

Securing the supply chain

July 2018

Demographics - respondents

1,300 senior IT decision makers and IT security professionals were interviewed in April and May 2018 split in the following ways...

...respondent country

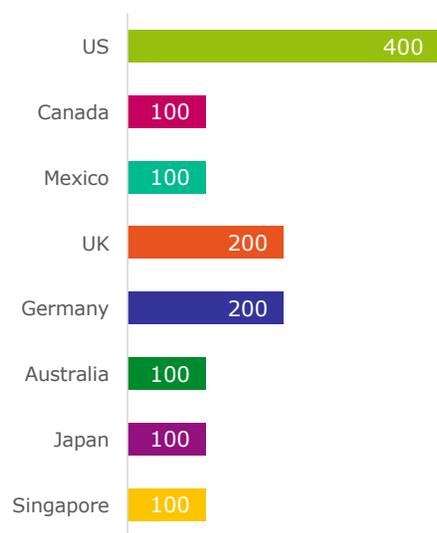


Figure D1: Analysis of respondents' country. Asked to all respondents (1,300)

...respondent type

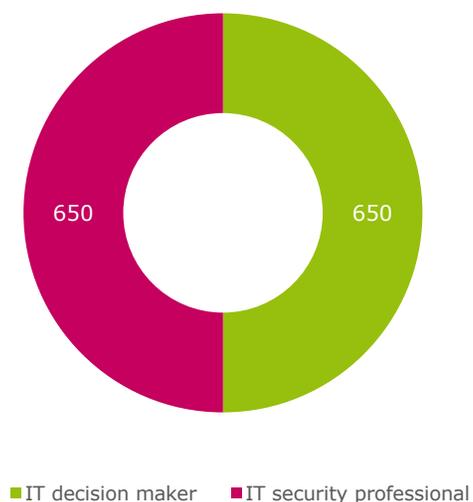


Figure D2: Analysis of respondent type. Asked to all respondents (1,300)

...respondent job role

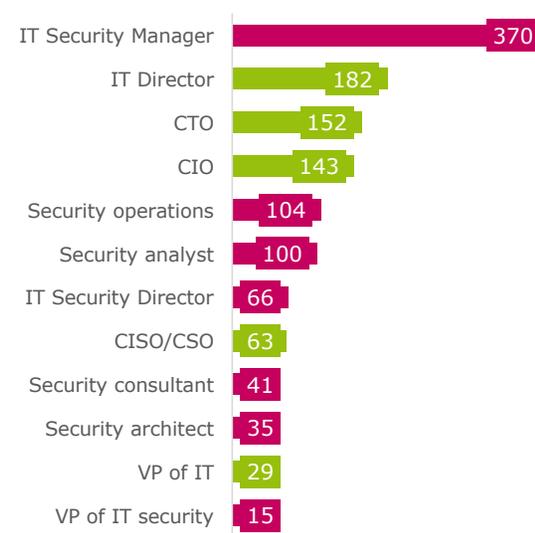


Figure D3: "Which of the following best describes your job role in your organization?" asked to all respondents (1,300)

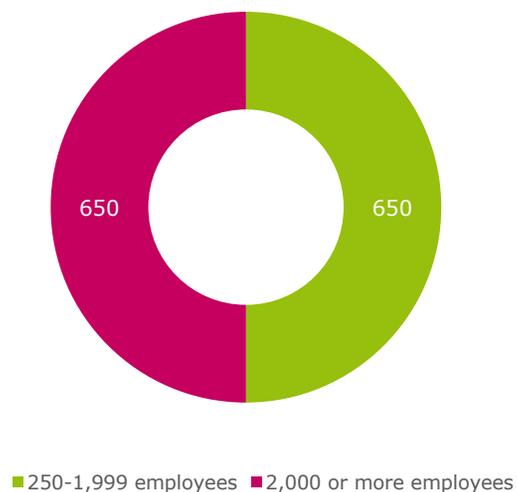
Demographics – respondents' organizations

1,300 senior IT decision makers and IT security professionals were interviewed in April and May 2018 split in the following ways...

...organization sector



...organization size



...organization's total annual IT/cyber security spend



Figure D4: "Within which sector is your organization?" asked to all respondents (1,300)

Figure D5: "How many employees does your organization have globally?" asked to all respondents (1,300)

Figure D6: "What is your organization's total annual spend on IT/cyber security?" asked to all respondents (1,300)

Four areas of interest:

- 1: The cyber security conundrum
- 2: The security disruptor – supply chain attacks
- 3: Eliminating the weakest link
- 4: When the chain breaks

1: The cyber security conundrum

Overall cyber security concerns

Nearly all (97%) respondents recognize at least one type of cyberattack that causes concern for their organization for the next 12 months

Most likely to be causing concern are general malware attacks (57%), while phishing/spear phishing concerns half (50%) of respondents

On average, respondents identify three different types of attack that causes their organization concern

When it comes to the threat of cyberattack, nearly everyone is worrying, and not just about one type of attack

Does this opinion change depending on the respondent type?

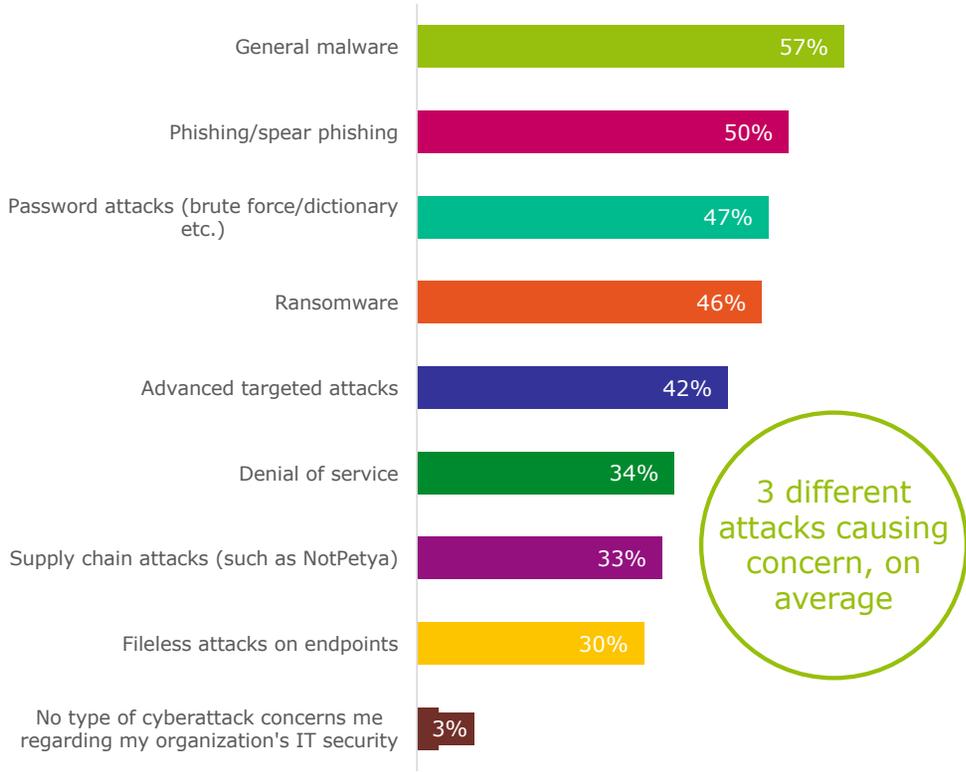


Figure 1: "Thinking about your organization's IT security over the next 12 months, which of the following types of cyberattack are causing concern in your organization?" asked to all respondents (1,300)

Different respondents with different concerns...

IT decision makers are more likely than security professionals to be concerned by *all of the types* of attacks shown below, with the biggest discrepancies surrounding fileless attacks on endpoints (35% vs. 25%), denial of service (39% vs. 30%), and ransomware (50% vs. 42%) attacks

Senior IT employees are more likely to worry about cyberattacks – is their senior position in the organization promoting worry, highlighting greater oversight, or showing a lack of complete knowledge about what it is that they do to protect against these attacks generally?

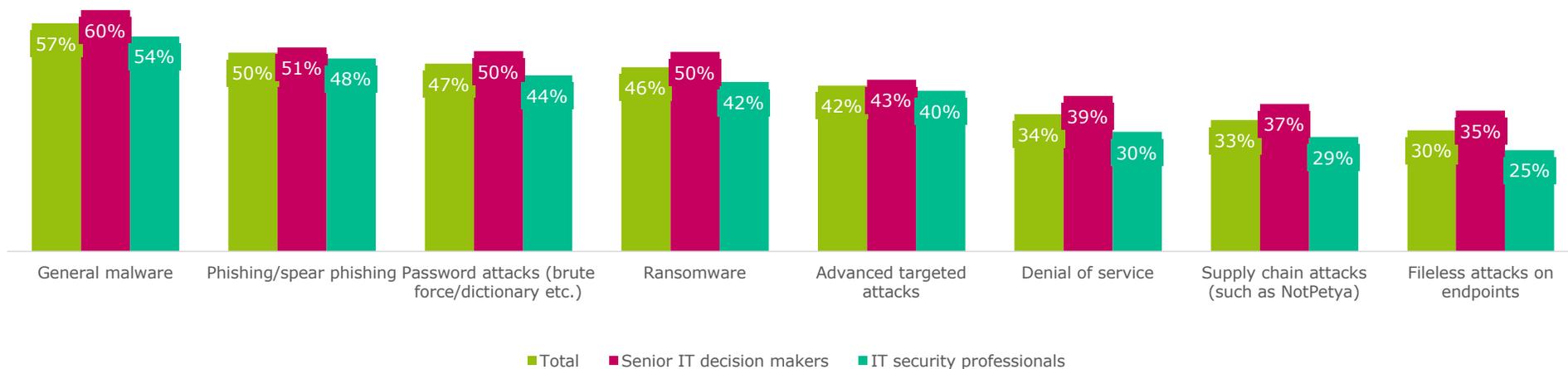
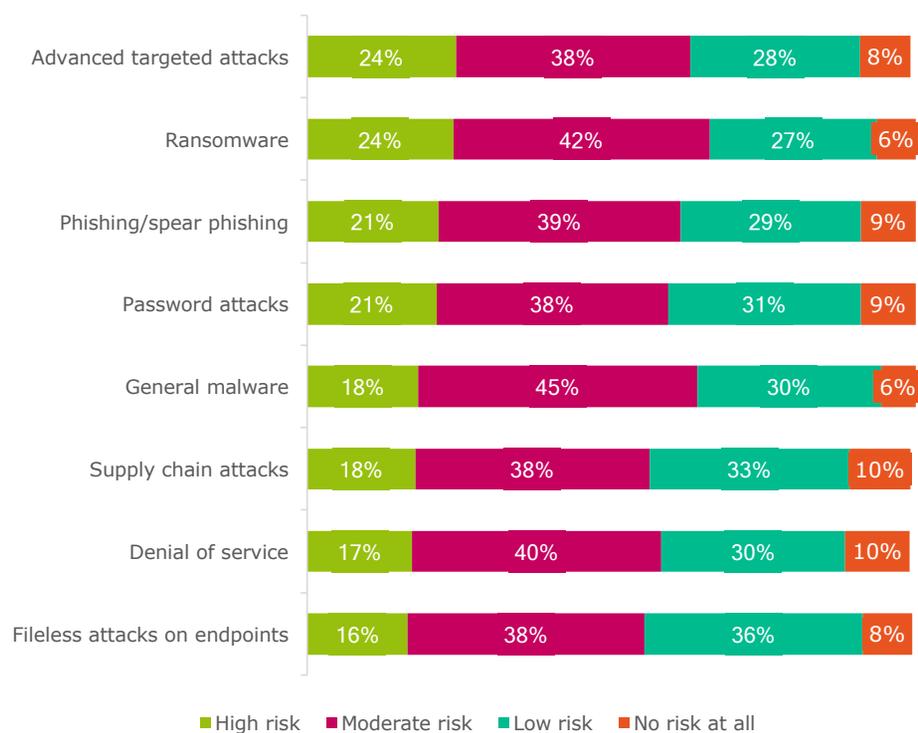


Figure 2: "Thinking about your organization's IT security over the next 12 months, which of the following types of cyberattack are causing concern in your organization?" asked to all respondents, split by respondent type (1,300)

Risk posed by cyberattack



Only a minority (10-6%) of respondents feel that they are at no risk from the listed cyberattacks

For instance, only 6% of respondents feel that general malware attacks pose no risk to their organization, with over six in ten (63%) at high, or moderate risk from this type of attack

When it comes to the highest risk, advanced targeted attacks (24%) and ransomware (24%) lead the way – just shy of a quarter are at high risk

It would appear that respondents’ concerns (fig. 1) are justified

Are organization’s perceptions of risk level influenced by how prepared they feel to defend against these attacks?

Figure 3: “How would you define the level of risk that you feel that your organization is currently exposed to regarding the following cyberattacks?” asked to all respondents, but excluding ‘don’t know’ responses (1,300)

Preparing to defend against attack

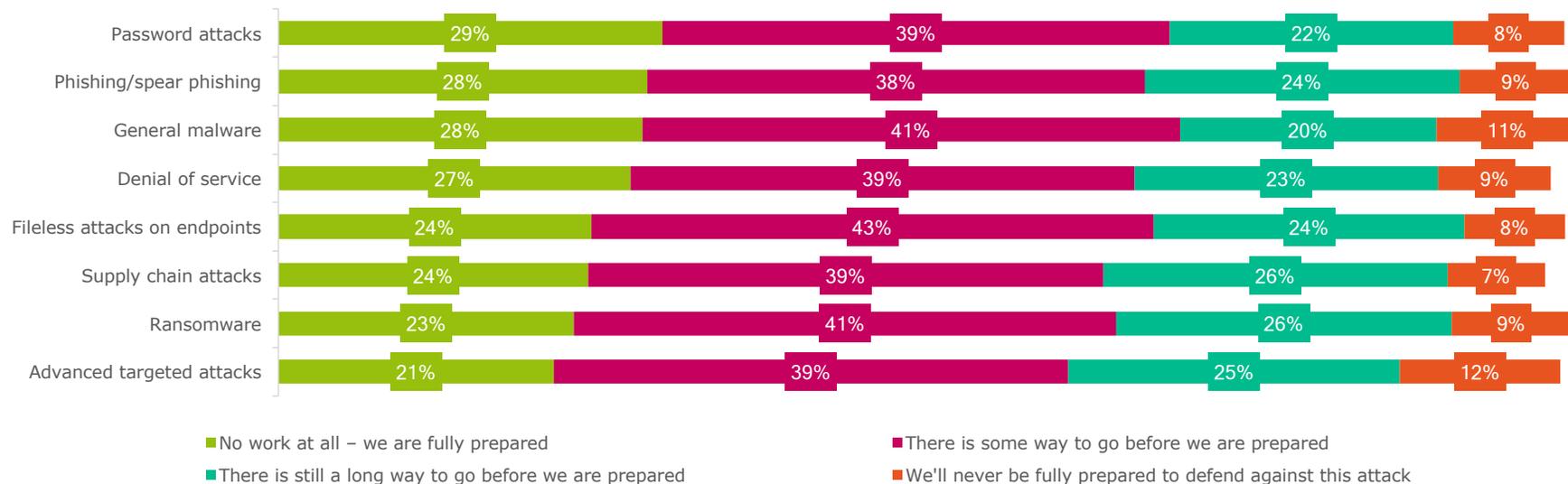


Figure 4: “How much work does your organization still need to do in order to be fully prepared to defend against each of the following attacks?” asked to all respondents, but excluding ‘don’t know’ responses (1,300)

It is no surprise that respondents are worried for their organization over the next 12 months – almost seven in ten or more respondents’ organizations are not ready to defend against attack types like ransomware (76%), phishing/spear phishing (71%), general malware (72%), or password attacks (69%)

And it is advanced targeted attacks, the attack type most likely to be seen to be posing a high risk (fig. 3), where the fewest (21%) respondents feel fully prepared to defend against

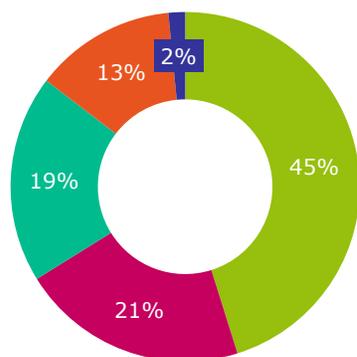
If organizations are not prepared to defend themselves, they will be unable to reduce this level of risk

Behind the cyberattack

Cyberattacks from organized cyber criminals and eCrime groups worry approaching half of respondents the most (45%)

However, over a fifth (21%) see insider threats as the cyber attacker causing the most concern

Organizations must be vigilant against threats from outside, and inside, if they are to increase preparedness to defend

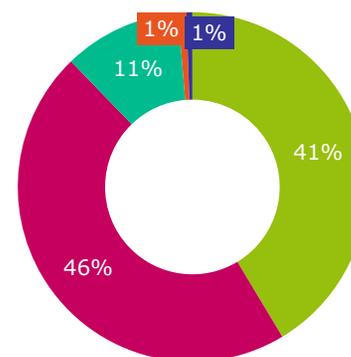


- Cyber criminals and eCrime groups (financially motivated)
- Insider threats
- Hacktivists
- Nation-states
- Don't know

Figure 5: "Thinking of all of the different types of cyber attacker who may target your organization, which concerns your organization the most?" asked to all respondents (1,300)

Regardless of who the attacker is, the vast majority (88%) see it as either crucial or important that they find out who is behind the attack

Identifying the attacker is seen as a key step in shoring up defense practices and reducing the risk of a repeat attack – something that many are keen to do



- It is crucial that we find out who is behind the attack
- It is important that we find out who is behind the attack
- It is something that we would like to know, but not important
- It is not important at all for us to know this
- Don't know

Figure 6: "How important is the attribution of cyberattacks to your organization's security strategy?" asked to all respondents (1,300)

The importance of cyberattack attribution

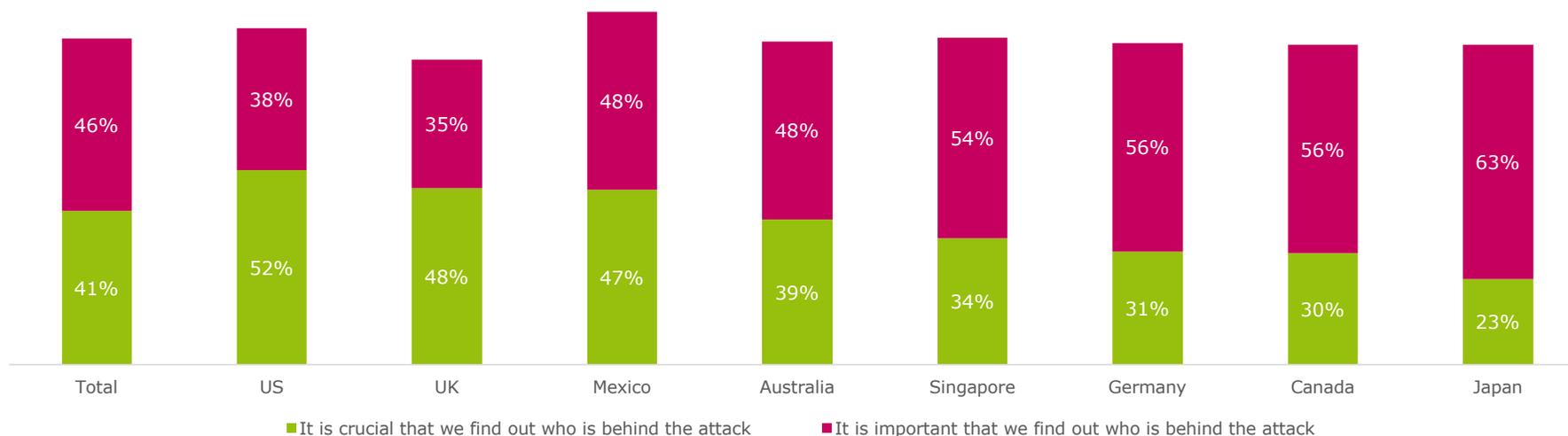


Figure 6a: Analysis showing the percentage of respondents who think that it is crucial, or important, that their organization finds out who is behind any cyberattack levied against them. Asked to all respondents, split by respondent country (1,300)

In all markets there is some importance placed on discovering who is behind a cyberattack on their organization, with the majority (91-82%) saying that this is either important or crucial

But it is in the US where respondents are most likely (52%) to feel that the attribution of cyberattacks is crucial to their organization, while fewer than a third in Germany (31%), Canada (30%) or Japan (23%) feel this way

Finding out who is behind a cyberattack can be the first step in trying to understand an attack, and prevent it from occurring again, but in some countries the level of desire to find this out is much higher than others

Attacks by nation-states

Although no market is particularly concerned about nation-state cyberattacks, some are even less concerned than others...

In the UK, respondents are most likely to be concerned about this type of attack/attack origin, but even here it is only one in six (17%) who see nation-state attacks as the most concerning

Many IT decision makers and security professionals are overlooking the threat of nation-state attacks

Could this be because the threat from other vectors, such as cyber criminals, is just so high, or is it a genuine misconception that "it won't happen to us"?

Are there any discrepancies when comparing different industries?

Are most concerned by cyberattacks by nation-states

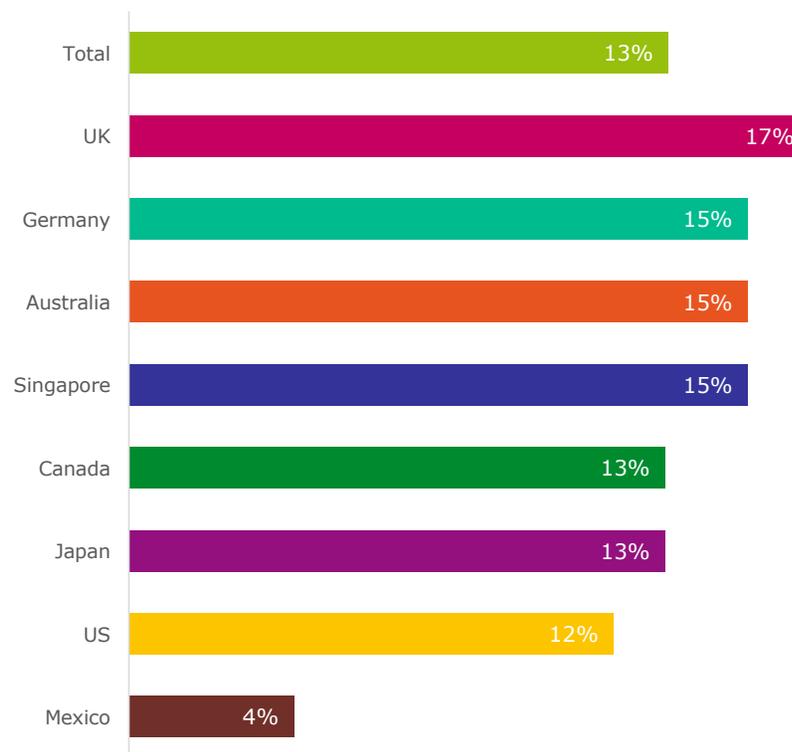
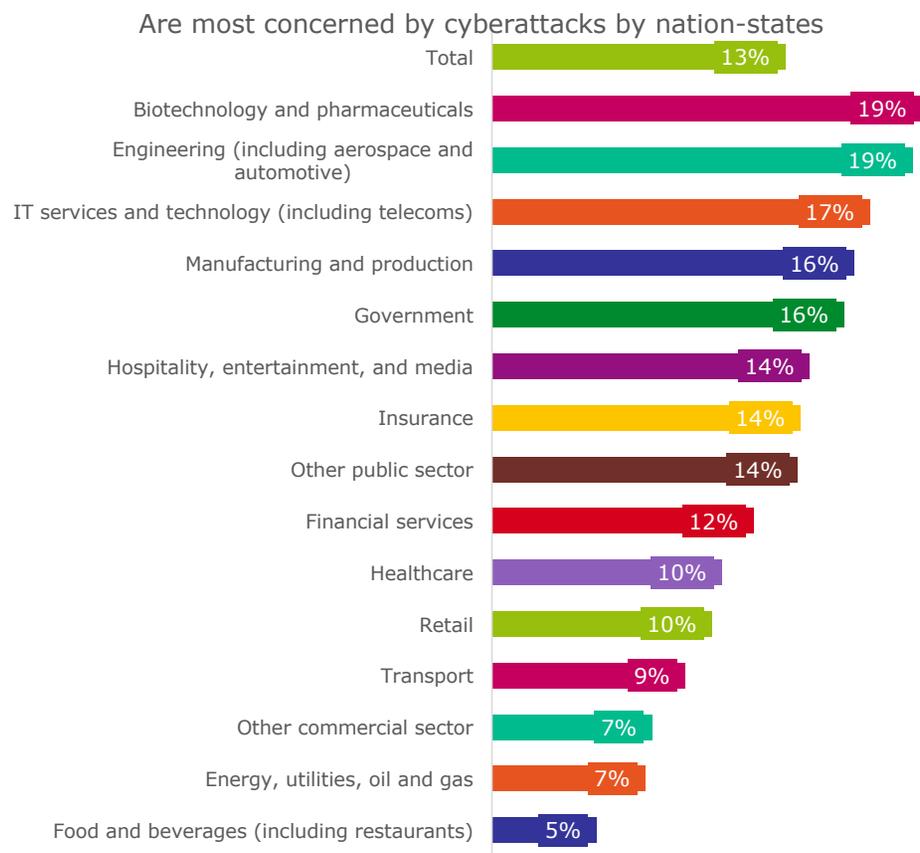


Figure 7: Analysis showing the percentage of respondents who are most concerned by nation-states targeting their organization for cyberattack. Asked to all respondents, split by respondent country (1,300)

Attacks by nation-states



Respondents from some industries are more aware of the risk of attacks by nation-states

There isn't a sector where more than one in five respondents see attacks by nation-states as the biggest concern, but those where respondents are most likely to hold this view include biotechnology and pharmaceuticals (19%) and engineering (19%)

At the other end of the scale, respondents working in retail (10%), transport (9%), energy, utilities, oil and gas (7%), and food and beverages (5%) are among the least likely to recognize the risk to their organization from nation-state attacks

Nation-state attacks can hit any industry, but many respondents are under the false impression that "it can't happen to us"

What are respondents thought on IT security spending?

Figure 8: Analysis showing the percentage of respondents who are most concerned by nation-states targeting their organization for cyberattack. Asked to all respondents, split by organization sector (1,300)

Security spending



That investing in security can help their organization gain a competitive advantage

Figure 9: Analysis showing the percentage of respondents that agree with the statement above. Asked to all respondents (1,300)



Figure 10: “How confident are you that your organization is spending in the correct areas of IT security?” asked to all respondents, showing the percentage of respondents that selected ‘complete confidence’ split by respondent type (1,300)

One way to reduce risk and increase readiness to defend against a cyberattack is to increase investment in cyber security, but it can go further than that as most (89%) respondents agree that doing so can give their organization a competitive advantage (fig. 9)

But investment has to be good investment to make a difference – and fewer than a third (32%) feel that their organization is covering all of the right areas with their IT security spend (and only 29% of security professionals) (fig. 10)

With so many (64%) believing that some key aspects of cyber security investment may be being missed, many organizations will be unable to rectify their lack of preparedness (fig. 4) and bring down the risk that they are exposed to (fig. 3)

The price of corporate security

Respondents are far more likely (78%) to agree that corporate security is more important than individual employee privacy, than disagree (21%)

Perhaps this is influenced by respondents' job roles, coming from IT and in particular IT security, they are more likely to hold corporate security in higher regard than general employees

Regardless of who agrees or disagrees, it is a polarising issue, with nearly every respondent (99%) falling on one side or the other in this debate

And it seems that most respondents are under no illusions about the threat of weak or ineffective security

However, achieving completely security without invading employee privacy must be the desire for most

"Corporate security is more important than individual employee privacy"



Figure 11: Analysis showing the percentage of respondents that agree and disagree with the statement above. Asked to all respondents (1,300)

2: The security disruptor – supply chain attacks

Supply chain attacks in respondents' minds

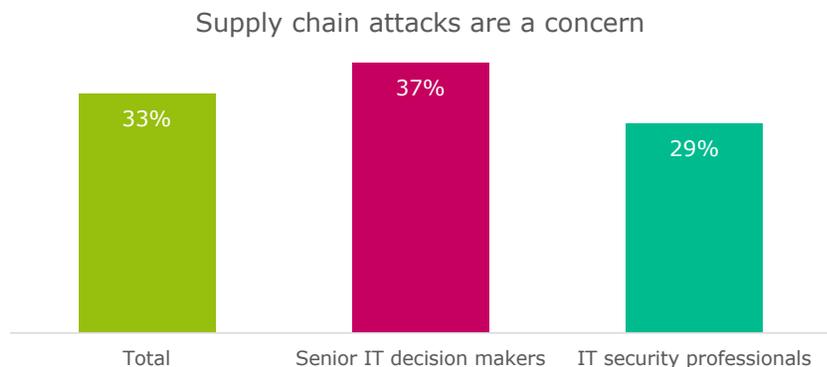


Figure 12: Analysis showing the percentage of respondents who see supply chain attacks (such as NotPetya) as a concern for their organization over the next 12 months. Asked to all respondents, split by respondent type (1,300)

Only a third (33%) of respondents see supply chain attacks as concerning for their organization over the next 12 months. This places it below attacks like general malware, ransomware, and password attacks on respondents' 'cyber-threat-radar'. Interestingly, security professionals are less likely to be concerned about this attack type than senior ITDMs (29% vs. 37%), possibly because of the ITDMs more elevated position in the organization.



"We still have work to do before we are prepared to defend against supply chain attacks"

Figure 13: Analysis showing the percentage of respondents who think that their organization still has either a long way to go, or some way to go, before they are fully prepared to defend against supply chain attacks. Asked to all respondents, split by respondent type (1,300)

Around two thirds of both IT security professionals (68%) and IT decision makers (64%) readily admit that their organization has work to do if they are to be prepared to defend against supply chain attacks. This low level of preparedness puts the lack of concern surrounding these types of attacks (fig. 12) into context - supply chain attacks are being overlooked and forgotten about.

Top areas of IT security focus

Only around a third (35%) of respondents place preventing supply chain attacks as one of the top three areas of focus for their organizations' IT security

Much more likely to be included among organizations' top three areas of focus is protecting data and IP (59%), early attack detection (59%), faster incident response (46%), or perimeter security/attack prevention (42%)

For the IT security professionals, the focus is more likely to be on tasks such as early attack detection (61%) or faster incident response (50%) – focusing around spotting and responding to breaches

With the focus of IT security not upon supply chain attacks, many organizations are unlikely to find themselves more prepared to defend against them (fig. 13) in the near future

Does this lack of focus extend to the resources being dedicated to supply chain security?

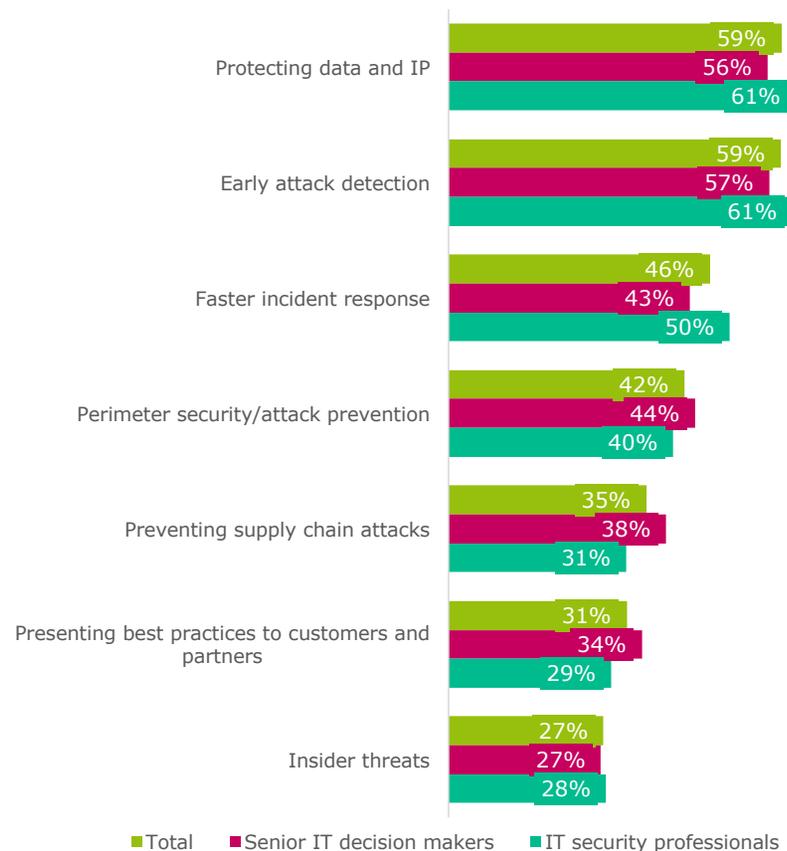


Figure 14: "In your opinion, what is your organization's focus when it comes to IT security?" asked to all respondents, showing a combination of the first, second, and third biggest IT security focuses, split by respondent type (1,300)



Spending on supply chain security

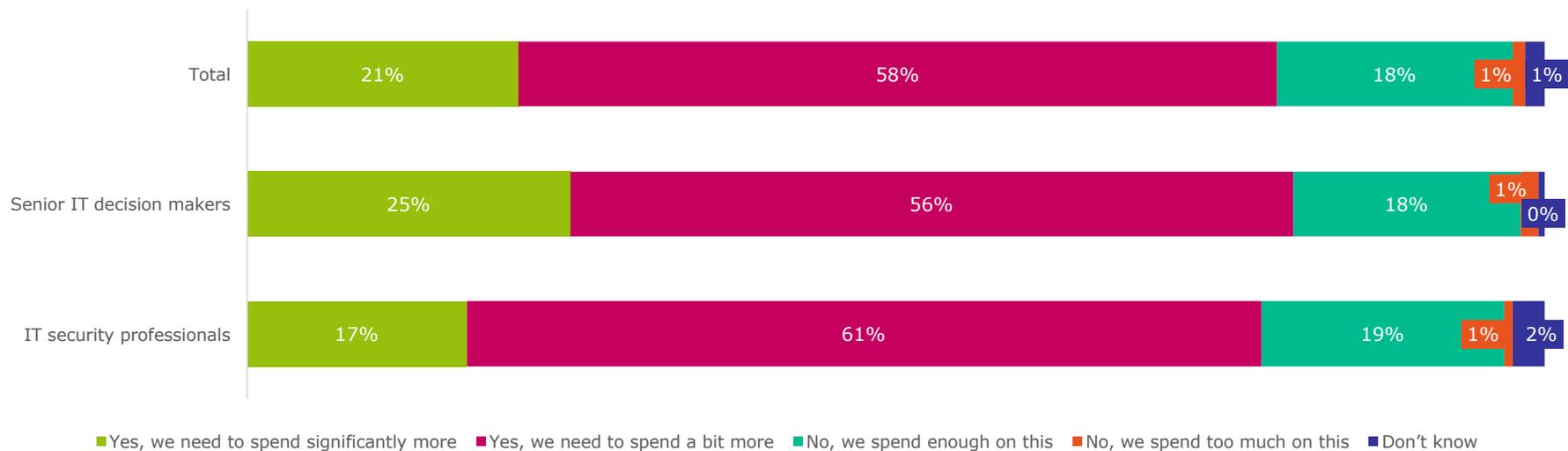


Figure 15: "In your opinion, should your organization be spending more on software supply chain security?" asked to all respondents, split by respondent type (1,300)

Nearly eight out of ten (79%) respondents think that their organization needs to spend more on software supply chain security, compared to fewer than a fifth (18%) who think that they spend enough

Despite being more likely to be in a position to influence spending strategy, it is the IT decision makers who are more likely (25% vs. 17%) to think that they need to spend significantly more

Organizations do have a lot to contend with when it comes to IT security, and for many this means that software supply chain security is being overlooked and ignored, but can this attitude persist?

Thinking about supply chain security...



Figure 16: Analysis showing the percentage of respondents that agree with the statements listed above. Asked to all respondents (1,300)

Many respondents can recognize their organization's oversight of supply chain security, and the need to address the issue in the near future

Over six in ten (62%) respondents agree that their organization can sometimes overlook software supply chain security when making IT spending decisions, reflecting the lack of focus on this area (fig. 14)

Perhaps the cause of this originates at the top of the organization – a majority (62%) of respondents feel that the executive leadership at their organization lacks awareness of the risks posed by software supply chain attacks

However when it comes to the potential of supply chain attacks over the coming three years, there is awareness: 79% believe that these types of attacks could become one of the biggest cyber threats to organizations like theirs over that time

Do opinions on supply chain attacks vary in different markets around the world?

Country splits

Respondents in Mexico (90%), Singapore (89%), and Canada (88%) are more likely to believe that software supply chain attacks have the potential to become one of the biggest cyber threats to organizations like theirs within the next three years

When it comes to overlooking supply chain security when making spending decisions, respondents in Canada (74%) and Singapore (74%) are the most likely to hold their hands up, with those in Canada also the most likely (77%) to feel that their organization's executive leadership lacks awareness on the risks of this attack type

Supply chain attacks can impact all markets, and even multiple markets at the same time as seen in 2017, but some are more awake to the dangers



Figure 17: Analysis showing the percentage of respondents who agree with the statements above. Asked to all respondents, split by respondent country (1,300)

Sector splits

Respondents from organizations in the IT services and technology sector (71%) and the food and beverages sector (70%) are the most likely to feel that their organization is overlooking supply chain security when making IT security decisions

In contrast, those working in the public sector (48%), retail (54%), or government (59%) are among the least likely to hold this view

Looking ahead, respondents at organizations operating in the financial services sector (87%), food and beverages sector (86%), or healthcare sector (84%) are the most likely to hold the opinion that software supply chain attacks have the potential to become one of the biggest cyber threats within the next three years, compared to hospitality, entertainment and media, who are the least likely (66%) to hold this view

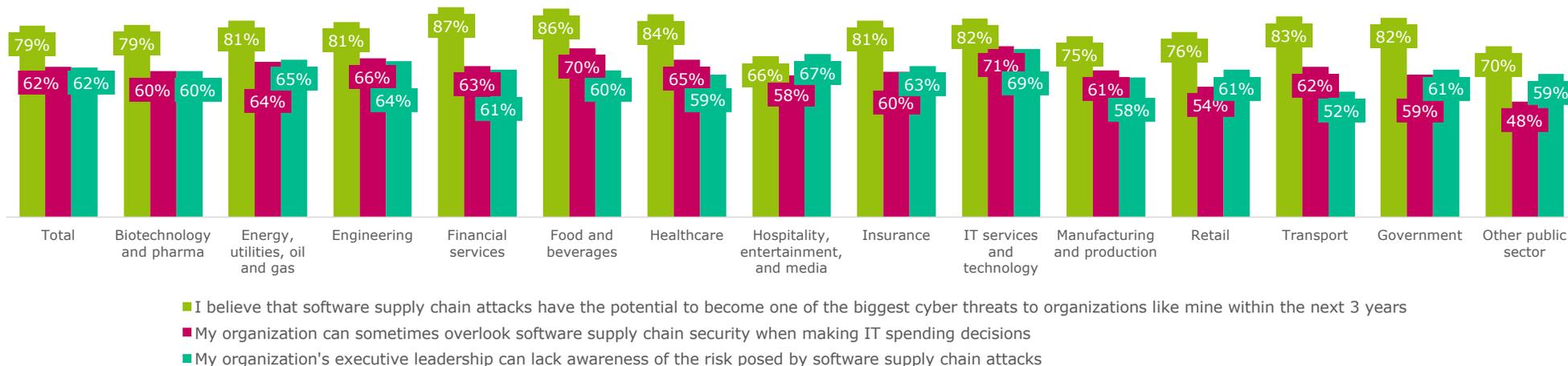


Figure 18: Analysis showing the percentage of respondents who agree with the statements above. Asked to all respondents, split by organization sector, and excluding 'other commercial sector' (1,300)

3: Eliminating the weakest link

Planning to respond to a software supply chain attack

Just under half (49%) of respondents' organizations have a comprehensive strategy in place to coordinate their response to a breach via software supply chain, with a similar number (47%) having some level of response pre-planned

Leading the way on this subject are the US and UK, where the greatest proportion of respondents indicate the existence of a full strategy (60% and 57%, respectively)

In all other markets, a comprehensive strategy is employed by fewer than half (47-37%) with Germany (38%) and Japan (37%) the least likely, globally

Implementing a complete strategy on the response to a supply chain attack would be the first step toward becoming more prepared to deal with one should it occur (fig. 13)

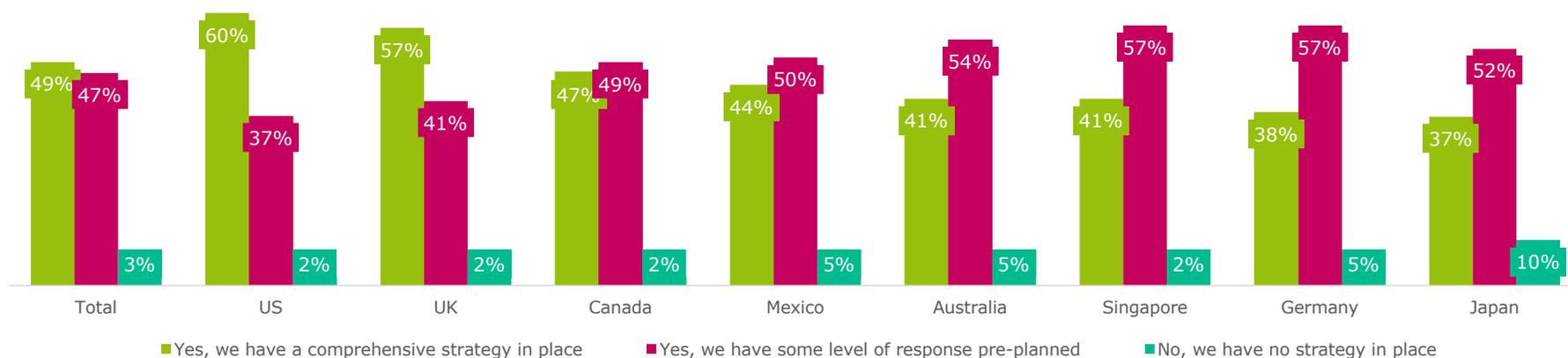


Figure 19: "Does your organization have a plan or strategy in place to coordinate your response should it be breached by software supply chain attack?" asked to all respondents, but excluding 'don't know' responses, split by respondent country (1,300)

Using new technology to fight supply chain attacks

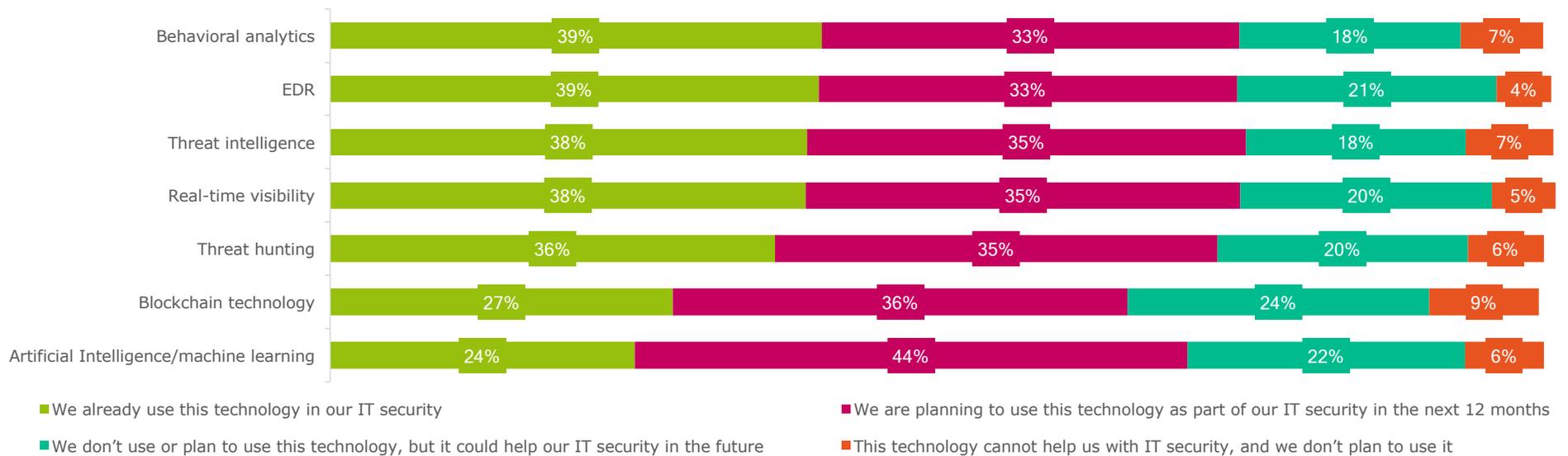


Figure 20: "Do you think that any of the following emerging technologies will be of particular benefit when trying to protect your organization against software supply chain attacks, and does your organization employ any already?" asked to all respondents, but excluding 'don't know' responses (1,300)

Some respondents' organizations are utilizing emerging technologies to aid in their defense against software supply chain attacks, such as behavioral analytics (39%), EDR (39%), threat intelligence (38%) and artificial intelligence (24%)

And if not currently using a technology, organizations are likely to be planning to do so within the next 12 months (33-44%)

The fight against software supply chain attacks is ever evolving, and many recognize the value of new technology to their organization in their continued effort against attackers

Vetting suppliers

Fewer than a third (32%) of respondents' organizations have vetted all of their suppliers, new or existing, over the past 12 months

This is despite the recent high profile supply chain attacks in 2017 shedding light on this area of vulnerability

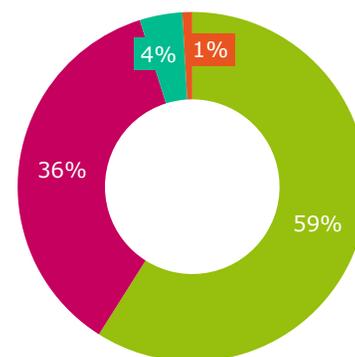
And incredibly, despite all of these attacks, some (5%) organizations still perform absolutely no vetting of suppliers at all

Among those that have vetted suppliers in the past 12 months, the process itself has become more rigorous for most (59%), with more detailed checks now being performed

If unprepared to do so, the process of vetting suppliers can be a time and resource expensive task – organizations can have hundreds, if not thousands, of suppliers – all the more difficult if the organization's security focus is elsewhere (fig. 14)



Figure 21: "How many of your organization's software suppliers have been vetted for security purposes in the past 12 months?" asked to all respondents (1,300)



- The process has become more rigorous – more detailed checks are needed
- The process has remained the same
- The process has become less rigorous – more checks means that they have to be done quicker
- Don't know

Figure 22: "Has your organization's vetting process changed in the wake of recent high profile supply chain attacks such as NotPetya and WannaCry?" asked to respondents whose organization has vetted suppliers in the past 12 months (1,214)

Vetting in different countries

In no country has the majority of respondents' organizations vetted all suppliers over the past 12 months

Those in the US (37%), UK (37%), and Singapore (37%) are the most likely to have completed this complete supplier vetting, but even in these markets, this is only a minority

Meanwhile, organizations in Australia (21%) and Japan (22%) are the least likely to have performed a complete level of vetting over the past 12 months

By not vetting all suppliers, nearly four out of every five organizations in Japan and Australia are potentially leaving themselves exposed to supply chain attacks

When these organizations are vetting their suppliers, what is it that they are looking for?

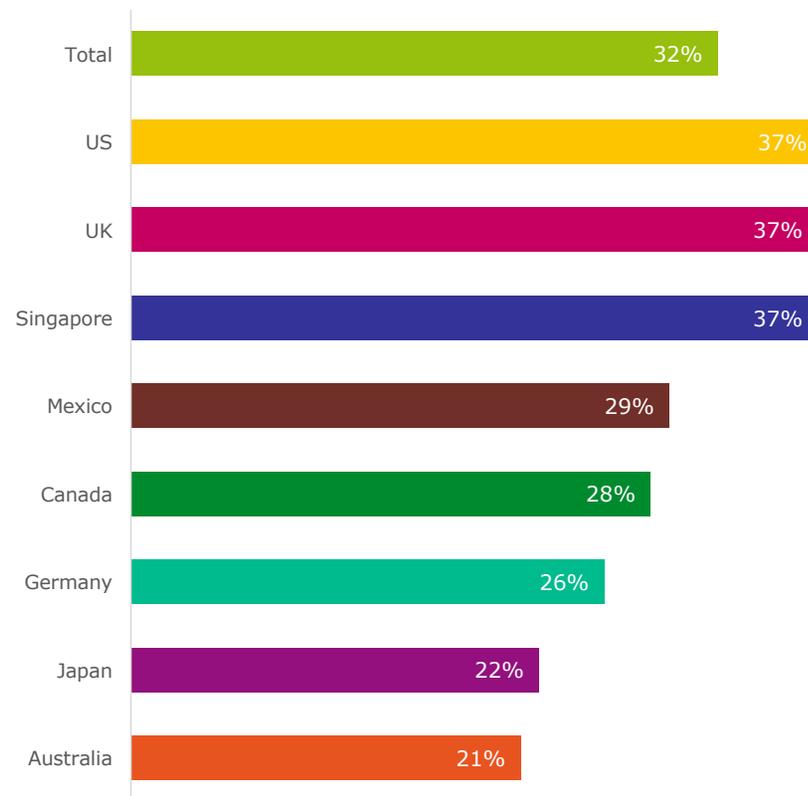


Figure 23: Analysis showing the percentage of respondents whose organization has vetted all suppliers, new or existing, in the past 12 months. Asked to all respondents, split by respondent country (1,300)

Importance of security with new suppliers

"Security is a critical factor when making purchasing decisions surrounding new suppliers"



Figure 24: Analysis showing the percentage of respondents who agree with the statement above. Asked to all respondents (1,300)

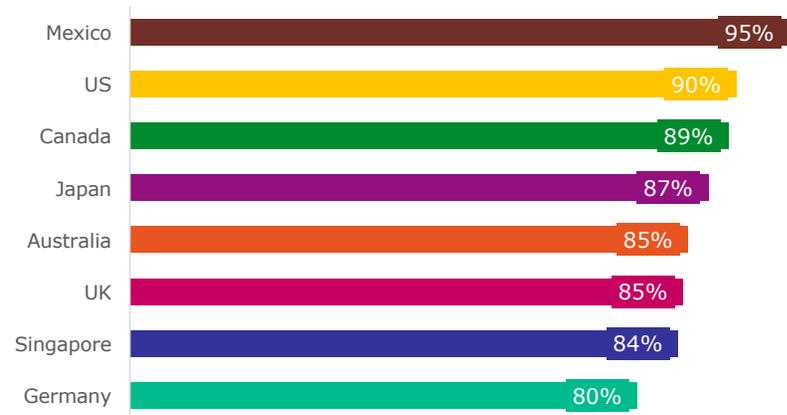


Figure 25: Analysis showing the percentage of respondents who agree with the statement "security is a critical factor when making purchasing decisions surrounding new suppliers". Asked to all respondents, split by respondent country (1,300)

For the majority (87%) of respondents, security is a critical factor when making purchasing decisions surrounding new suppliers

But with only a minority (32%) vetting all suppliers in the past 12 months, it appears that some are only paying lip service to the importance of supply chain security

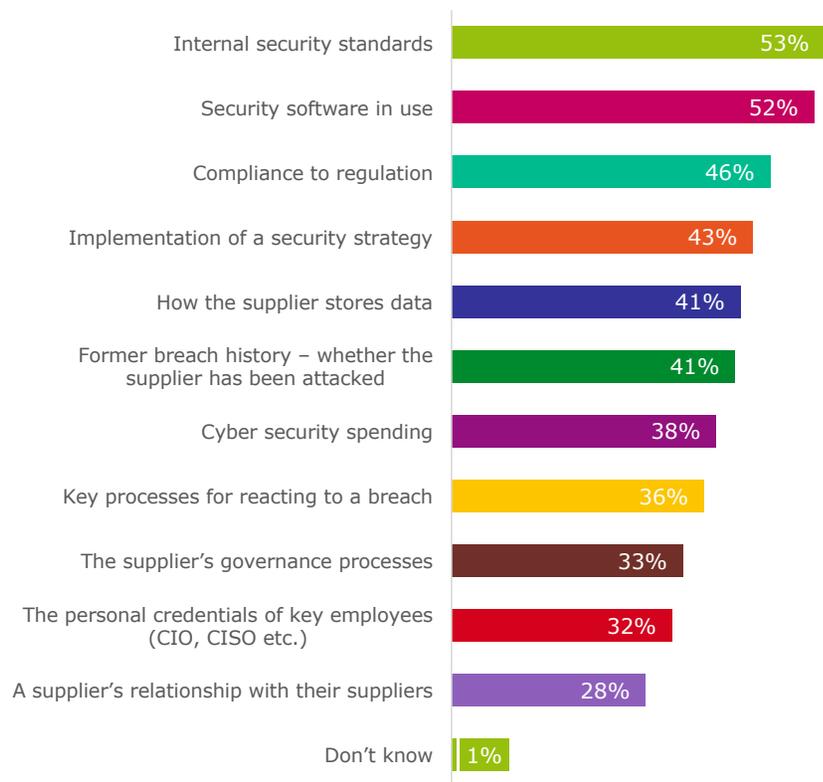
For some of those who agree that security is important, they are not proactively securing their supply chain

It is in Mexico where respondents are most likely (95%) to see security as critical when making purchasing decisions in new suppliers, but all markets hold this view in general

However, it is only a minority that have vetted all suppliers in the past 12 months (fig. 23), is security critical only when it is convenient?

Positive words are encouraging, but unless they come with actions they will remain empty promises

Key parts of the vetting process



When vetting suppliers, over half look at their internal security standards (53%), or the security software in use (52%)

Although approaching half (46%) of respondents' organizations look at a supplier's compliance to regulation, perhaps more should be doing this in the post-2008 age of regulatory compliance and post-2018 age of GDPR?

Least likely (28%) to be looked at by respondents' organizations is a supplier's relationship with their suppliers

A supply chain is just that, a chain with numerous links, and while many organizations are vigilant when vetting the suppliers in their immediate vicinity, as the circle widens, the level of vigilance appears to drop

Has the level of board interest and involvement in supply chain security changed in the wake of recent high profile attacks?

Figure 26: "When vetting a supplier, new or existing, what does your organization check for?" asked to respondents whose organization has vetted suppliers in the past 12 months (1,214)

Board involvement in supply chain security

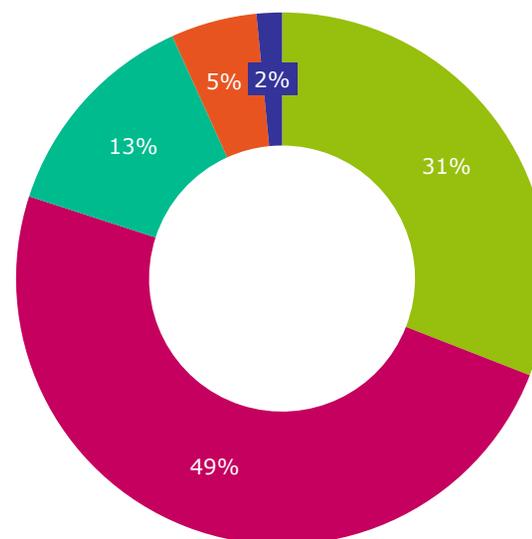
Nearly a third (31%) of respondents indicate that their organization's board is now more involved in supply chain security...

...as a result of the recent NotPetya and WannaCry attacks

However, for almost half (49%) the process of the board becoming more involved is still ongoing, indicating that for many, recent supply chain attacks are yet to have a final impact on operations or processes

Actions speak louder than words, and while some are taking more interest or planning to become more involved, these organizations have yet to action any truly progressive change

This appears to be a trend for supply chain security – the recognition of its importance is there, but the actions to match seem to be missing

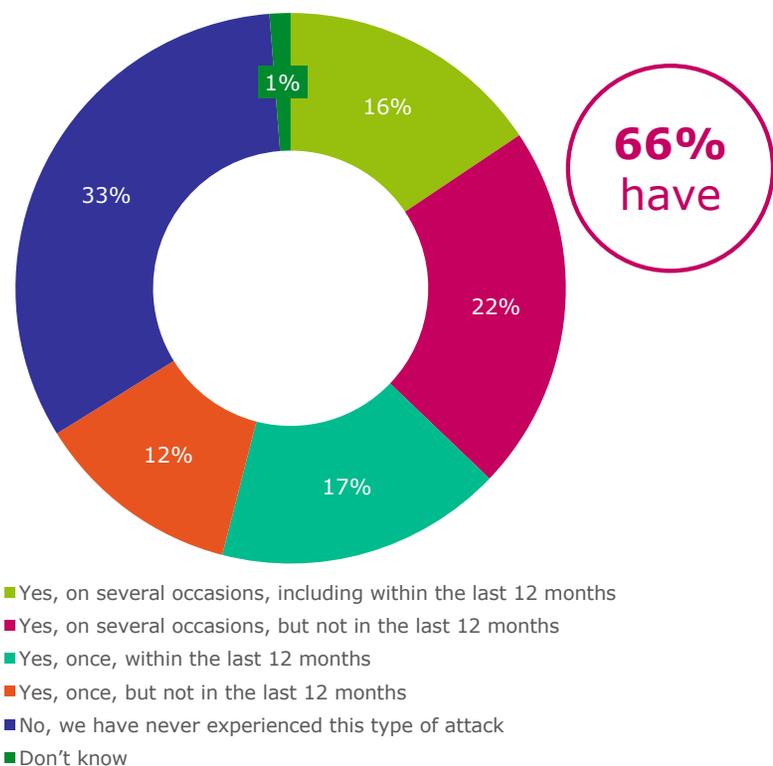


- The board is already much more involved in this
- The board is planning on becoming more involved in 2018
- The board is taking more interest, but have not become more involved
- The board's attitude toward this has not changed
- Don't know

Figure 27: "Has the level of involvement/interest in software supply chain security from your organization's board changed in the wake of the high profile NotPetya and WannaCry attacks in 2017?" asked to all respondents (1,300)

4: When the chain breaks

Experiencing a software supply chain attack



Two thirds (66%) of respondents' organizations have experienced some form of software supply chain attack

For over a third (37%) this has occurred on multiple occasions, and 32% have experienced this type of attack within the last 12 months

It is no wonder that so many respondents feel that their organization is at risk from supply chain attacks (fig. 3), and so few are fully prepared to defend against them (fig. 4)

These high numbers are likely to be linked to the low focus (fig. 14) or insufficient spending in this area of IT security (fig. 15), a situation that surely cannot continue unchanged

Are there any industries in particular that are susceptible to this type of attack?

Figure 28: "Has your organization ever experienced a software supply chain attack?" asked to all respondents (1,300)

Experiencing a software supply chain attack

Over eight in ten (82%) respondents from the biotechnology and pharmaceutical sector report that their organization has encountered a software supply chain attack

And approaching half (45%) of respondents in this sector report that they encountered this type of attack in the last 12 months

Other sectors that are more likely to be encountering software supply chain attacks include hospitality, entertainment, and media (74%), IT services and technology (74%), and engineering (73%)

All organizations are vulnerable to software supply chain attacks, regardless of what industry they operate in, but some are more likely to be encountering these attacks than others

How quickly can organizations detect, react, respond, and remediate a software supply chain attack once encountered?

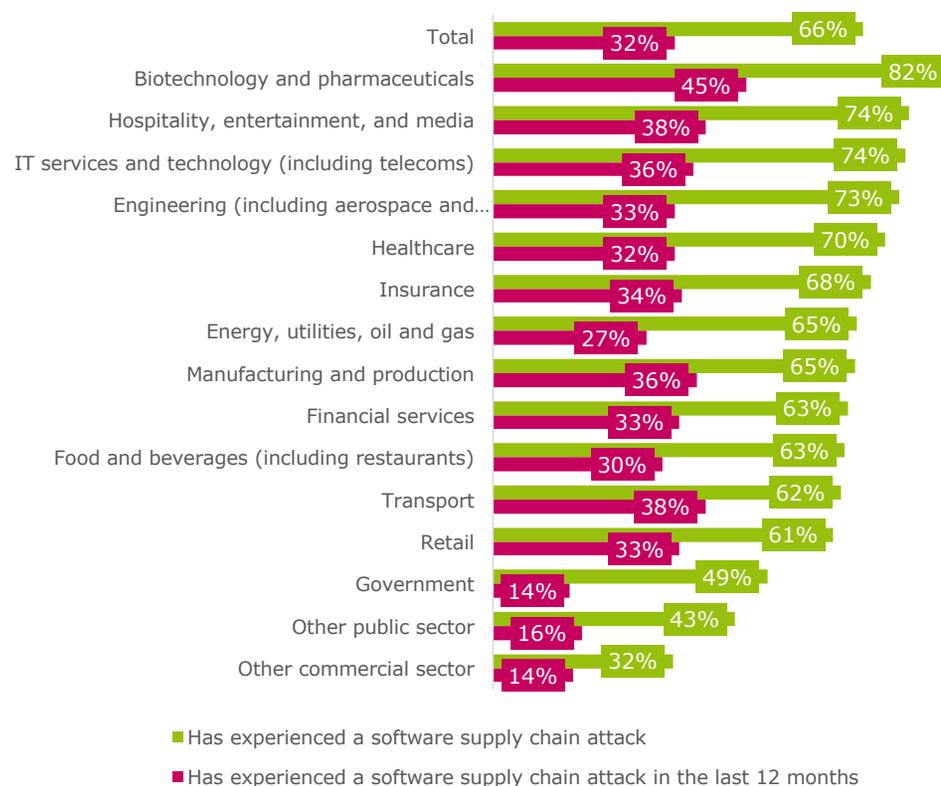


Figure 29: Analysis showing the percentage of respondents whose organization has experienced a software supply chain attack at any point, or within the last 12 months. Asked to all respondents, split by organization sector (1,300)



Software supply chain attacks – response time

Average number of hours respondents' organizations would take to...



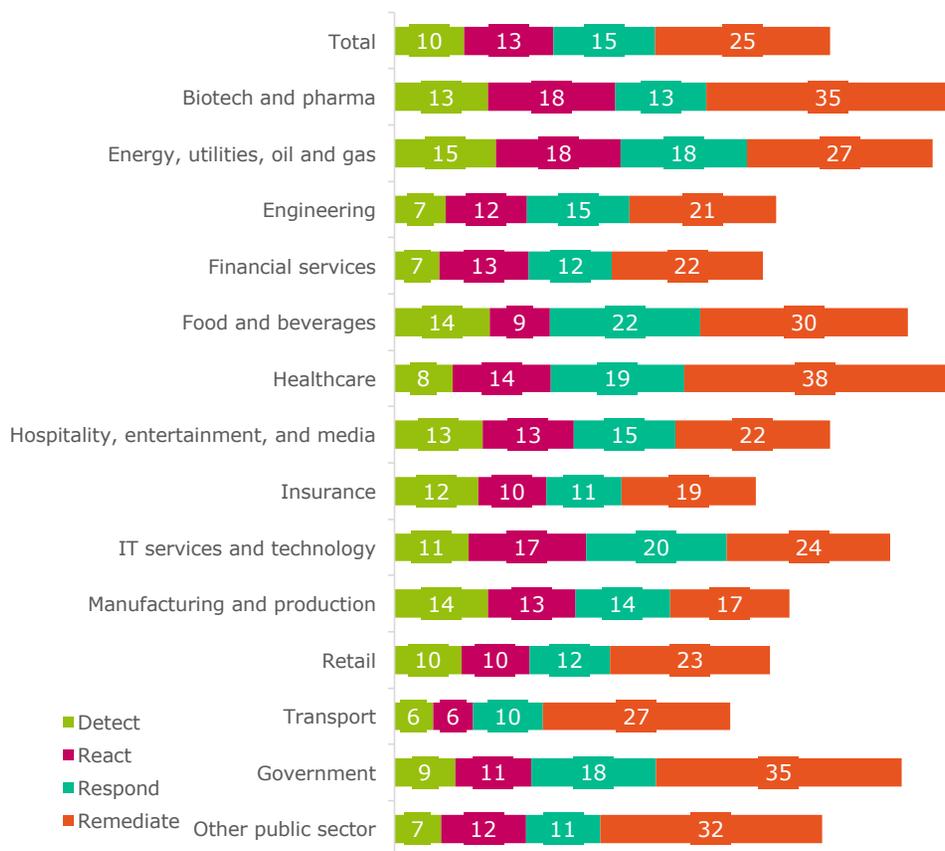
...a software supply chain attack

Figure 30: Analysis showing the average number of hours respondents' organizations would take to detect/react/respond/remediate a software supply chain attack. Asked to all respondents (1,300)

On average, respondents anticipate that it would take their organization 10 hours to detect, 13 hours to react to, 15 hours to respond to, and a further 25 hours to remediate a software supply chain attack. All told, that would be 63 hours to return to the position that they were in before the attack, over two and a half days were they to work around the clock.

On average, each stage of the response process is taking longer than the stage before it – perhaps organizations are running into more and more challenges the further they progress with their response.

Time to take action, by sector



Some industries take longer to detect, react, respond, and remediate a software supply chain attack than others

In particular, organizations in industries such as biotech and pharma (80 hours), healthcare (80 hours), or energy, utilities, oil and gas (78 hours) are taking the longest in total

Fast detection, reaction and response are all critical to effectively remediating the damage that a software supply chain can cause

Overlooking supply chain attacks is one thing, but overlooking the response to them is 'doubling down' on the initial oversight

If organizations are overlooking the response to a supply chain attack, surely the financial impact of such an attack can't be significant...?

Figure 31: Analysis showing the average time taken (in hours) to detect, react, respond, and remediate a software supply chain attack. Asked to all respondents, split by organization sector, not showing other commercial sector (1,300)

Financial impact of a software supply chain attack

For most (90%) of those who have encountered a software supply chain attack, there was a financial impact/cost (fig. 32)

On average, that cost was just over \$1.1 million (fig. 33)

When organizations are exposed to a software supply chain attack, more often than not it will hit them in the pocket, and they are going to need deep pockets if they are unable to secure their supply chain



...incurred a financial cost as a result of experiencing their a software supply chain attack

Average cost of the last software supply chain attack experienced by respondents' organizations (USD \$)



Figure 32: Analysis showing the percentage of respondents' organizations that incurred a financial cost as a result of experiencing their last software supply chain attack. Asked to respondents whose organization has experienced a software supply chain attack (860)

Figure 33: Analysis showing the average cost of the last software supply chain attack experienced by respondents' organizations (USD \$). Asked to respondents whose organization has experienced a software supply chain attack (860)

Cost of a software supply chain attack - sector

The cost of suffering a supply chain attack can vary depending on the sector of the organization

There is some correlation between response time and the cost of an attack – some of the industries that take the longest to detect, react, respond, and remediate supply chain attacks (biotech and pharma, energy, utilities, oil and gas, and IT services – fig. 31) are incurring the highest costs

A fast response to a supply chain attack can help to mitigate the impact, but it cannot completely eliminate the possibility, placing the emphasis back onto prevention

What about cost by country?

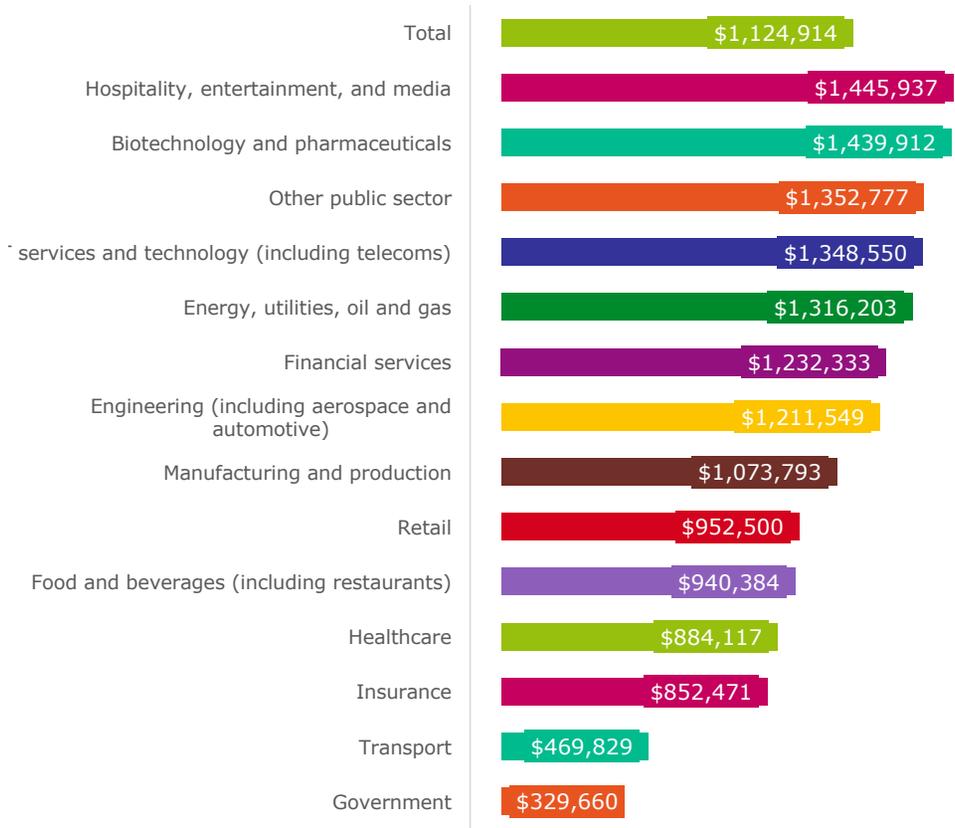
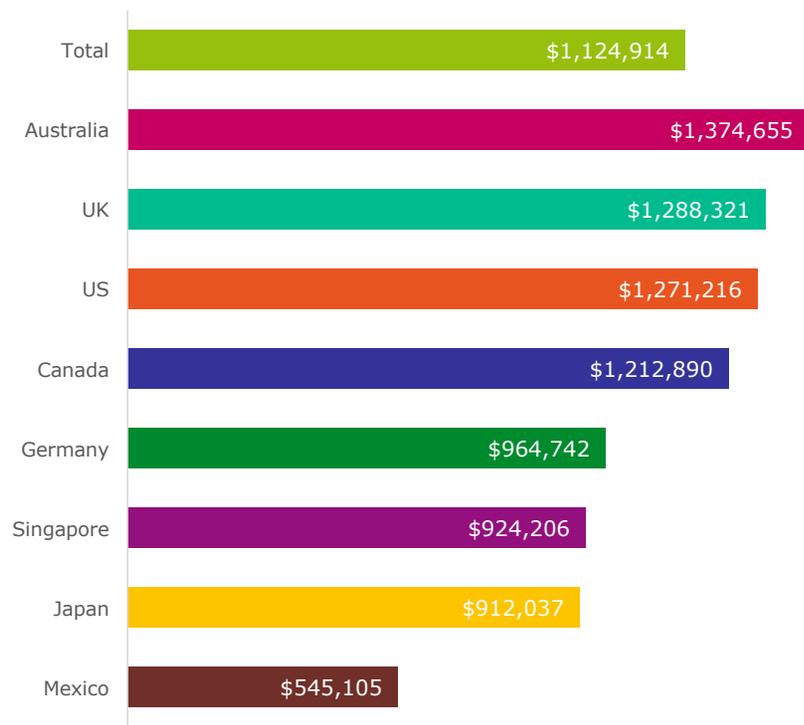


Figure 34: Analysis showing the average cost of a software supply chain attack. Asked to respondents whose organization has experienced a software supply chain attack at some point in the past, split by organization sector, and not showing 'other commercial sector' due to a low base (860)



Cost of a software supply chain attack - country



Upon suffering a software supply chain attack, organizations in Australia, the UK, the US, and Canada all incurred losses exceeding \$1 million, on average

This compares to organizations in Mexico, who are escaping with the lowest cost incurred from software supply chain attacks, albeit a not insignificant \$545,105

Should an organization be breached by this type of attack, not only are they highly likely to incur a financial cost (fig. 32) but that cost is likely to be high, regardless of country or sector (fig. 34)

Are there other negative impacts of a software supply chain attack, not just a financial cost?

Figure 35: Analysis showing the average cost of a software supply chain attack. Asked to respondents whose organization has experienced a software supply chain attack at some point in the past, split by respondent country (860)

Other drawbacks

3
drawbacks
experienced,
on average



Figure 36: "Excluding financial loss, has your organization experienced any of the following drawbacks as a result of suffering a software supply chain attack?" asked to respondents whose organization has experienced a software supply chain attack (860)

Organizations must be mindful of other non-financial impacts of a software supply chain attack, as most (96%) respondents from organizations that have encountered this attack type report that they suffered wider drawbacks as a result

For around a third there were internal, operational impacts such as IT systems needing a complete rebuild (36%), service/operations disruption (34%), or operational downtime (32%)

But other impacts like undermining customer trust (28%), losing customer data (27%), losing customers to a competitor (23%), and bad press/negative media coverage (20%), while generally experienced by fewer organizations, could have a crippling negative impact in the long run

Response strategies – are they good enough?

Over a third (34%) of respondents' organizations that have suffered a software supply chain attack had a comprehensive response strategy in place...

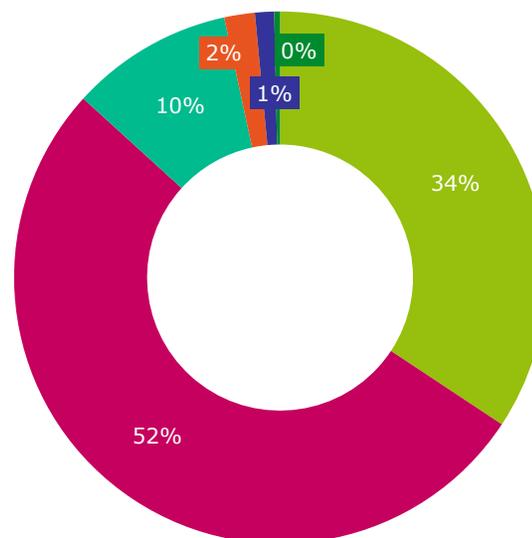
...at the time of the attack

However this didn't prevent many of them from experiencing financial loss (fig. 32) as well as other drawbacks (fig. 36) as a result of the attack

Respondents' organizations are more likely (52%) to only have had some level of response pre-planned when they were attacked, and it is perhaps this attitude that contributed to the numerous and wide-ranging set of negative impacts suffered (fig. 36)

Having a response strategy in place is a step in the right direction for organizations, but this only highlights the incredible vulnerability that organizations are exposed to from supply chain attacks – even with strategies in place, these attacks can't be avoided

Have software supply chain attacks led to organizations paying ransoms to retrieve stolen or encrypted data?



- Yes, we had a comprehensive strategy in place
- Yes, we had some level of response pre-planned
- No, we had no strategy in place, but employees were able to think on their feet
- No, we had no strategy in place, and employees did not know how to react
- No, but we have a strategy now
- Don't know

Figure 37: "When your organization suffered its first software supply chain attack/s, did you have a plan or strategy in place to coordinate your response?" asked to respondents whose organization has experienced a software supply chain attack (860)

Paying a ransom to recover from a supply chain attack

Nearly one in six (14%) respondents admit that their organization has paid a ransom in order to recover data encrypted in a software supply chain attack in the past 12 months

All told, over half (56%) report that this goes on within their industry, either by themselves or by other organizations, but this may be more of a widespread occurrence than initially thought, as a further 26% suspect that this happens but that it is covered up by the organization in question

And when it does happen, those lower down the organization may not be made aware, as senior IT decision makers are more likely to confess to their organization paying a ransom than IT security professionals (19% vs. 9%)

It could be that when a decision is made to pay a ransom, some IT security professionals are not informed that it has happened

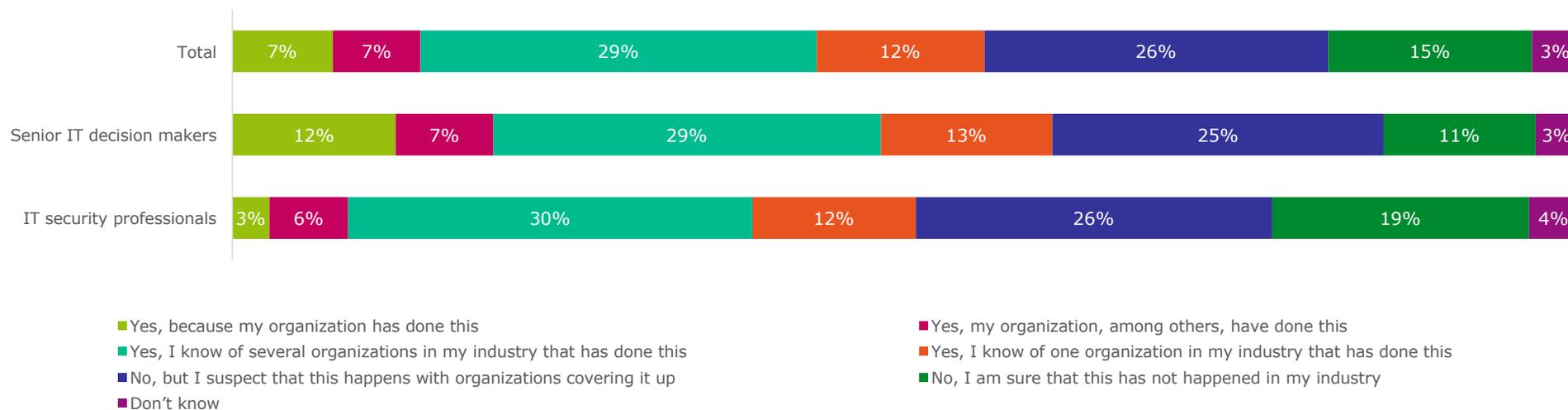


Figure 38: "Do you know of any organizations within your industry that has paid a ransom to cyber attackers in order to recover data encrypted in a software supply chain attack in the past 12 months?" asked to all respondents, split by respondent type (1,300)

Relationship with the supply chain

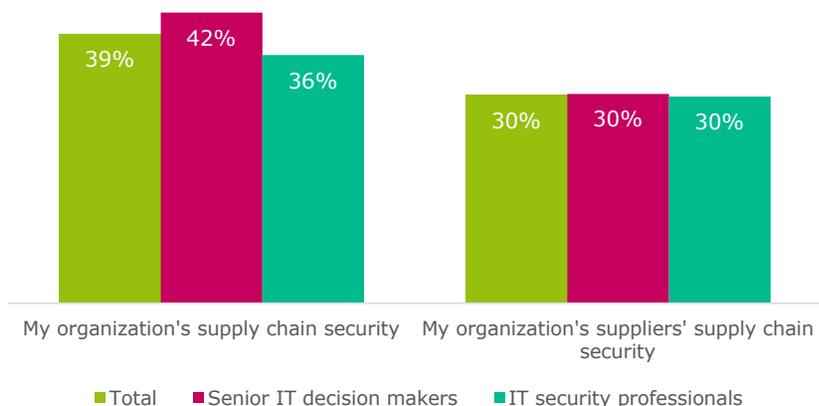


Figure 39: Analysis showing the percentage of respondents who personally have total confidence in the IT security of their organization's supply chain. Asked to all respondents, split by respondent type (1,300)

Fewer than four in ten (39%) respondents have total confidence in the IT security of their organization's supply chain

Encouragingly, given the heightened awareness that may come from their position, this confidence is higher among senior ITDMs (42%) compared to IT security professionals (36%)

However, when thinking about the IT security of their supplier's supply chain, this total confidence drops to 30%

Yes, I am totally certain that they will inform us



Figure 40: Analysis showing the percentage of respondents who are totally certain that their organization's suppliers or partners will inform them if they are ever breached by a successful cyberattack. Asked to all respondents, split by respondent type (1,300)

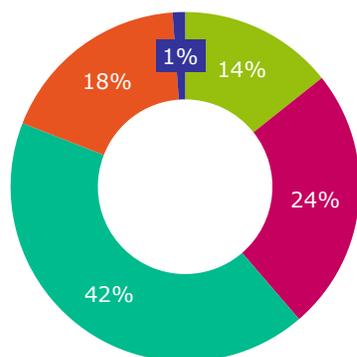
It appears that trust in suppliers is not as high as it could be – only 35% of respondents are totally certain that their organization's suppliers would inform them if they were breached by a successful cyberattack

Senior ITDMs have a bit more trust in suppliers than IT security professionals (38% vs. 31%), but it is clear that there is still a high element of doubt

Building trust in a supplier

Over a quarter (39%) of respondents' organizations have lost trust in a supplier over the past 12 months – for 14% this was a previously *key* supplier

A supplier not properly securing their supply chain (fig. 39) or not informing the organization if they suffered a breach (fig. 40) would certainly go a long way to undermining trust

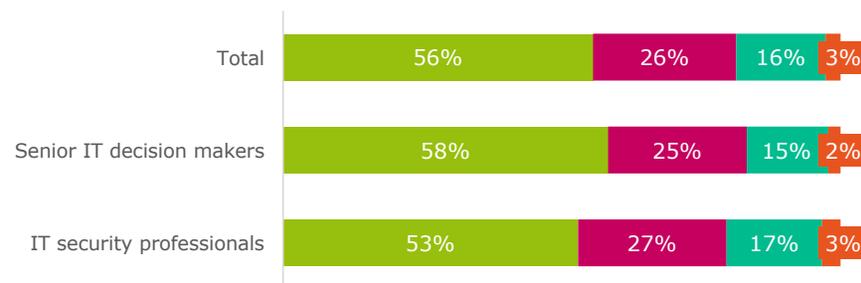


- Yes, we have lost trust in a previously key supplier
- Yes, we have lost trust in a new supplier
- No, we have not lost trust but are more cautious with suppliers
- No, we still have complete trust in our suppliers
- Don't know

Figure 41: "Has your organization had any reason to lose trust in any of its key suppliers in the past 12 months?" asked to all respondents (1,300)

The advent of GDPR can help to shore up the supplier-client relationship, and for over half (56%) of respondents the way that they evaluate potential security partners will become more rigorous due to GDPR

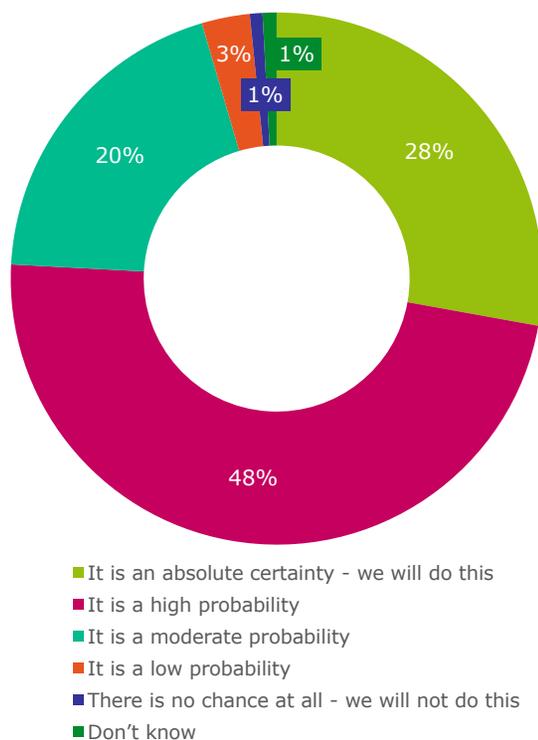
Anything that helps to build trust between an organization and their suppliers must be viewed as a good thing – a strong relationship is needed for security



- It will make us more rigorous when evaluating potential security partners
- It will make us less rigorous when evaluating potential security partners
- It will have no impact when evaluating potential security partners
- Don't know

Figure 42: "In your opinion, is the EU's General Data Protection Regulation (GDPR) impacting your evaluation of potential security partners?" asked to all respondents, split by respondent type (1,300)

Future intentions for supply chain security



Over a quarter (28%) of respondents see it as an absolute certainty that their organization will become more resilient to supply chain attacks over the next 12 months

Furthermore, over two thirds (68%) feel that it is either a high or moderate probability that this will happen

But judging by how low a priority or focus supply chain security is for many organizations (fig. 14) this ambition may not be achievable for many

There is a desire among organizations to improve supply chain security/resilience, but IT security is a competitive environment with many threat types and vectors competing for prominence

Not to mention they logistical and technological challenges involved in securing an enterprise supply chain in 2018 – many are simply not up to the task

Figure 43: "To what extent will your organization become more resilient to supply chain attacks over the next 12 months?" asked to all respondents (1,300)

In summary...

- Many organizations are overlooking supply chain security, with only a third (33%) of respondents identifying it as a top area of concern for their organization for the next 12 months
 - And preventing supply chain attacks is a top area of focus for only the minority (35%) of respondents' organizations' IT security
 - Cyberattacks such as general malware (57%), phishing (50%), password attacks (47%), and ransomware (46%) are all more likely to be causing concern than supply chain attacks
- This lack of concern is potentially leaving organizations exposed and vulnerable, as only one in ten (10%) respondents see their organization as not at risk from supply chain attacks, and only 24% feel that they are fully prepared to defend against them
 - What's more, nearly four out of five (79%) respondents agree that their organization needs to spend more on software supply chain security – further exposing these organizations to the risk of these attacks
- Perhaps this attitude will change; the majority (79%) of respondents feel that software supply chain attacks have the potential to become one of the biggest cyber threats to organizations like theirs
- Less than a third (32%) of respondents' organizations have vetted all suppliers, new and existing, in the past 12 months
 - And in the wake of recent high profile supply chain attacks in 2017 this vetting process has become more rigorous for over half (59%)
 - Board attitudes are also changing, either becoming more involved (31%), planning to become more involved (49%), or taking more of an interest (13%)
- Two thirds (66%) of respondents report that their organization has suffered a software supply chain attack at some point, 32% within the past 12 months
 - And for nine in ten (90%) of those suffering an attack, there were financial repercussions, on average costing \$1.1 million
 - But it goes further – nearly all (96%) of those suffering a supply chain attack encountered non-financial impacts like service/operations disruption (34%), downtime (32%), undermined customer trust (28%), or the loss of customers to rivals (23%)
 - And some (14%) even had to pay a ransom to recover encrypted data in the last 12 months

Securing the supply chain

CrowdStrike
Research results v2 – with additional slide

July 2018