The Cybersecurity Illusion: Enterprise Security Remains Reactive

Ponemon Institute Research Report
Sponsored by AttackIQ

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Managing Security Risks Through Greater Accountability

Presented by Ponemon Institute, September 2019

Part 1. Introduction

Accountability for ensuring the effectiveness and efficiency of security practices, technologies, and controls is critical to a strong security posture. Unfortunately, in many organizations there is not one function or role that is ultimately responsible for determining the efficacy of the organization's security strategy.

63% of respondents also cite the need for better monitoring tools

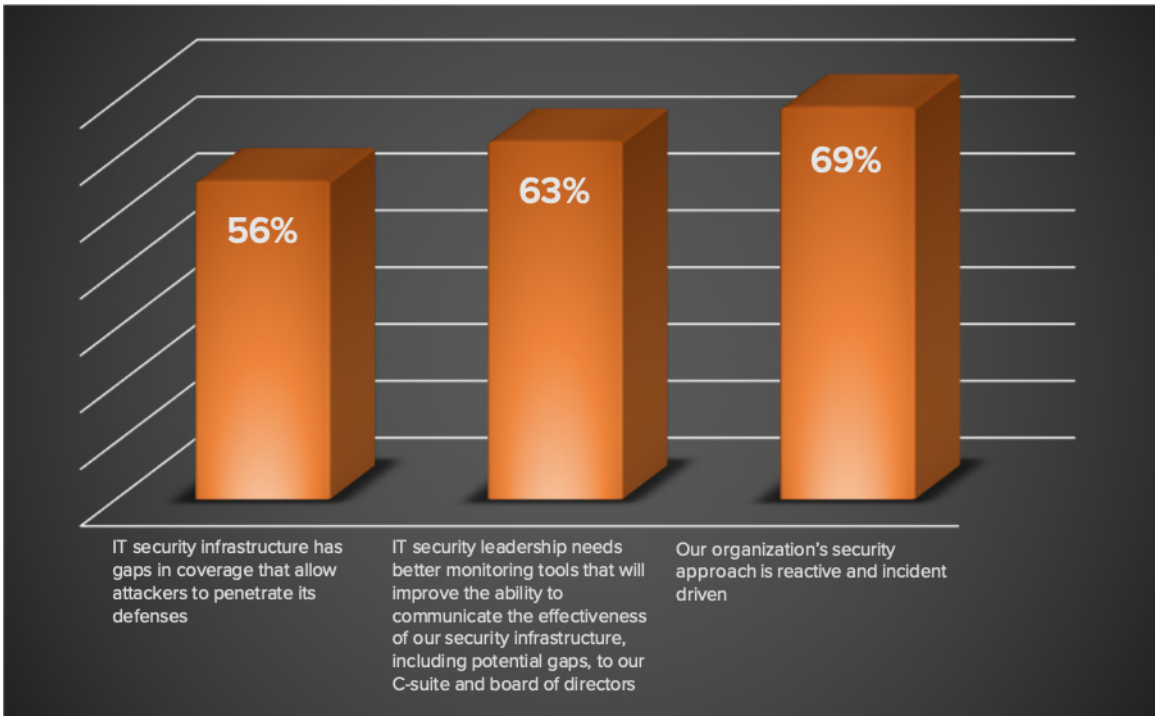
Contributing to the lack of accountability, often the board of directors and senior leadership are not actively engaged in ensuring the effectiveness of their organization's security strategy. In fact, 40 percent of respondents say their IT security leadership does not report to the board, and only 28 percent of respondents say the board and CEO determines and/or approves the acceptable level of cyber risk for the organization.

Sponsored by AttackIQ, Ponemon Institute surveyed 577 IT and IT security practitioners in the United States who are knowledgeable about their organization's IT security strategies and tactics. They are also involved in evaluating or responsible for their organizations' technology investments.

The consequences of a lack of accountability are shown in Figure 1. Specifically, most organizations involved in this research do not take a proactive approach to security, something that is dependent upon knowing where gaps in the IT security infrastructure exist and allowing attackers to penetrate their defenses. Sixty-three percent of respondents also cite the need for better monitoring tools that will improve their ability to communicate the effectiveness of their security infrastructure, including potential gaps, to the board and C-suite.

69% of respondents organization's security approach is reactive and incident driven

Figure 1. Risks in the IT security infrastructure



**Strongly Agree and Agree responses combined*

The following are recommendations to achieve greater accountability in the management of security risks

- Assign accountability to one function for the validation of the effectiveness and efficiency of the organization's strategy, technologies, and controls with a direct reporting relationship to senior leadership.
- Invest in technologies that provide greater visibility into the IT security infrastructure to identify gaps in coverage and vulnerabilities. Fully staff the IT security team to be able to quickly respond and proactively manage risks when gaps are identified. Make it a priority to reduce complexity in the IT security infrastructure, so as to be able to assess if the technologies are performing as they should.
- Understand how best to communicate the state of the organization's security posture to the board of directors and CEO. This includes having easily understood metrics that provide an accurate and comprehensive view of the threats facing the organization.
- Establish a regular schedule for meeting with the board and senior leadership and have recommendations on how they can become more engaged in overseeing the organization's security program. This can include establishing a board-level cybersecurity committee that participates in determining an acceptable risk level.

Part 2. Key findings

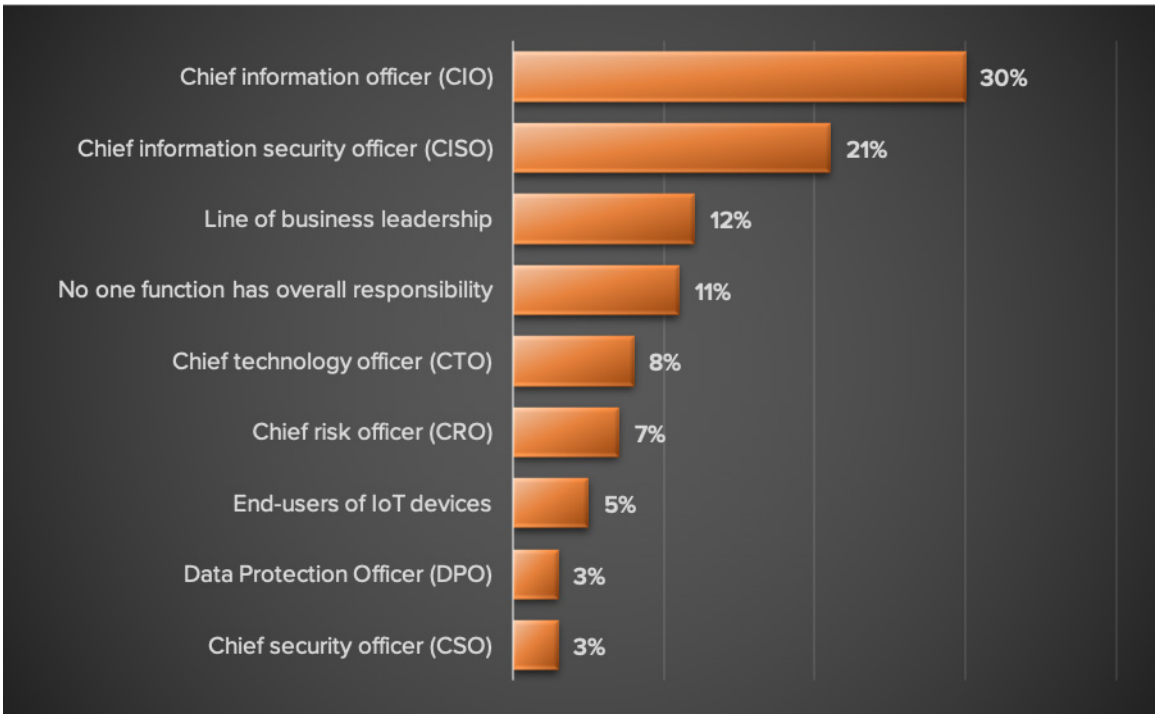
In this section, we provide an analysis of the research. The complete audited findings are presented in the Appendix of the report.

- Accountability for validating the efficacy of the organization's security strategy
- The need to engage senior leadership and the board of directors in managing risk

Accountability for validating the efficacy of the organization's security strategy

Accountability is dispersed throughout the organization. As shown in Figure 2, only 30 percent of respondents say the CIO is most responsible for validating the efficacy of its security strategy, technologies, and controls, followed by 21 percent of respondents who say the CISO is most accountable. Efficacy refers to the effectiveness and efficiency of the various components of a security program.

Figure 2. Who within your organization is most responsible for validating the efficacy of its security strategy, technologies, and controls?

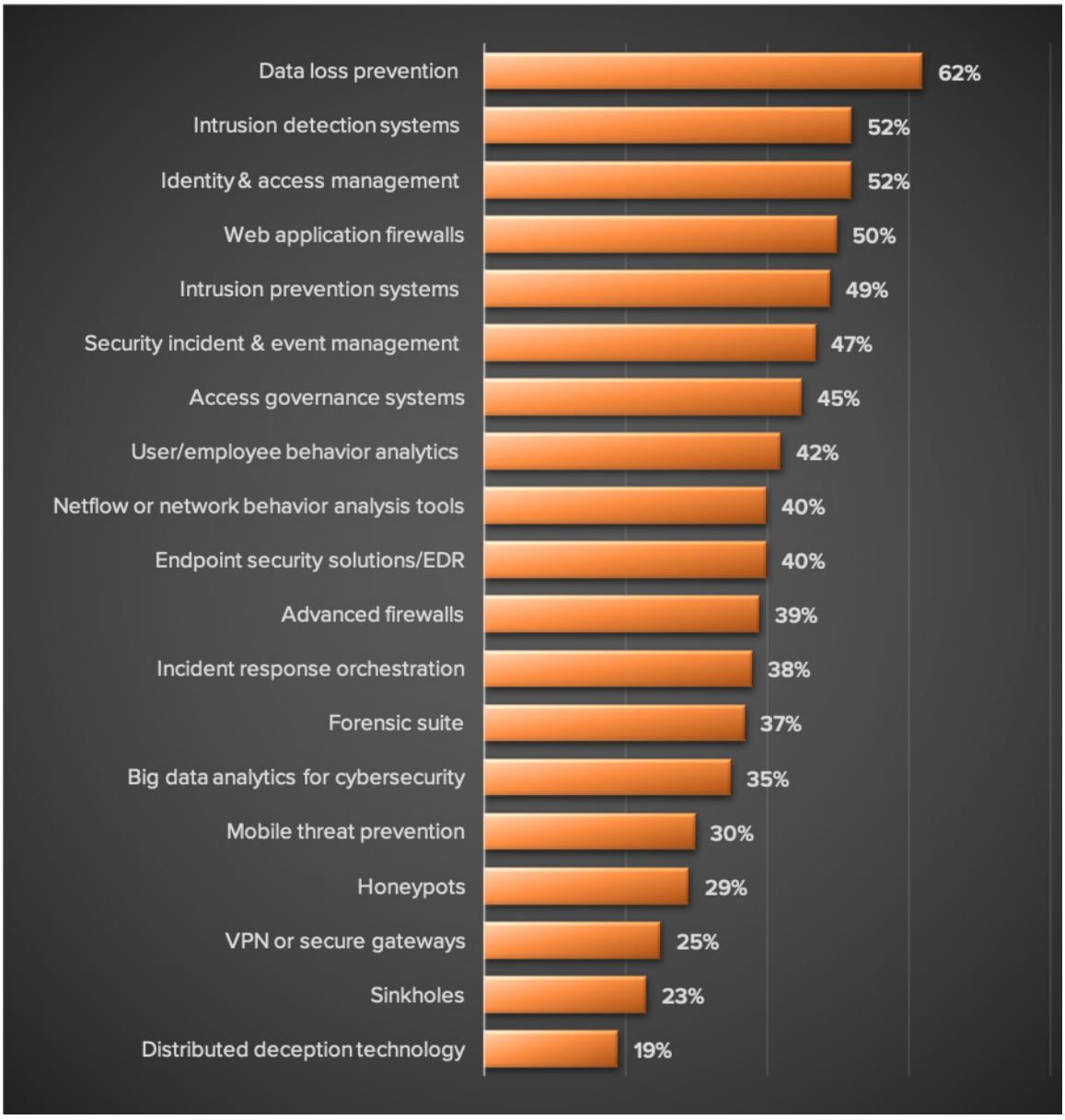


CIOs and CISOs bare the bulk of the responsibility for validating efficacy

Organizations lack confidence in determining the efficacy of most of the technologies deployed throughout the organization. As discussed, accountability for determining the efficacy of the solutions deployed is dispersed throughout the organization. It is understandable that respondents are not confident that they can validate that the various technologies used throughout the organization are protecting the organization from cyber threats. Figure 3 presents 19 IT security technologies and the combined very confident and confident responses. While 62 percent of respondents say they are confident they know data loss prevention is effective, in many cases, less than half have confidence in other solutions.

While 62 percent of respondents say they are confident they know data loss prevention is effective, in many cases, less than half have confidence in other solutions.

Figure 3. Confidence in the ability to determine the efficacy of the solution



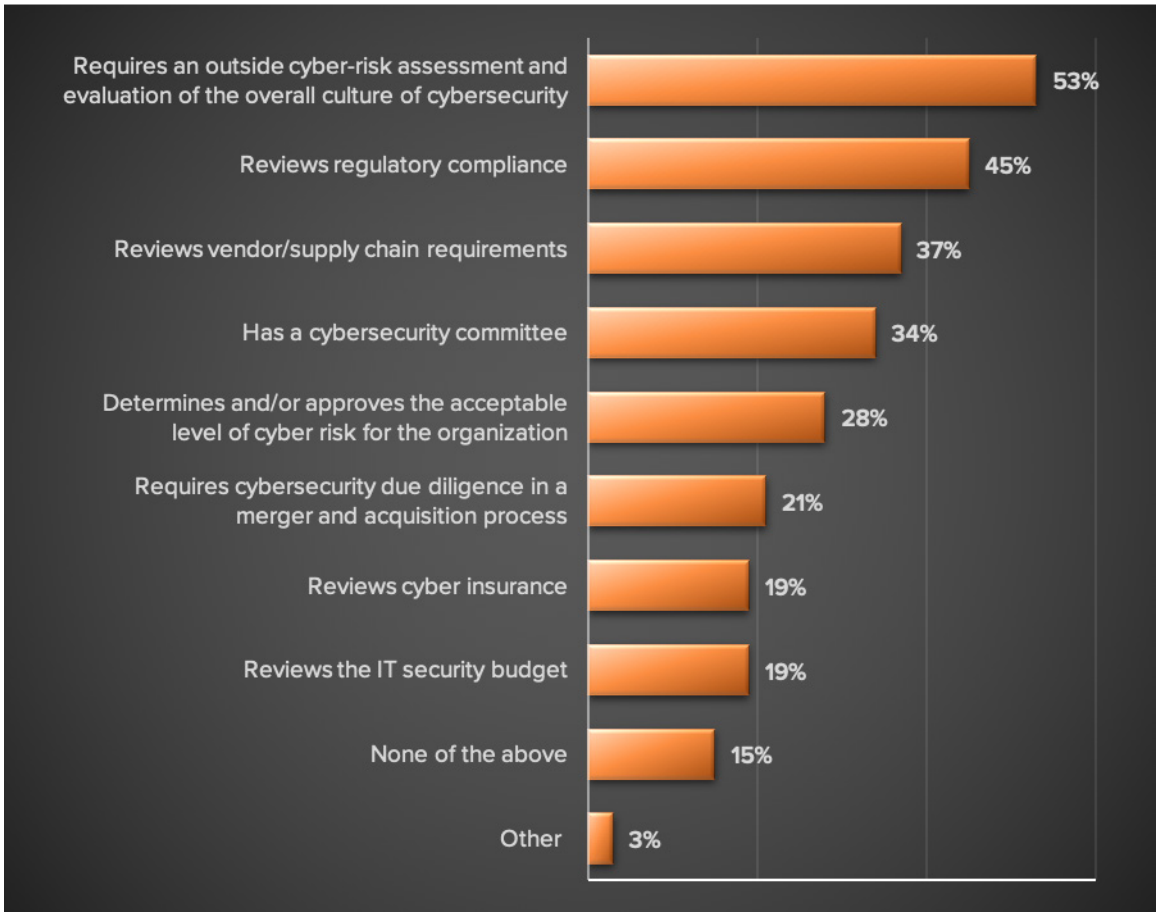
**Very confident and Confident responses combined*

Data breaches are likely because of gaps in the IT security infrastructure.

The need to engage senior leadership and the board of directors in managing risk

The board of directors and CEO are rarely involved in important IT security governance activities. While more than half of respondents (53 percent) say their board and CEO require a cyber risk assessment conducted by an outside firm, only 28 percent of respondents say their board and CEO determines and/or approves the acceptable level of cyber risk for the organization, and only 21 percent of respondents say their board and CEO require cybersecurity due diligence in a merger and acquisition process.

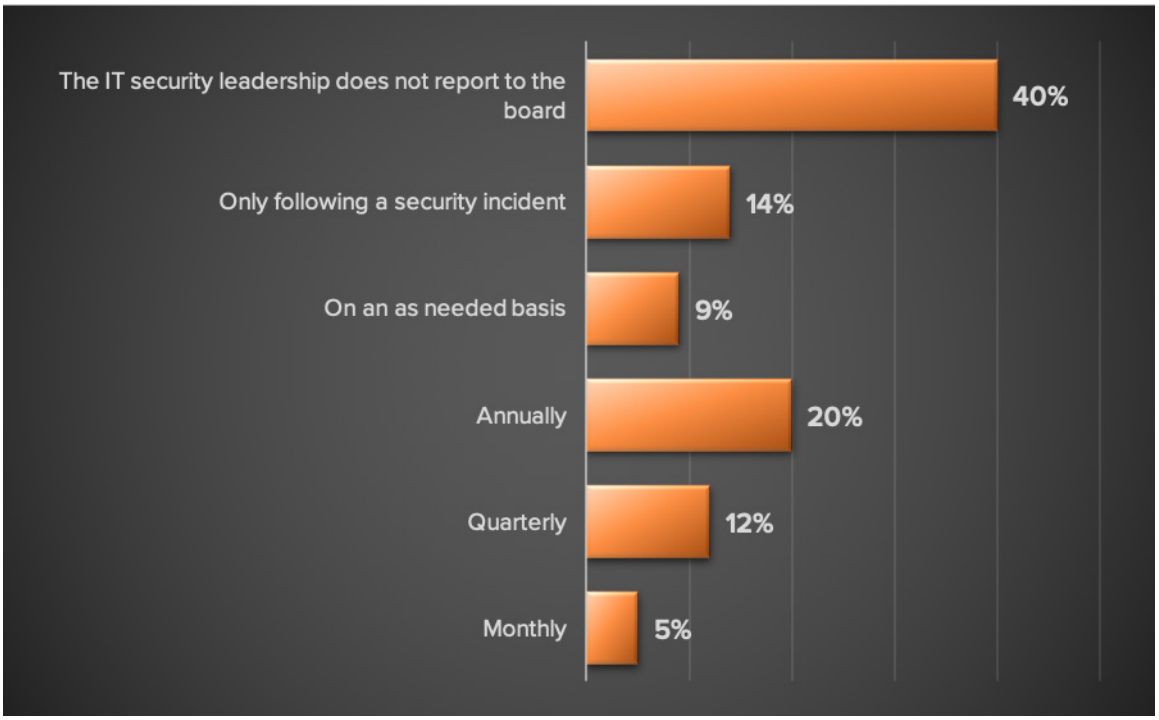
Figure 4. What describes the involvement of the board and CEO in your organization's IT security program?



*More than one response permitted

For most organizations, regular reporting to the board rarely occurs. As shown in Figure 5, 63 percent of respondents are not communicating with the board on a regular basis or not at all.

Figure 5. How often does your organization's IT security leadership report to the board?

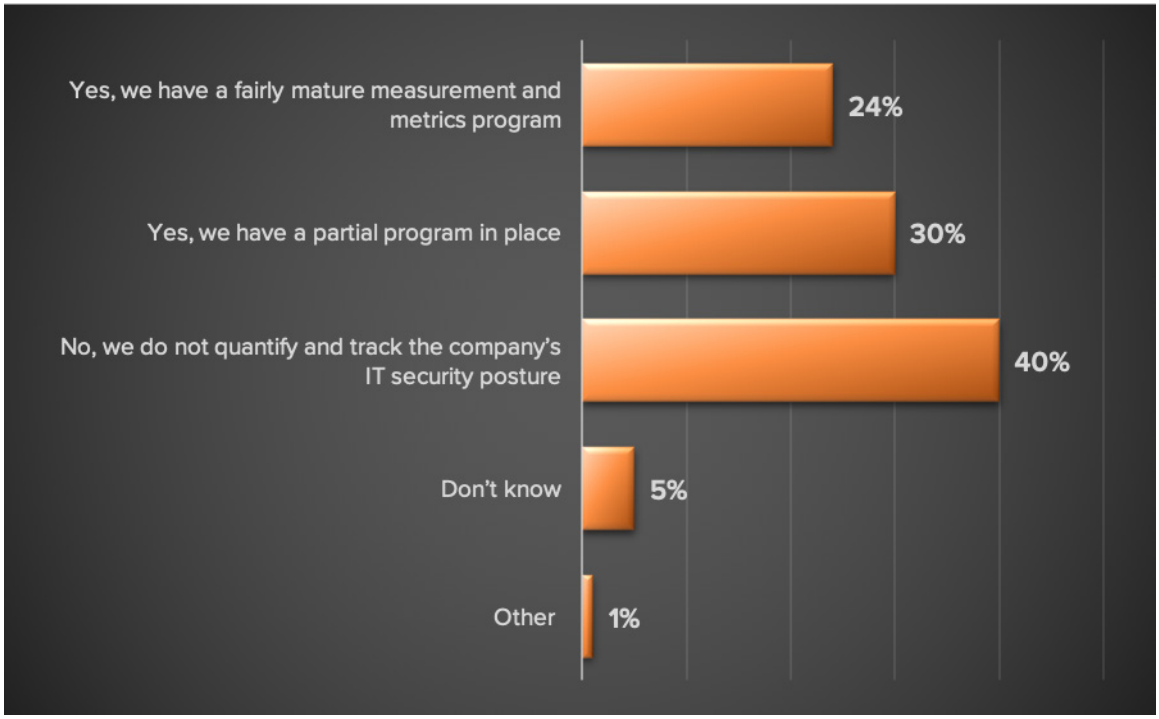


40%
of IT security leadership does not report to the board

Most organizations do not have a mature program for measuring their IT security posture. According to Figure 6, only 24 percent of respondents say they have a mature measurement and metrics program, and 30 percent of respondents say it is only a partial program. Without such information it would be difficult to inform the board and CEO about the efficacy of the security program. As discussed previously, respondents say better monitoring tools would improve communication with the board.

40%
of respondents do not quantify and track the company's IT security posture

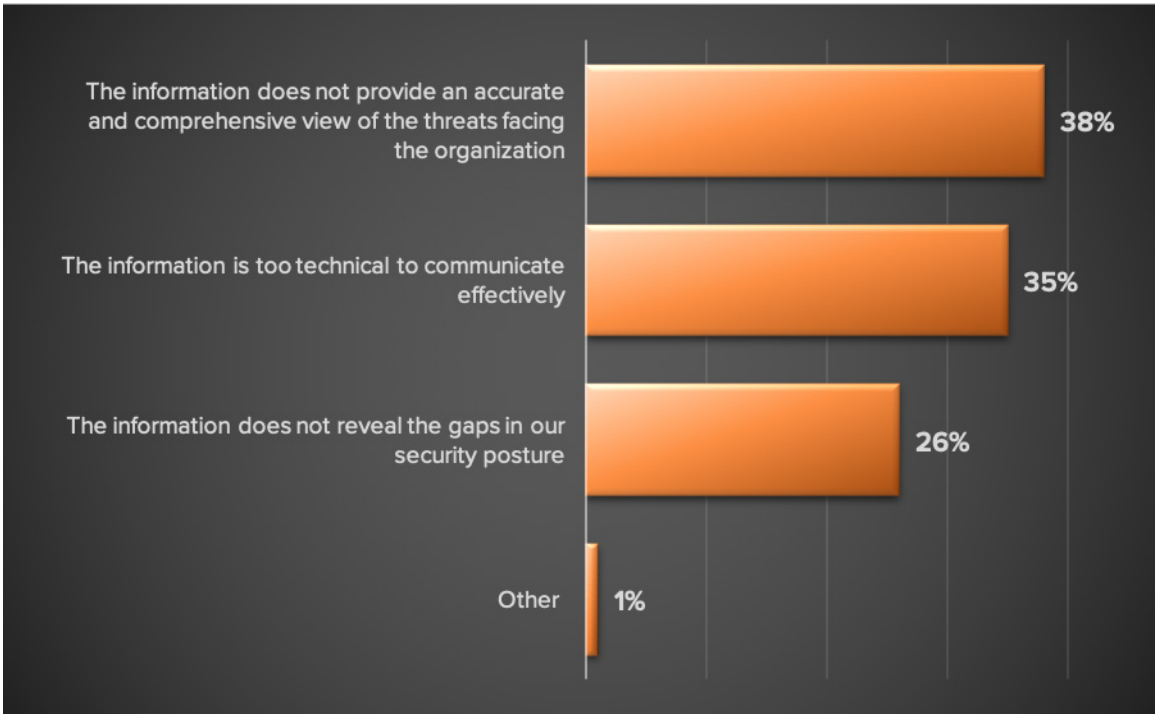
Figure 6. Does your organization attempt to quantify and track the company's IT security posture?



As shown above, 54 percent of respondents either have a fairly mature measurement program (24 percent) or a partial program (30 percent). However, only 39 percent of these respondents report the findings to the board. According to Figure 7, if they don't report them to the board, the top reasons are that the information does not provide an accurate and comprehensive view of the threats facing the organization (38 percent of respondents) or that the information is too technical to communicate effectively (35 percent of respondents).

38%
of respondents said the information is too innaccurate to report to the board

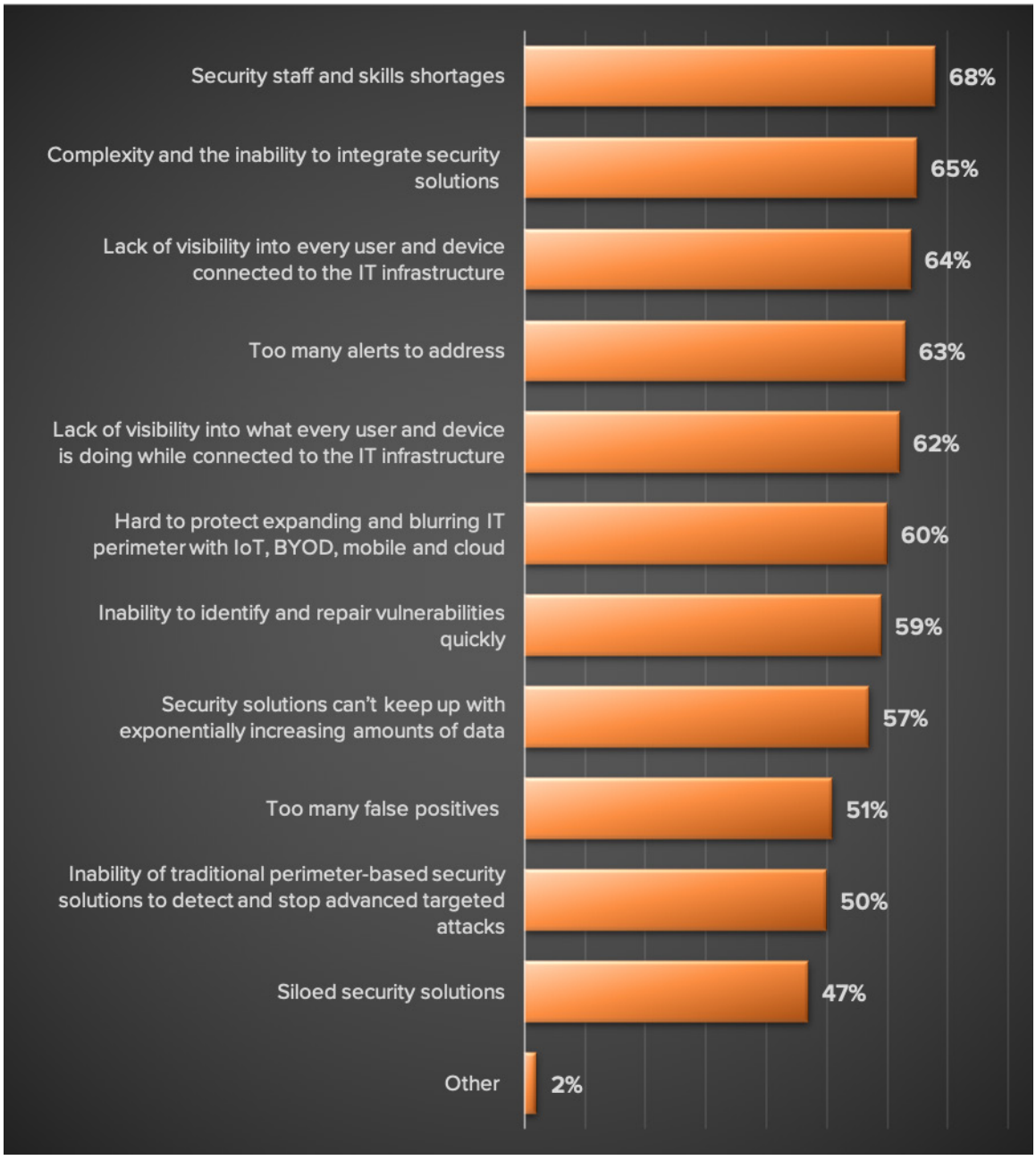
Figure 7. Why don't you report these metrics and measurements to the board?



High complexity, lack of in-house expertise, and lack of visibility are the main barriers to having a mature security program. Figure 8 presents a list of reasons preventing organizations represented in this research from having a more mature security program. As shown, organizations need more in-house expertise to determine gaps in the IT security infrastructure. They also need to simplify their technologies and processes because complexity makes it difficult to determine if the security strategy is effective and to integrate security solutions.

Complexity can prevent companies from preventing data breaches.

Figure 8. What are the primary barriers to maturing your organization's security program?



*More than one response permitted

Part 3. Methods

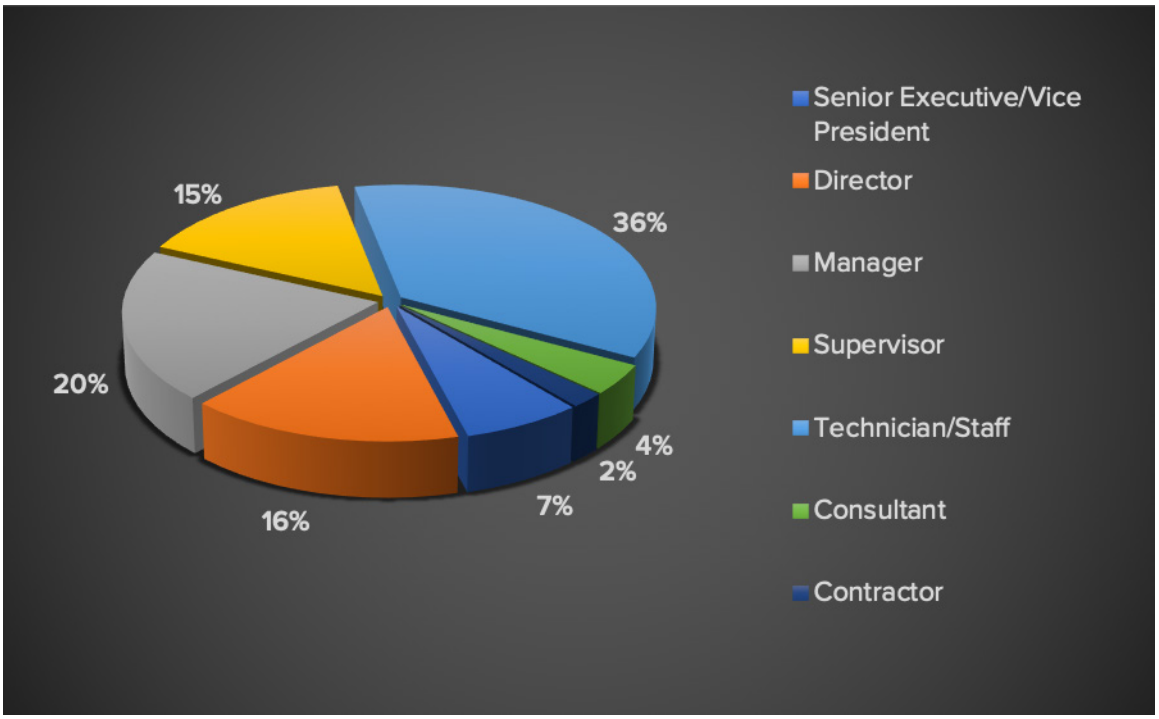
A sampling frame of 15,898 IT and IT security practitioners who are located in the United States and knowledgeable about their organizations' IT security strategies and tactics were selected as participants in the research. Table 1 shows that there were 631 total returned surveys. Screening and reliability checks led to the removal of 54 surveys. Our final sample consisted of 577 surveys, a 3.6 percent response.

Table 1. Sample response

Sample Response	Frequency	Percentage
Sampling frame	15,898	100.0%
Total returns	631	4.0%
Rejected or screened surveys	54	0.3%
Final sample	577	3.6%

Pie Chart 1 reports the respondents' organizational level within participating organizations. By design, more than half of respondents (58 percent) are at or above the supervisory levels.

Pie Chart 1. Position level within the organization

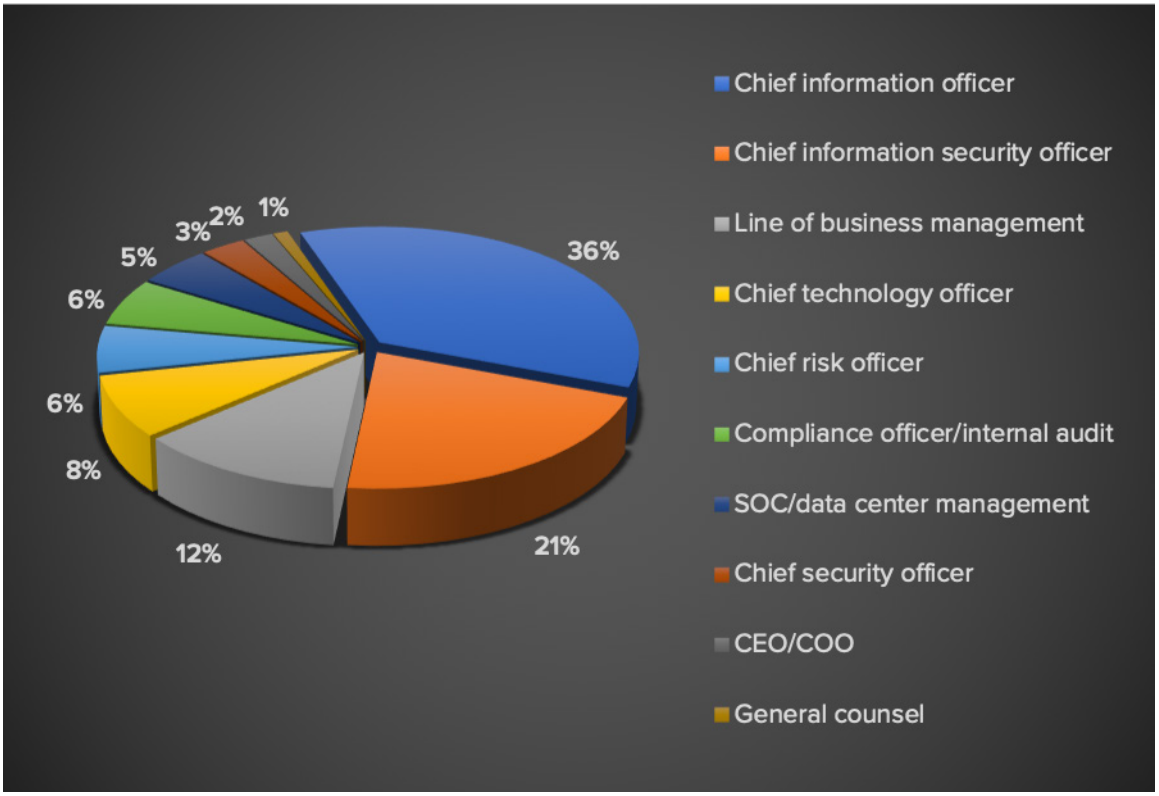


More than **58%** of respondents are at or above supervisory levels

As shown in Pie Chart 2, 36 percent of respondents report to the chief information officer, 21 percent of respondents report to the chief information security officer, 12 percent of respondents report to line of business management, and 8 percent of respondents report to the chief technology officer.

57% of respondents report to either CIO or CISO

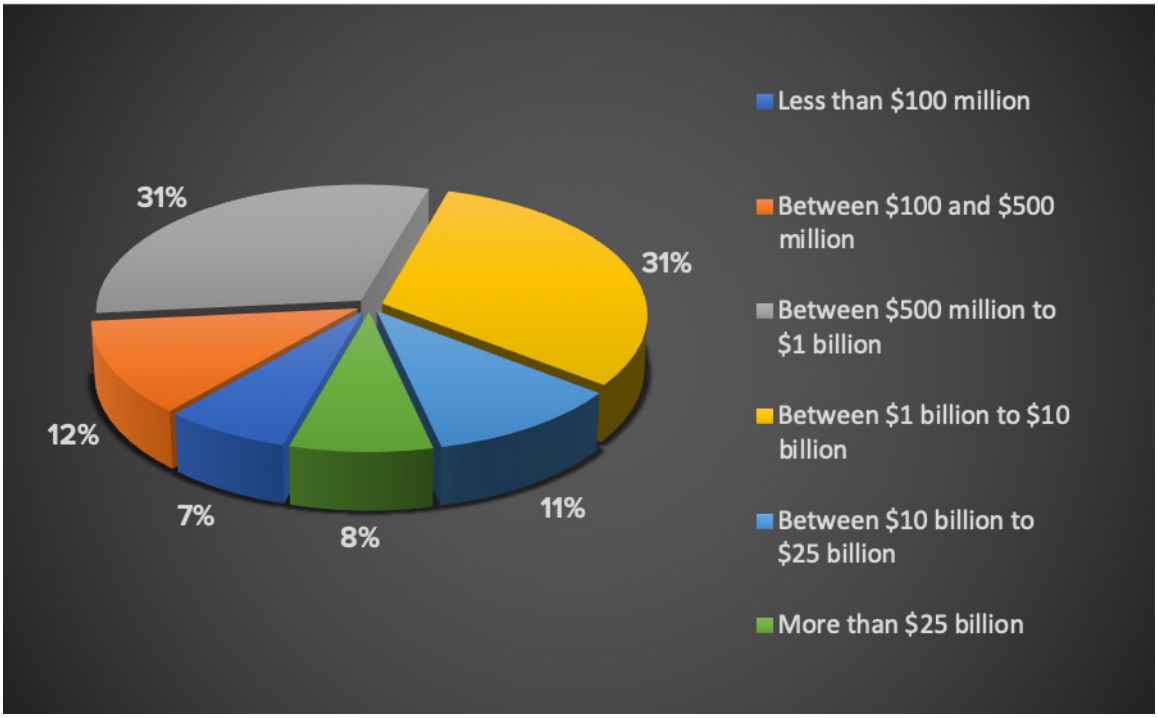
Pie Chart 2. Respondents reporting channel or chain of command



As Pie Chart 3 illustrates, 50 percent of the respondents report their global revenue to be greater than $1 billion.

50% of respondents revenue is over $1 billion

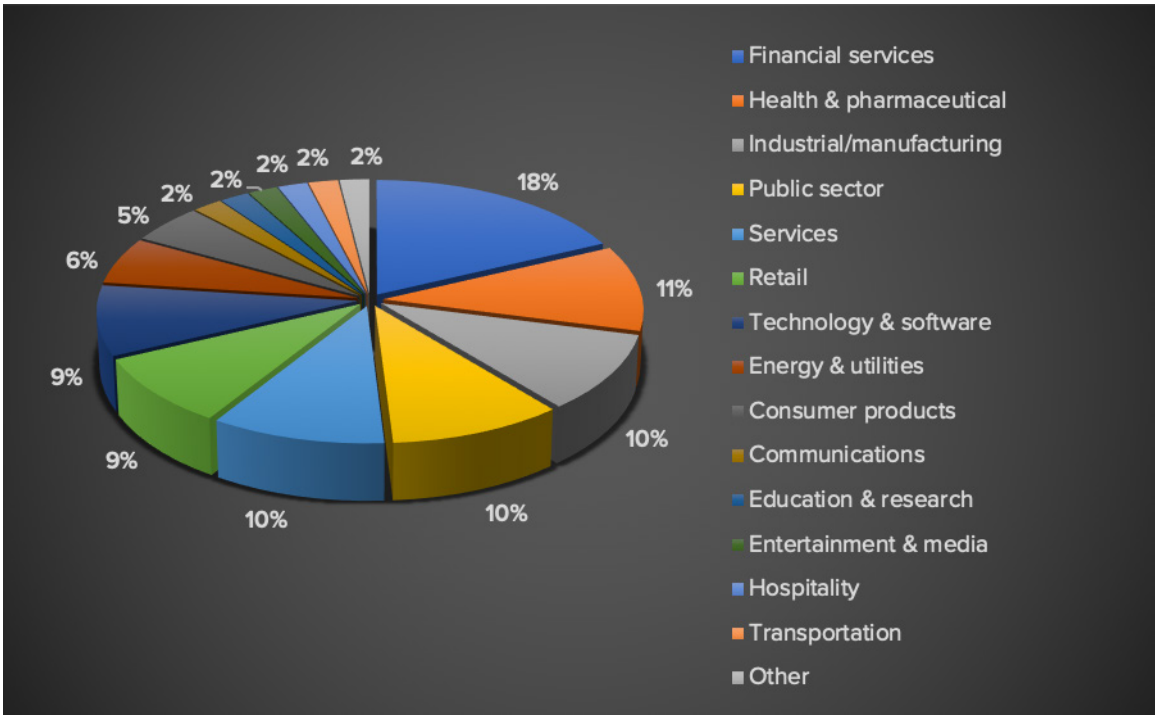
Pie Chart 3. Global revenue of the organization



Financial Services is the largest industry surveyed

Pie Chart 4 reports the industry classification of respondents' organizations. This chart identifies financial services (18 percent of respondents) as the largest industry classification, which includes banking, investment management, insurance, brokerage, payments, and credit cards. This is followed by health and pharmaceuticals (11 percent of respondents), industrial/manufacturing, public sector, and service sector, each at 10 percent of respondents respectively.

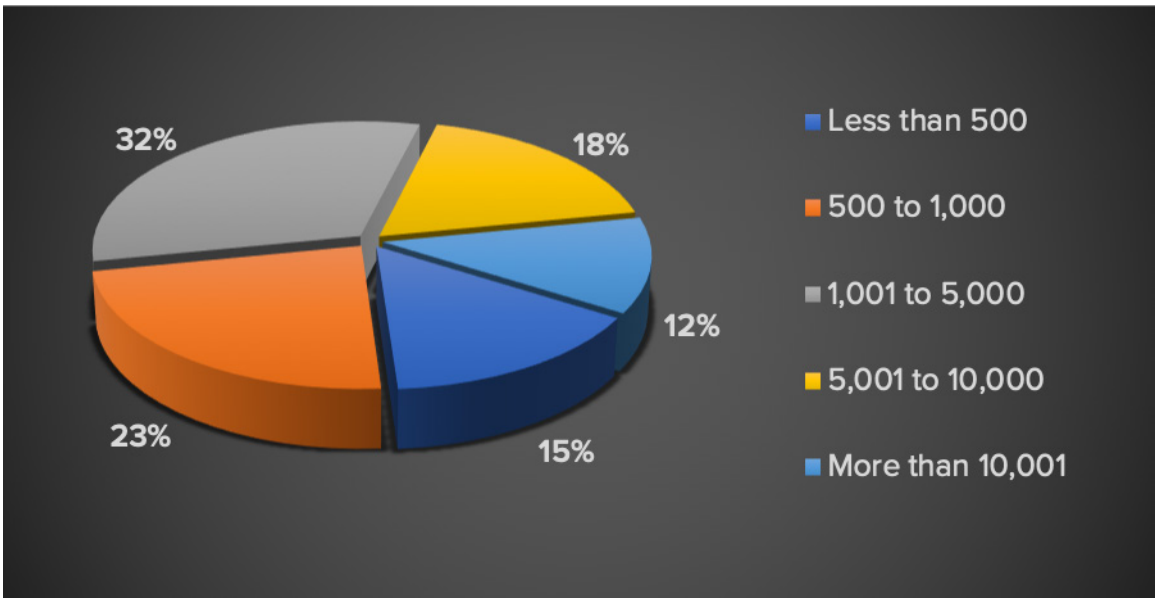
Pie Chart 4. Primary industry classification



62%
of organizations have over
1k
employees

According to Pie Chart 5, more than half of the respondents (62 percent) are from organizations with a headcount of over 1,000 employees.

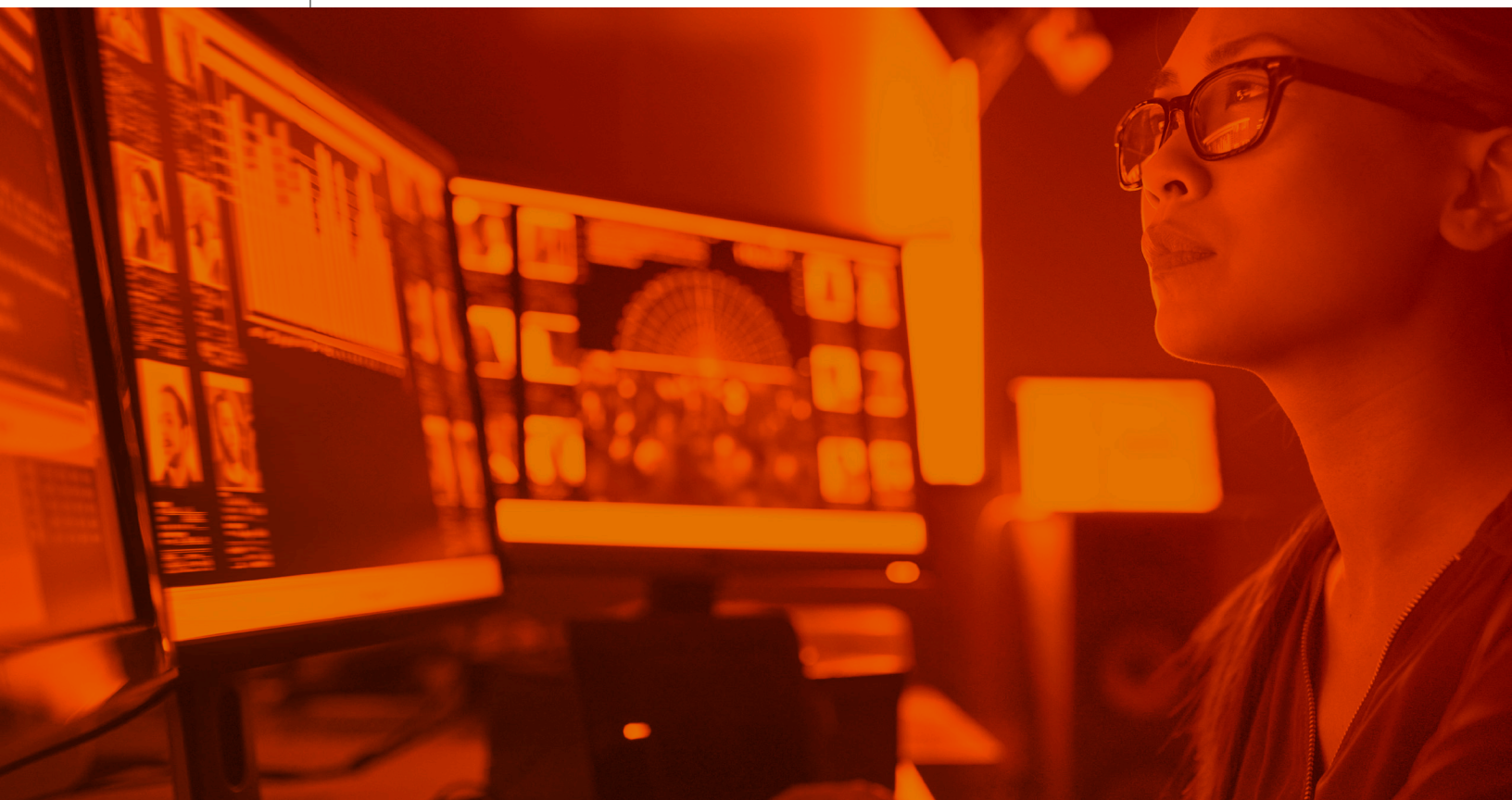
Pie Chart 5. The number of employees within the organization



Part 4. Caveats to this study

There are inherent limitations to survey research that need to be carefully considered before drawing inferences from findings. The following items are specific limitations that are germane to most web-based surveys.

- **Non-response bias:** The current findings are based on a sample of survey returns. We sent surveys to a representative sample of IT and IT security practitioners, resulting in a large number of usable returned responses. Despite non-response tests, it is always possible that individuals who did not participate are substantially different in terms of underlying beliefs from those who completed the instrument.
- **Sampling-frame bias:** The accuracy is based on contact information and the degree to which the list is representative of individuals who are knowledgeable about their organizations' IT security strategies and tactics. Because we used a web-based collection method, it is possible that non-web responses by mailed survey or telephone call would result in a different pattern of findings.
- **Self-reported results:** The quality of survey research is based on the integrity of confidential responses received from subjects. While certain checks and balances can be incorporated into the survey process, the possibility remains that a subject did not provide accurate responses.



Appendix: Detailed Survey Results

The following tables provide the frequency or percentage frequency of responses to all survey questions contained in this study. All survey responses were captured between April 8 and 22, 2019

Survey response	Frequency	Percentage
Total sampling frame	15,898	100.0%
Total returns	631	4.0%
Rejected surveys	54	0.3%
Final sample	577	3.6%

S1. What best describes your involvement in IT security investments within your organization?	Percentage
None (stop)	0%
Responsible for overall solution/purchase	45%
Responsible for administration/management	41%
Involved in evaluating solutions	67%
Total	**153%**

S2. What best describes your role within your organization's IT or IT security department?	Percentage
IT leadership (CIO)	9%
Security leadership (CSO/CISO)	8%
IT management	13%
IT operations	14%
Security management	9%
Security monitoring and response	11%
Data administration	11%
Compliance administration	10%
Applications development	12%
Data Protection Office	3%
I'm not involved in my organization's IT or IT security function (stop)	0%
Total	**100%**

S3. How knowledgeable are you about your organization's IT security strategy and tactics?	Percentage
Very knowledgeable	40%
Knowledgeable	33%
Somewhat knowledgeable	27%
Slightly knowledgeable (stop)	0%
No knowledge (stop)	0%
Total	**100%**

Part 2. Attributions

Q1. Please rate each one of the following statements using the agreement scale provided below each item. Strongly agree and agree responses combined.	Percentage
Q1a. In my experience, our IT security infrastructure has gaps in coverage that allow attackers to penetrate its defenses.	56%
Q1b. Our IT security team is effective in determining gaps in coverage and closing those gaps.	41%
Q1c. My organization is getting the full value from our current security investments.	39%
Q1d. Our IT security leadership is not certain if the technologies deployed are working as promised and protecting the network.	53%
Q1e. Our organization has a complex suite of security solutions that make it difficult to determine if our security strategy is effective.	60%
Q1f. Our IT security leadership needs better monitoring tools that will improve the ability to communicate the effectiveness of our security infrastructure, including potential gaps, to our C-suite and board of directors.	63%
Q1g. Our organization's security approach is reactive and incident driven.	69%
Q1h. Our IT security team is able to respond to security incidents within one day.	25%
Q1i. Our IT security team is able to assess the effectiveness of our organization's security practices, technologies and controls.	40%

Q2. What are the primary barriers to maturing your security program? Please select all that apply.	Percentage
Too many alerts to address	63%
Security staff and skills shortages	68%
Inability to identify and repair vulnerabilities quickly	59%
Too many false positives	51%
Security solutions can't keep up with exponentially increasing amounts of data	57%
Hard to protect expanding and blurring IT perimeter with IoT, BYOD, mobile and cloud	60%
Siloed security solutions	47%
Inability of traditional perimeter-based security solutions to detect and stop advanced targeted attacks	50%
Lack of visibility into every user and device connected to the IT infrastructure	64%
Lack of visibility into what every user and device is doing while connected to the IT infrastructure	62%
Complexity and the inability to integrate security solutions	65%
Other (please specify)	2%
Total	**648%**

Q3. Despite all the cybersecurity investments made by companies, why are breaches still happening? Please select all that apply.	Percentage
It is difficult to protect complex and dynamically changing attack surfaces (mobile, byod, cloud, etc.)	66%
Difficulty keeping security tools updated	48%
Misconfigured or incorrectly installed tools	45%
Networks are not scanned frequently for vulnerabilities	58%
Lack of control over access privileges	50%
Inability to prevent employees from falling for a phishing scam	61%
There is a lack of adequate security staff with the necessary skills	65%
Attackers are persistent, sophisticated, well trained and well financed	70%
Lack of visibility into the operations of our security program	56%
Threats that have evaded traditional security defenses and are now inside the IT environment	39%
Human error	62%
System glitches	49%
Other (please specify)	3%
Total	**672%**

Q4. Which of the following are obstacles to your organization's ability to effectively respond to cyberattacks? Please select all that apply.	Percentage
Poor incident escalation procedures	33%
We do not know all the gaps in our security posture	45%
Inability to prioritize incidents based on potential business impact	49%
Lack of understanding about how attackers operate	41%
Shortage of skilled incident response personnel	65%
Inability to collect the forensic data from the right sources	39%
Inability to collect real-time forensic data	50%
Inability to study a detected attacker's behavior in real time	45%
Difficulty mining and correlating data from available security tools and information sources	52%
Lack of timely response and engagement with other departments and functions	60%
Internal policies that prevent rapid triage	31%
Other (please specify)	2%
Total	**512%**

Part 3. Testing and validating the efficacy of the organization's security posture

Q5. Who within your organization is most responsible for validating the efficacy of its security strategy, technologies and controls?	Percentage
Chief information officer (CIO)	30%
Chief technology officer (CTO)	8%
Chief information security officer (CISO)	21%
Chief risk officer (CRO)	7%
Chief security officer (CSO)	3%
Line of business leadership	12%
End-users of IoT devices	5%
Data Protection Officer (DPO)	3%
No one function has overall responsibility	11%
Other (please specify)	0%
Total	**100%**

Q6. Approximately, how many separate security solutions and technologies does your organization deploy today?	Percentage
Less than 10	6%
10 to 20	11%
21 to 30	23%
31 to 50	30%
51 to 100	20%
100+	10%
Total	**100%**
Extrapolated value	46.7

Q7a. Does your IT security team attempt to quantify and track the company's IT security posture?	Percentage
Yes, we have a fairly mature measurement and metrics program	24%
Yes, we have a partial program in place	30%
No, we do not quantify and track the company's IT security posture	40%
Don't know	5%
Other (please specify	1%
Total	**100%**

Q7b. If yes, do you report these metrics to the board of directors and CEO?	Percentage
Yes	39%
No	61%
Total	**100%**

Q7c. If no, why don't you report these metrics and measurements?	Percentage
The information is too technical to communicate effectively	35%
The information does not provide an accurate and comprehensive view of the threats facing the organization	38%
The information does not reveal the gaps in our security posture	26%
Other (please specify)	1%
Total	**100%**

Q8. How often does your organization's IT security leadership report to the board?	Percentage
Monthly	5%
Quarterly	12%
Annually	20%
On an as needed basis	9%
Only following a security incident	14%
The IT security leadership does not report to the board	40%
Total	**100%**

Q9. What describes the involvement of the board and CEO in your organization's IT security program?	Percentage
Determines and/or approves the acceptable level of cyber risk for the organization	28%
Reviews the IT security budget	19%
Has a cybersecurity committee	34%
Reviews cyber insurance	19%
Reviews regulatory compliance	45%
Reviews vendor/supply chain requirements	37%
Requires cybersecurity due diligence in a merger and acquisition process	21%
Requires an outside cyber-risk assessment and evaluation of the overall culture of cybersecurity	53%
None of the above	15%
Other (please specify)	3%
Total	**274%**

Q10. How do you measure the efficiency and effectiveness of your organization's security program?	Percentage
A decrease in the cost of dealing with known threats	43%
Decrease in the impact of residual risks	36%
Decrease in the cost of demonstrating compliance	21%
Maintaining level of protection with less impact on the bottom line	18%
The decrease in time to respond to an incident	50%
Less down time	49%
Supports new business innovations	30%
Other (please specify	3%
Total	**250%**

Q11. Please rate your level of certainty that your organization's investments in security solutions will reduce the likelihood of a data breach from 1 = no certainty to 10 = high certainty.	Percentage
1 or 2	13%
3 or 4	24%
5 or 6	22%
7 or 8	23%
9 or 10	18%
Total	**100%**
Extrapolated value	5.68

Q12. Please rate your level of certainty that your organization's IT security staff and processes will reduce the likelihood of a data breach from 1 = no certainty to 10 = high certainty.	Percentage
1 or 2	9%
3 or 4	18%
5 or 6	24%
7 or 8	25%
9 or 10	24%
Total	**100%**
Extrapolated value	6.24

Q13. How do you measure gaps in your organization's IT security infrastructure?	Percentage
Manually	23%
Scripts	24%
Automated solution	24%
Combination of automated and manual solutions	29%
Total	**100%**

Q14. Has a security product update ever affected the efficacy of your organization's security posture?	Percentage
Yes	60%
No	35%
Don't know	5%
Total	**100%**

Group Policy is a feature of the Microsoft Windows NT family of operating systems that controls the working environment of user accounts and computer accounts. Group Policy provides centralized management and configuration of operating systems, applications, and users' settings in an active directory environment. A set of Group Policy configurations is called a Group Policy Object (GPO). A version of Group Policy called Local Group Policy (LGPO or LocalGPO) allows Group Policy Object management without Active Directory on standalone computers. Source: Wikipedia

Q15. Have you ever found that a group policy implementation does not actually provide the expected functionality?	Percentage
Yes	56%
No	40%
Don't know	4%
Total	**100%**

Q16. How often is your network access policy evaluated?	Percentage
Daily	5%
Weekly	20%
Monthly	45%
Annually	25%
Don't know	5%
Total	**100%**

Q17a. Do you conduct penetration testing?	Percentage
Yes	57%
No (please skip to Q23.)	43%
Total	**100%**

Q18. How often does your organization conduct penetration testing?	Percentage
Daily	13%
Weekly	17%
Monthly	30%
Annually	9%
No set schedule	31%
Total	**100%**

Q19. How effective is penetration testing in uncovering security gaps?	Percentage
Very effective	32%
Effective	33%
Somewhat effective	15%
Not effective	20%
Total	**100%**

Q20. Are the same protection failures uncovered from previous tests?	Percentage
Yes	46%
No	54%
Total	**100%**

Q21. If yes, do you get additional value from each new penetration testing?	Percentage
Yes	53%
No	47%
Total	**100%**

Q22. If yes, how often do you confirm security gaps found by penetration test?	Percentage
Every time	17%
Frequently	30%
Somewhat frequently	32%
Occasionally	21%
Total	**100%**

Q23. Have you ever observed a security control reporting it blocked an attack when it did not?	Percentage
Yes	63%
No	30%
Don't know	7%
Total	**100%**

Q24. Does your organization monitor the use of Windows native tools used by attackers (WMI, PowerShell)?	Pct%
Yes	54%
No	43%
Don't know	3%
Total	**100%**

Q25. Do you have user specific restriction of departments that do not have use from advanced Windows native tools?	Percentage
Yes	36%
No	59%
Don't know	5%
Total	**100%**

A continuous security validation (CSV) platform enables organizations to test the efficacy of their security solution and determine how well security solutions are performing. It identifies gaps in coverage and misconfigurations to prioritize remediation efforts.

Q26a. Do you deploy a CSV platform using attack simulations?	Percentage
Yes	48%
No (please skip to Q27)	52%
Total	**100%**

Q26b. If yes, how effective is CSV in finding security gaps and mitigating the risk of a data breach?	Percentage
Very effective	28%
Effective	40%
Somewhat effective	21%
Not effective	11%
Total	**100%**

Q26c. If yes, what features are important in a CSV platform?	Percentage
A comprehensive picture of your existing security infrastructure	48%
Actionable intelligence	64%
Correlation and comparison of historic data	51%
Ability to identify vulnerabilities quickly	69%
Other (please specify)	3%
Total	**235%**

Q27. Using the following 10-point scale, please rate your level of visibility to be able to detect attacks from 1 = low confidence to 10 = high confidence	
Q27a. Network traffic visibility	Percentage
1 or 2	8%
3 or 4	12%
5 or 6	28%
7 or 8	29%
9 or 10	23%
Total	**100%**
Extrapolated value	6.44

Q27b. Server visibility	Percentage
1 or 2	10%
3 or 4	14%
5 or 6	22%
7 or 8	24%
9 or 10	30%
Total	**100%**
Extrapolated value	6.50

Q27c. Application visibility	Percentage
1 or 2	9%
3 or 4	11%
5 or 6	21%
7 or 8	29%
9 or 10	30%
Total	**100%**
Extrapolated value	6.70

Q27d. Data visibility	Percentage
1 or 2	20%
3 or 4	14%
5 or 6	23%
7 or 8	23%
9 or 10	20%
Total	**100%**
Extrapolated value	5.68

Q27e. Cloud visibility	Pct%
1 or 2	15%
3 or 4	25%
5 or 6	25%
7 or 8	19%
9 or 10	16%
Total	**100%**
Extrapolated value	5.42

Q27f. IoT visibility	Percentage
1 or 2	23%
3 or 4	25%
5 or 6	25%
7 or 8	14%
9 or 10	13%
Total	**100%**
Extrapolated value	4.88

Q27g. Endpoint Visibility	Pct%
1 or 2	8%
3 or 4	15%
5 or 6	23%
7 or 8	25%
9 or 10	29%
Total	**100%**
Extrapolated value	6.54

Q28. The following table lists 19 enabling security technologies that may be deployed by your organization. For each item, indicate if you are confident in your organization's ability to determine the efficacy of the solution. Leave blank if your organization does not deploy a given technology. Very confident and confident responses combined.	Percentage
Access governance systems	45%
Advanced firewalls (e.g., NGFW and UTM)	39%
Big data analytics for cybersecurity	35%
Data loss prevention (DLP)	62%
Distributed deception technology	19%
Endpoint security solutions/EDR	40%
Forensic suite	37%
Honeypots	29%
Identity & access management (IAM)	52%
Incident response orchestration	38%
Intrusion detection systems (IDS)	52%
Intrusion prevention systems (IPS)	49%
Mobile threat prevention	30%
Netflow or network behavior analysis tools	40%
Security incident & event management (SIEM)	47%
Sinkholes	23%
User/employee behavior analytics (UEBA)	42%
VPN or secure gateways	25%
Web application firewalls (WAF)	50%

Part 4. Budgets and investments

Q29a. Will your organization's IT security budget increase in the next 12 months?	Percentage
Yes	58%
No	42%
Total	**100%**

Q29b. If yes, how much will your organization's IT security budget increase?	Percentage
Less than 10%	23%
10% to 15%	42%
16% to 20%	21%
21% to 30%	9%
31% to 40%	4%
41% to 50%	1%
55% to 75%	0%
76% to 100%	0%
Total	**100%**
Extrapolated value	14%

Q30. Approximately, what is the dollar range that best describes your organization's cybersecurity budget for 2019?	Percentage
< $1 million	0%
$1 to 5 million	4%
$6 to $10 million	9%
$11 to $15 million	31%
$16 to $20 million	22%
$21 to $25 million	25%
$26 to $50 million	7%
> $50 million	2%
Total	**100%**
Extrapolated value	$18.44

Q31a. Please allocate 100 percentage points to show how your IT security budget is allocated today.	Points
Security program management (e.g. assessment, design, planning, project management and reporting)	36
Improvement, management and maintenance of preventive controls	21
Improvement, management and maintenance of threat detection	23
Planning, rehearsal and execution of incident response and remediation activities	20
Total	**100**

Q31b. Please allocate 100 percentage points to show how your IT security budget will be allocated in the next 12 months.	Points
Security program management (e.g. assessment, design, planning, project management and reporting)	30
Improvement, management and maintenance of preventive controls	18
Improvement, management and maintenance of threat detection	28
Planning, rehearsal and execution of incident response and remediation activities	24
Total	**100**

Part 5. Your role and organization

D1. What organizational level best describes your current position?	Percentage
Senior Executive/Vice President	7%
Director	16%
Manager	20%
Supervisor	15%
Technician/Staff	36%
Consultant	4%
Contractor	2%
Other	0%
Total	**100%**

D2. Check the Primary Person you or your IT security leader reports to within the organization.	Percentage
CEO/COO	2%
Chief financial officer (CFO)	0%
General counsel	1%
Chief information officer (CIO)	36%
Chief technology officer (CTO)	8%
Chief risk officer (CRO)	6%
Chief information security officer (CISO)	21%
Compliance officer/internal audit	6%
Human resources VP	0%
Chief security officer (CSO)	3%
Line of business (LOB) management	12%
SOC/data center management	5%
Other (please specify)	0%
Total	**100%**

D3. What range best defines the worldwide revenue of your organization?	Percentage
Less than $100 million	7%
Between $100 and $500 million	12%
Between $500 million to $1 billion	31%
Between $1 billion to $10 billion	31%
Between $10 billion to $25 billion	11%
More than $25 billion	8%
Total	**100%**

D4. What best describes your organization's primary industry classification?	Percentage
Agriculture & food services	1%
Communications	2%
Consumer products	5%
Defense & aerospace	1%
Education & research	2%
Energy & utilities	6%
Entertainment & media	2%
Financial services	18%
Health & pharmaceutical	11%
Hospitality	2%
Industrial/manufacturing	10%
Public sector	10%
Retail	9%
Services	10%
Technology & software	9%
Transportation	2%
Total	**100%**

D5. How many employees are in your organization?	Percentage
Less than 500	15%
500 to 1,000	23%
1,001 to 5,000	32%
5,001 to 10,000	18%
More than 10,001	12%
Total	**100%**

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AttackIQ, a leader in the emerging market of continuous security validation, built the industry's first platform that enables red and blue teams to test and measure the effectiveness of their security controls and staff. An open platform, AttackIQ™ supports the MITRE ATT&CK Matrix, a curated knowledge base and model for cyber adversary behavior used for planning security improvements and verifying defenses work as expected. AttackIQ's platform is trusted by leading companies around the world. For more information visit www.attackiq.com. Follow AttackIQ on Twitter, Facebook, LinkedIn, and YouTube.

