” Anderson said. This means being involved in the decision-making of where the company should be spending money, versus being told “This is what we’re going to spend money on, and we need you to help implement it,” Anderson said.

However, it’s rare to find a company with leaders who are not saying “We need to become more like a software and data company, and create business value from applications and data,” said Mike Kanazawa, partner and Americas enterprise innovation leader at EY.

That means companies need to see IT moved from a backend system and cost of doing business to something completely integrated into products, services, and value propositions, Kanazawa said. “If you don’t spend on it, it’s almost like not spending on R&D if you’re a pharmaceuticals company,” he added. “You’re going to lose your competitive edge in your own industry.”
TECHNOLOGY AS STRATEGIC DIFFERENTIATOR

Companies gain the true value of technology when they leverage it to optimize a current business process or model, Anderson said.

“Most of the true digital transformation opportunity lies within the business units and the processes themselves,” Anderson said. “Not only to optimize the current business models, but to look at potential forms of new revenue coming from new types of business models.”

These are things most organizations struggle with because they are not able to articulate the true business value of IT, Anderson said. But the CIO can make these needs more clear.

“It’s not looking at what’s in the ‘IT budget’, but at all of those things across the business that can be influenced by IT, which is just about everything,” Anderson said. “If you’re not on the innovation end of trying to fund digitalization of your business, it’s likely some other company is coming up with some type of an optimization technology to eat your revenue.”

Failure to consider digital transformation projects in budgets will have a major impact on the bottom line, and the competition, Kanazawa said. “Company after company has been disrupted or pushed out of their own market by somebody with a digital perspective, that’s created this new value proposition and new business model,” Kanazawa said. “It swings the market really fast.”

Technology can be a strategic differentiator, Guarini said. However, the ability to use it as such largely depends on where the CIO stands in the organization, he added: If they are more of a trusted advisor, that means their job is getting the company to see that technology can help with business processes. If they are a well-ingrained business partner, that means their responsibility is using technology to innovate new business propositions.

“You’re going to see some real divisions in who the winners and losers are going to be,” Guarini said. “We recognize that people have to constrain costs, but the real challenge right now is winning, retaining, and serving customers.”

A SEAT AT THE TABLE

To get a seat at the digital transformation budgeting table, CIOs need to be multilingual, in that they must speak the language of technology but also finance and business outcomes, Anderson said.
“It’s important to be transparent, and to be able to demonstrate the value that you have in IT, not only from a general ledger perspective, but from a technical powers perspective, and then a service portfolio perspective,” Anderson said. If a CIO can do this, they are better situated to demonstrate the value IT provides.

“IT has to move from being a back office cost of doing business operation and function into something that drives the business just as much as supply chain, manufacturing, product marketing, product management, and marketing sales,” Kanazawa said. “It is a business. It’s still ingrained into the value proposition itself. You can’t say ‘We’re all running the business, and IT’s going to support us’.”

CIOs have to help both IT and executive teams understand this, Kanazawa said. “It’s something way more than just a slight budget shift—it’s an entire culture shift,” he added. “If companies don’t learn how to instrument their customer experience and deliver digitally, they’re going to be completely irrelevant over time. It’s an existential threat to companies if they don’t get their IT departments to make this shift.”

IT departments need to run in a manner that gives them some funding for normal operations, and then some for innovative projects, Kanazawa said. “When we start to put IT on the front end of being more like a product-oriented group and being part of the value proposition, the competition and the pace of innovation is going so fast right now, one year funding is too long,” Kanazawa said. “Let me get a bucket of money in IT for some aspect six months from now that I need to build to stay competitive.”

That might mean a breakthrough technology becomes available, such as something related to the Internet of Things (IoT) or blockchain, or a competitor makes a move that requires your response.

“CIOs are only going to be successful and get the resources you need and the recognition you desire if the investments you’re making are driving business outcomes,” Guarini said. “We push to get the technology team focused on the customer, and focused on delivering business outcomes. You do those things, and you’re going to be much more of a factor in the strategy of the company.”
The role cybersecurity should play in 2019 IT budget planning

BY CONNER FORREST

If you were to ask IT pros what causes them the most stress in their jobs, many would likely say cybersecurity. According to a 451 Research Digital Pulse survey of IT generalists, 36 percent pointed to information security as the topic that keeps them up at night.

“Threats continue to multiply and expand; breaches seem to be getting worse, in terms of scale, depth and sophistication,” said Steve Wilson, vice president and principal analyst at Constellation Research. “Data is the lifeblood of the new digital economy, and the sophistication of criminals seeking to exploit that is growing all the time.”

According to a July report from Neustar, IT security professionals are twice as concerned about data breaches and cyberattacks as they were last year. And that concern is impacting the budget process, as 17 percent of the respondents to 451 Research’s survey cited information security as the largest budgetary increase area in 2018.

Daniel Kennedy, a research director at 451 Research, told ZDNet that the firm’s Voice of the Enterprise Information Security study found 80 percent of organizations were planning to increase security spending overall this year.

Still, understanding that cybersecurity is critically important is one thing; understanding how it should impact your 2019 IT budget planning is something else entirely.

Budgeting is (obviously) all about the money, so let’s start there. As Gartner vice president and distinguished analyst Paul Proctor told ZDNet, the biggest mistake you can make when budgeting is to blindly throw more money at your security team and expect better results.

“I’m not a fan of what is the most common practice out there, which is to ask how much are others spending on cybersecurity,” Proctor said. “That is not useful, because there are organizations that are spending a ton on cybersecurity and they have very bad risk postures, and there’s others that aren’t spending very much but they have very good risk postures. The bottom line is: It’s about their level of readiness.”

For Proctor, readiness is not about how much you spend on controls, but how good your controls are at defending your organization. The amount you’re spending doesn’t always correlate with your security maturity or readiness level, he said. Instead, leaders should be asking themselves if they have the level of readiness they want and, if not, whether they need to spend more to get there.
VALUE FOR MONEY

Many CFOs don’t look at readiness, Proctor said. They ask about industry benchmarks for spend, but neglect to ask about value for money. When it comes to security, “CFOs should always ask the question, ‘what am I getting for the money I’m spending?’,” Proctor said.

Once you understand that correlation between your readiness and what you’re spending, you can begin to have deeper discussions around the price/performance ratio. This allows you to ask whether or not you can spend less with other tools or outsourcing and maintain the same level of maturity and security readiness, Proctor said.

Essentially, said Constellation Research’s Wilson, it boils down to this: “What the IT function does with its cybersecurity resources is more important than how much they spend.”

According to 451 Research’s Kennedy, citing a study by Javvad Malik, security products are rarely retired. In fact, they’re usually just added to and built upon, which can cause some problems around the build up of unnecessary shelfware. This also stems from products bought strictly for the sake of compliance that may not have been aligned to any business goals.

When pruning, Kennedy said, “look for products that you aren’t getting current value from, and were implemented under murky circumstances or justifications—an auditor who is no longer around insisted on it, a champion of that project or vendor has moved on, etcetera—or where a different product you have in place is creating the same value.”

However, he cautioned, security budgets seem to be increasing all around, and now might not be the best environment for cost-cutting in information security. Kennedy and his team are seeing predicted increased allocations toward cloud infrastructure security, managed services, user behavioral analytics, and orchestration/automation type solutions, he said.

Distinct line items such as security personnel, security training, threat monitoring, vulnerability assessment, security tools, security upgrades, and continuous improvement should exist, Wilson said, but they need to be factored into IT across the board.

“Cybersecurity should be thought of as a component of enterprise risk management—though not necessarily run by enterprise risk—and what follows from that thinking is that HR, finance, operations etcetera should all have some ‘allowance’ for security,” Wilson said.
BEWARE OF HYPE

Overall, when looking at a tool, it’s important to gut-check the hype that surrounds it, Proctor said.

“Don’t follow the snake oil,” Proctor warned. “Yes, AI is going to be a big deal in security right now, but people are spray-painting the concept of machine learning and AI on every single thing they do.”

IT needs to be very careful with its spend in areas like AI as they are developing. Look for what can add real value to your organization. The same thing could be said for IT when determining what threats it believes it should protect itself against. Despite how publicized ransomware has been the past couple years, Kennedy said that only about 13 percent of organizations represented by 451 Research’s respondents had been victims of ransomware, and most of them just ended up reimaging the data from an available backup, he said. To put it simply, don’t chase headlines as a strategy of figuring what threats are the most relevant to your organization.

And if you have no idea where to start in terms of navigating the threats on the horizon, Gartner’s Proctor offered a simple solution.

“If you don’t know that answer for your organization, invest in threat intelligence, which will tell you what threats you should worry about,” Proctor said.

Indeed, taking a risk-based approach to security postures and budgeting seems to be on the rise, according to Proctor. As such, that may be something that CFOs need to consider—whether or not they want to shift to that security model and change their budget to accommodate it.
5 ways IoT projects can power your 2019 IT budget planning

BY TEENA MADDOX

The Internet of Things (IoT) is an essential part of enterprise IT infrastructure, so it’s only natural to include IoT projects when planning budgets for 2019.

IoT is long past the hype stage and now it’s time to implement projects, according to Richard Mark Soley, executive director of the Industrial Internet Consortium.

“Companies that ignore industrial IoT today will be laggards, no question, and that means they have to budget at least a test project for 2019,” he said.

Adding IoT can result in cost savings, better real-time analytics, improved productivity and more. Here are five reasons to include IoT projects in your IT budget.

USE IOT TO STREAMLINE MANUFACTURING

According to Mark Hung, Gartner research vice president for AI and IoT, industrial IoT is currently the largest market for commercial IoT deployments. The manufacturing sector is using IoT to streamline data gathering and analytics, and applying the learnings to improve asset performance management.
Optimizing manufacturing performance may be the poster child for IoT projects, according to Bill Schmarzo, CTO of IoT and analytics at Hitachi Vantara. This is because “there are so many high-value use cases including optimizing manufacturing performance or yield, improving predictive maintenance, improving production execution, optimizing production capacity management, and reducing inventory, logistics and supply chain costs. In the near future, all factories will be smart factories that have mastered the art of capturing and mining all the manufacturing data to optimize the business and operational decisions necessary to support the economic and financial viability of the factory,” he said.

IoT combined with other innovations like additive manufacturing and robots/ cobots will have an impact. “Design, build, and support timescales need to become shorter, and these process must become more tightly integrated. Analytics plays a role here, but so do innovations like the digital twin. IoT creates the bridge between the physical machine and the digital world, which is made visible to developers, operational staff, and business leaders through the digital twin,” said Paul Miller, senior analyst for Forester.

Having AI-driven technology solutions combined with IoT data can help manufacturers. “We increasingly have flexibility to push this technology to the edge which enables real-time decision making. In many ways the biggest hurdles are basic connectivity of equipment on the factory floor. There are literally dozens of different equipment manufacturers, functions, interfaces, and protocols on a typical factory floor. Manufacturers often need experienced partners who can help negotiate these differences and then capture and normalize the data, deliver it to enterprise systems, and apply AI to make business decisions,” said Stephan Biller, IBM vice president, Watson IoT.

**USE IOT FOR REAL-TIME ANALYTICS**

“We increasingly have flexibility to push this technology to the edge which enables real-time decision making. In many ways the biggest hurdles are basic connectivity of equipment on the factory floor. There are literally dozens of different equipment manufacturers, functions, interfaces, and protocols on a typical factory floor. Manufacturers often need experienced partners who can help negotiate these differences and then capture and normalize the data, deliver it to enterprise systems, and apply AI to make business decisions,” said Stephan Biller, IBM vice president, Watson IoT.
alone is only marginally interesting. Things get much more interesting when you combine this data with an AI engine and use these insights to make decisions in real-time. In many industries improving the quality and velocity of decision making can lead to huge savings. For example, an LCD manufacturer that can use AI-powered visual defect detection can not only spot defects fast, but also take action immediately based on prescriptive insights from real-time analytics. This can lead to millions of dollars in savings from lost productivity, scrap, and rework.

Susanne Seitinger, global market segment manager for Signify (formerly Philips Lighting) said, “The more connected devices you have on a network, the more data you have available, the more insights are hiding in your data pools. The key to generating value from your IoT projects is the ability to apply precise analytics that sift through the data to uncover actionable insights. The quicker and easier this process takes place, the better you are positioned to make well-informed decisions that will translate into tangible business outcomes.”

USE IOT TO IMPROVE BUSINESS PROCESS AUTOMATION (BPA)

In transportation and logistics, insights gleaned from IoT will have a positive impact on business process automation, Hung said.

Cheryl Ajluni, IoT solutions lead at Keysight Technologies, said, “IoT is possibly the key enabling technology for business process automation (BPA) and in fact, BPA may be the most significant driver for the deployment of IoT. Today, there are even BPA solutions enabled by IoT. According to a recent customer survey by Vitria, that is exactly what a lot of the organizations are already doing. The executives across the enterprise, consumer and industrial sectors see massive opportunity with real-time big data analytics to drive business outcomes for their IoT initiatives. In fact, 48% of the companies surveyed are already actively working on a real-time analytics project for the IoT. IoT analytics is seen as a core investment strategy and predictive maintenance is the leading business need for these organizations.”

Using automation to optimize operations allows a company to act faster. Being able to act quickly is “becoming doubly important as knowledge silos and an aging workforce make it hard for many industrial companies to
optimize operations. By linking IoT, AI, and business process automation many clients are becoming more adaptive,” Biller said.

USE IOT TO IMPACT ASSET PERFORMANCE

Another big area impacted by IoT projects is asset performance, according to Biller.

“IoT along with AI is revolutionizing how firms balance asset maintenance costs, availability, and risk. This is enabling virtually any asset-intensive industry—industries like oil and gas, utilities, manufacturing, etc—the maximize asset performance. The savings can be huge. For example, according to McKinsey, asset management at a transmission and distribution utility can be 20-30% of operating expenses and 15-20% of capital expenditures,” Biller said.

The most prevalent use case for manufacturing is asset management, according to Ari Weil, vice president of product marketing for Akamai. “By utilizing IoT data, businesses can better predict when machines need maintenance or how adjustments will impact the production run. Managing asset maintenance, dynamically adjusting production runs, reporting for compliance can be automated and reduce downtime, improve product delivery timelines and reduce operational costs.”

USE IOT IN SMART CITIES AND SMART BUILDINGS

IoT is also an essential part of smart cities and smart buildings. Smart cities leverage IoT to connect and unify city infrastructures across agencies. This provides real-time visibility into city operations. Making sure that IoT is included in budgets for 2019 is essential for cities.

IoT systems within a smart city include better regulation of traffic, improved public safety systems such as smart surveillance and emergency response system and more efficient public transportation, said Allen Salmasi, CEO of Veea.

“Edge computing will play a large role in enabling smart city IoT projects, as these projects demand increasingly more
bandwidth, lower latencies, while connecting to more sources of data. As a result, it will become increasingly important for data to be collected and processed at the edge. Smart buildings will also be an area where IoT will have a large impact. Smart buildings are more efficient, give more control to building owners and operators and provide a better experience for occupants. Connected sensors, devices and systems allow for real-time monitoring as well as control and automation of building infrastructure,” Salmasi said.

**ADDITIONAL BENEFITS OF IOT**

There’s cost reduction, asset optimization and employee productivity to consider as well as benefits to be realized as part of an IoT project. For external facing IoT projects, customer retention and engagement is a strong focus, Hung said.

It’s easy to convince an IT department to add IoT. “Clients are intensely interested in projects that can save money across the enterprise. So if you can save an hour a day of production downtime it becomes a very easy sell for IT to invest,” Biller said.

**WHY IT’S ESSENTIAL TO INCLUDE IOT IN BUDGET PLANNING**

“During this business cycle, it’s important for IT to engage with their business partners to determine the top issues that they’d like to address for the next year. IoT will often be part of the solution to those issues, and it is important for enterprises to at least explore the capabilities of IoT through focused trials and POCs (proof of concept),” Hung said.

If a company doesn’t invest in IoT, Schmarzo said, “at a minimum, these organizations will miss out on learning how to manage real-time sensor and device data and the associated streaming analytics. IT organizations need to start building some muscle in learning how to manage the flood of real-time data, and gaining experience in building analytics at the edge in order to determine which data is most valuable based upon the organization’s key business and operational use cases.”

Schmarzo said that on a broader scale, companies that don’t act on these new sources of customer, product, service and operational insights put their business models at risk to those that are mastering or already have mastered these new capabilities: “In the end, it’s about identifying and capturing these new sources of customer, operational and market value more quickly than your competition. This is one race where you don’t want to finish second.”