SWIMMING WITH SHARKS

IDC Analyze the Future

Your Evaluation of Security Maturity and Best Practice against peer organizations

INTRODUCTION

Running your enterprise in the 21st century is akin to swimming with sharks. The danger is clear: threat actors are becoming more potent, more organized and more collaborative by the day. Yet you need to swim in the ocean of Digital Transformation, which is becoming a mission critical concern for today's CEO. However, it also means swimming deeper into the shark infested waters.

Digital transformation technologies – big data/analytics, cloud computing, mobility and social business – take corporate applications and data outside the safety of perimeter controls at the endpoint and the network. This represents a loss of visibility and control for security professionals. Not only are you swimming through murky waters, but the door to that shark-proof cage that used to protect you has swung open!

Avoiding digital transformation is not an option. One need only consider the fate of enterprises such as Blockbusters and Borders that have failed to adapt to the new reality to understand the implications. Instead, a step change in both technological approach and strategic mindset are required. This report aims to uncover best practice exhibited by your peers with the most mature approach towards security. In order to swim with the sharks, and maybe even bite back, a new outlook is required.

USING THIS REPORT

This report aims to provide you with insights into the characteristics and progression of maturity in security. It identifies examples of best practice that you can aspire to in order to improve your security maturity. It also highlights innovation accelerators that have a particularly strong impact on boosting maturity levels. Finally, it offers recommendations for how you can improve your position in comparison with your peers. These insights emerge from a survey of 500 senior security decision-makers based in France, Germany, Italy, Spain and the UK.

YOUR PEERS' MATURITY PROFILE

Based on our survey of 500 senior security decision-makers, IDC has broken the market down into five categories of maturity. From low to high, these are:

ad-hoc
opportunistic
repeatable
managed
optimized.

Enterprises are typically distributed into a classic 'bell curve' as shown in figure 1:

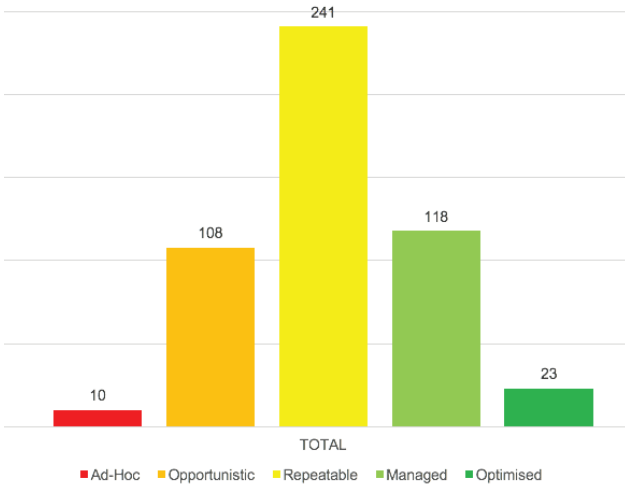


Figure 1

Source: IDC, 2016

There are very few of your peer organizations at the low end in their approach towards security, and also few at the top end. Instead, the majority of peer enterprises sit somewhere in the middle. If you aim to swim with sharks without getting bitten, you should aspire beyond parity of your peers and embrace best practice. The next section of this report gives indication of what best practice in security looks like.

SECURITY BEST PRACTICE

Traditionally, security technology has aimed to protect enterprises from known threats. By gathering devices, applications and data behind the safety net of the firewall, perimeter controls at the device and network levels could keep those known threats at bay. However, such preventative security models are being rendered insufficient as a stand-alone approach by two trends:

- Digital transformation is taking corporate applications and data beyond the perimeter, and outside the visibility and control of in-house security teams.
- The sheer scale of threats is unprecedented. The number of new malware variants emerging on a daily basis is over a million. It is simply impossible to generate signatures at a rapid enough pace to maintain traditional defenses that aim to block new threats.

Quite clearly, new approaches are required that will help enterprises to identify and respond to unknown threats as well as blocking out known threats. Security must become proactive, seeking potential indicators of compromise to remediate rather than waiting for an attack to become evident. However, this requires a mental leap in security strategy. An analysis of what is considered to be limiting security effectiveness across the maturity levels is enlightening, as shown in figure 2 below:

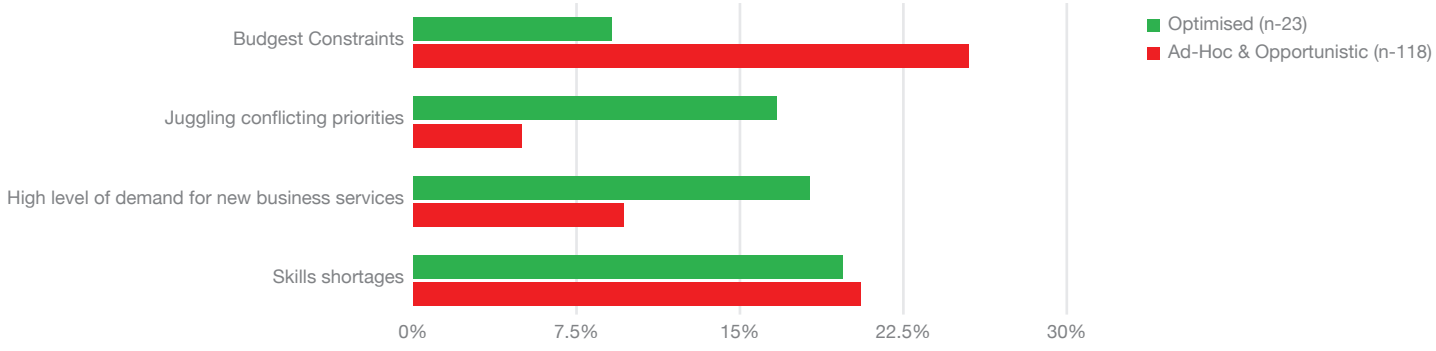


Figure 2

Source: IDC, 2016

There are certain common themes that apply across all maturity levels. Specifically, cost and skills availability are the primary limitations. This is no surprise given the global skills shortage that endures within the security market. However, it is the degree to which further concerns are considered where an insight into best practice emerges.

For lower level maturities, cost pressures and skills shortages are the overwhelming concerns. But at more mature levels, there is a greater balance between these areas and areas such as the management of conflicting priorities and supporting demand for new business services. This highlights a key step change in mentality: best practice in security is to consider the needs of the business.

Once this mental leap has been made, enterprises must consider what this means in terms of practical security approaches. In particular, the progression away from reactive security models towards proactive security is required. In fact, as shown in figure 3 below, there are two clear trends across maturity techniques. The more mature an enterprise is, the less likely it is to not be using proactive security techniques, and more likely to either be planning or already using them.

Proactive Security Adoption by Maturity Level

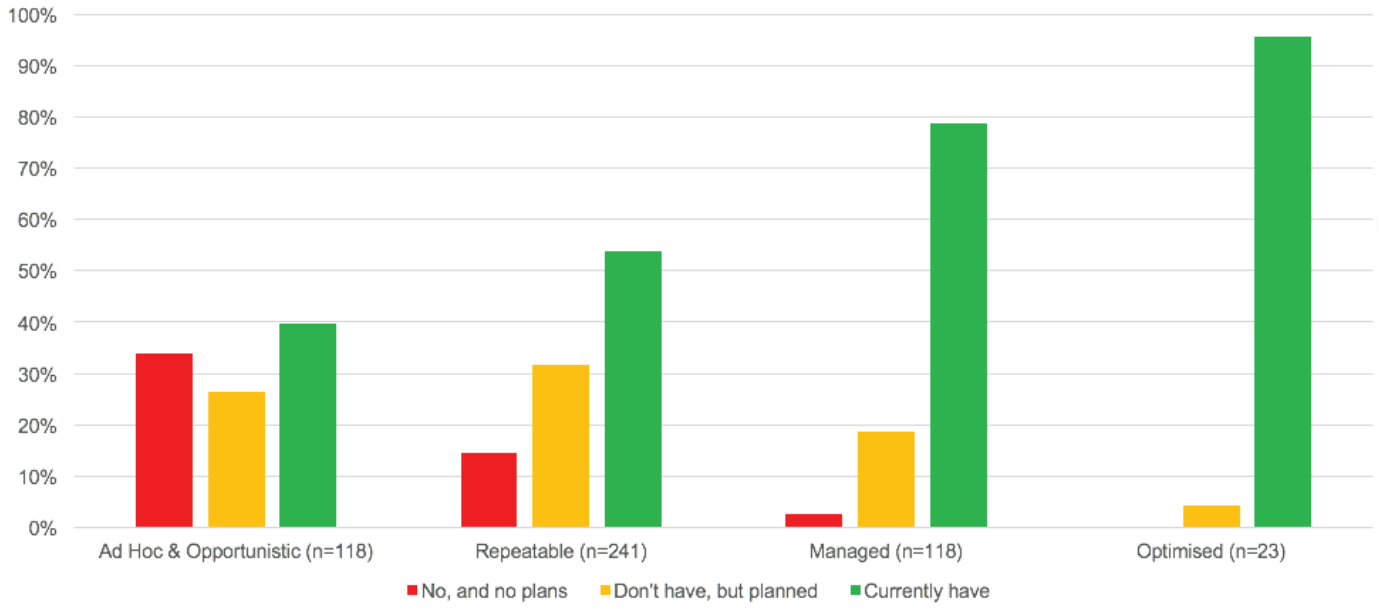


Figure 3

Source: IDC, 2016

According to our survey, key security technologies that enterprises can adopt in order to facilitate these more proactive approaches include threat intelligence, artificial intelligence and heuristic analysis of user behavior. As with proactive technologies, the more mature an enterprise's security approach is, the more likely it is to make use of solutions such as AI and heuristics.

Although proactive security approaches represent an opportunity to move up the security maturity scale, they also bring their own challenges. For example, proactive techniques require the gathering and monitoring of operational and behavioral logs on a far larger scale. Given the pressures on both financial resources that security teams are facing, a grown up discussion of techniques to help lighten the load on internal resources is required. Best practice indicates that there are two potential outlets.

OUTSOURCING

Although enterprise security is tough, the over-riding tendency is to keep control of it internally. There are a number of motivating factors here. For starters, security is viewed as a mission-critical activity and any externalization threatens to reduce the visibility and control that in-house teams hold over their security posture. Managed security services providers (MSSPs) have made great promises in the past, but the reality has not always lived up to that promise. Finally, turning to third parties may even be seen as an admission of failure by in-house teams, acknowledging that cannot do the job alone.

However, in a connected world, no single enterprise stands alone and immune to the threat. This is especially the case when European enterprises possess limited security resources, and where third parties are increasingly well-positioned to provide support thanks to, for example: global scale, industrialized delivery models, better access to skilled personnel, etc. Therefore, for those who aspire to best practice in security, MSS is an important consideration.

Although MSS can be a crutch for enterprises to ease pressures on internal resources, it cannot become the only answer. IDC's research indicates that, rather than wall-to-wall outsourcing, best practice is to find a balance between in-house delivery and MSS that meets both the business goals and the risk appetite of the enterprise. The retention of in—house capability within security operations is important to understand the strategic impact of business decisions on security – and vice-versa. With security increasingly driven on a risk-management basis and as an organization-wide concern, this is a vital characteristic of best practice for business management, let alone security practice.

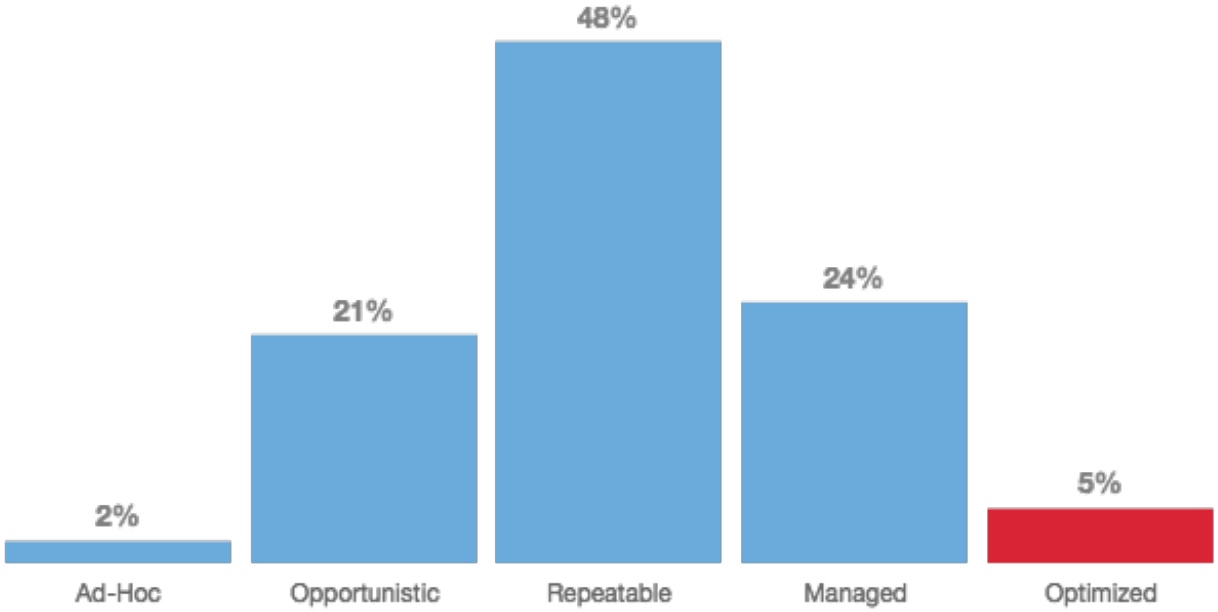
AUTOMATION

Alongside MSS, another key lever for enterprises to pull in the face of pressure on resources and the imbalance between digital transformation and the evolving threat landscape is automation. Automation allows the management and even delivery of security operations to be handled through technology products. The involvement of in-house personnel helps to retain visibility and control over security.

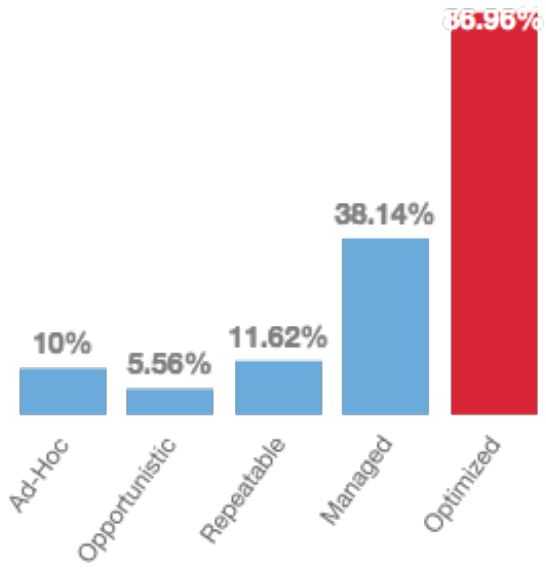
This will have ramifications for the emergence of AI and cognitive computing within security, which aim to further release pressure on resources by pushing decision-making to machines. However, it is clear that best practice (at least for the time being) will be to retain a degree of human oversight to ensure the smooth running of the machines, or to take the most critical decisions out of robotic hands.

CUSTOM REPORT SUMMARY AND OVERALL PERFORMANCE RANKING

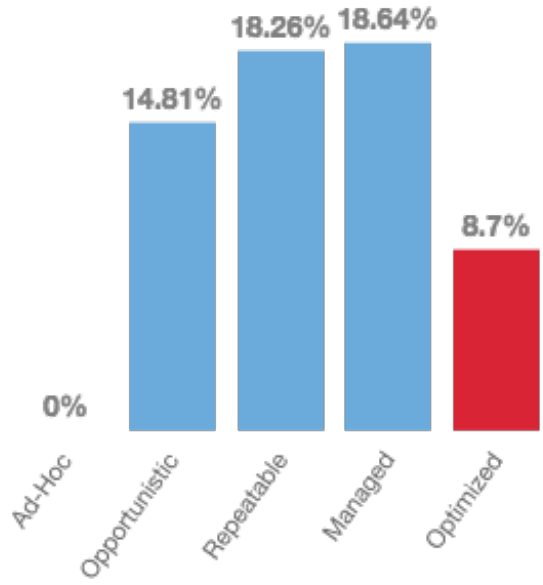
How you compare overall

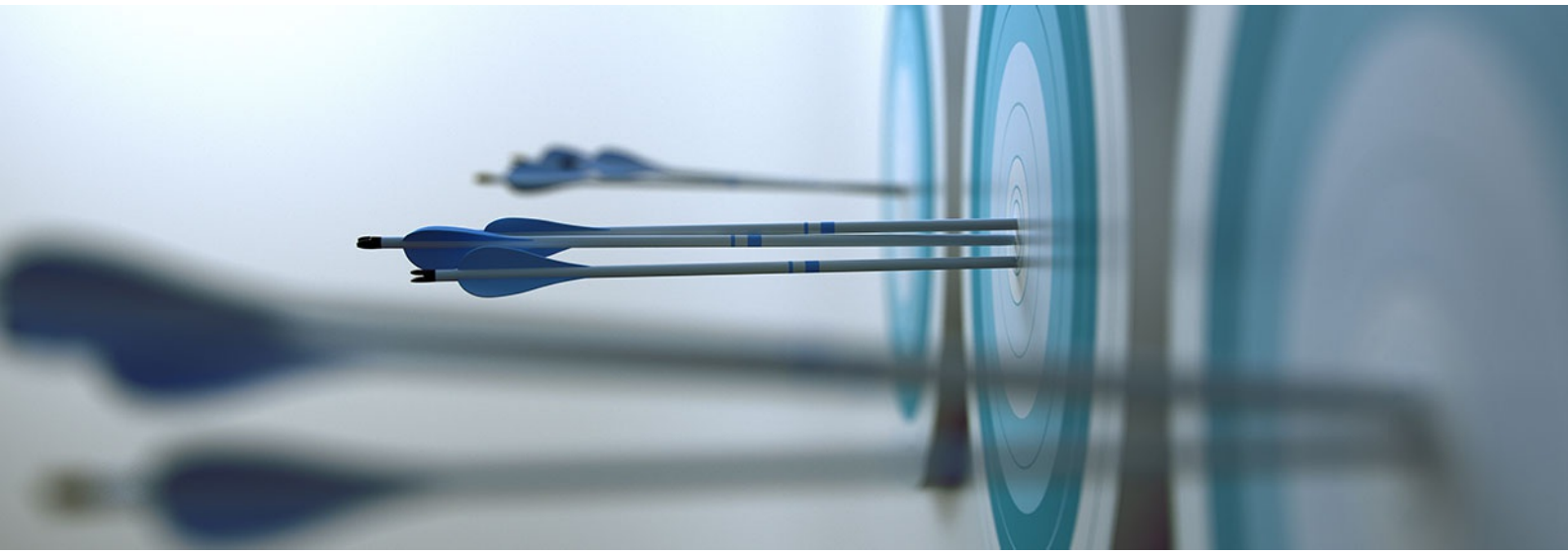


Your comparison to others in your country



Your comparison to companies of similar size





PERFORMANCE RANKING BY CATEGORY

Cyber Risk Management and the Business

Ranking: OPTIMIZED

Excellent showing! You are performing ahead of your peers in this area of Cyber Risk management but should still be reassessing how you do things to keep ahead of the game.

Cyber Risk Management Operations and Defence

Ranking: OPTIMIZED

Top of the class! You are performing ahead of your peers in this area of Cyber Risk management but can always find ways to improve over time as new approaches emerge.

Cyber Risk Management Breach Detection and Remediation

Ranking: MANAGED

Top job! You are ahead of your peers when it comes to managing Cyber Risk in conjunction with the business. You are performing very well in this area of Cyber Risk management but should not become complacent and continually reassess what you do.

CYBER RISK MANAGEMENT AND THE BUSINESS PERFORMANCE RANKING BY QUESTION

We're now going to look at how you performed in three key areas of Cyber Risk Readiness. In each case, we'll look at how you compared to others in the same readiness ranking of **Managed** as yourself. To do this, we look at whether you are behind, in-line or ahead of your peers.

If you are in-line, you are broadly comparable to most companies at your level of readiness. If you are ahead, you are doing well in this area and should be looking at other areas to improve to get a balanced approach. If you are behind, you need to focus attention and investment in this area to bring your Cyber Risk Readiness in to line.

If you achieve a rating of in-line or ahead in all sections, you are ready to be moving up a readiness level in short order."

Q1: How does senior business management tend to view the role of IT? Please select one
A: A driver of competitive advantage or differentiation

Q2: When it comes to business requests for new or enhanced applications or services, which statement best reflects your IT department's capabilities? Please select one
A: We are very good at delivery on most or all requests.

Q3: Which statement best describes your attitude to risk at a business level? Please select one
A: We actively take on and manage risk to help the business develop.

Q4: Which of the following do you already have in place to protect your business in the event of an incident?
A:

- A formal risk assessment
  Currently have
- Proactive detection (solutions that are able to identify unknown threats through techniques such as behavioural analytics and machine learning, as opposed to being reliant on blocking known threats through the use of signatures)
  Currently have
- Response plan
  Currently have
- Internal communications plan
  Currently have
- External communications and public relations plan
  Currently have
- Breach notification plan
  Currently have
- Breach remediation plan
  Currently have
- Cyber risk insurance
  Currently have

Q5: Which statement best describes how cyber risk management is handled in your company? Please select one
A: It is shared between IT, senior management, and various lines of business.

Q6: Of the following, who are part of your cyber risk assessment structure?
A:

- CEO
  Yes
- CFO
  Yes
- COO
  Yes
- Non-executive board-level risk/compliance/security focused member
  Yes
- Executive board-level risk/compliance/security focused member
  Yes
- Dedicated risk/compliance/security role (non-board)
  Yes

Q7: How early is IT security usually brought into business projects and initiatives? Please select one
A: Right at the beginning of planning

Q8: How would you describe the level of IT security investment in your organization? Please select one
A: Readily available across the board with a good business case, even for experimental development

CYBER RISK MANAGEMENT OPERATIONS AND DEFENCE PERFORMANCE RANKING BY QUESTION

We're now going to look at how you performed in three key areas of Cyber Risk Readiness. In each case, we'll look at how you compared to others in the same readiness ranking of **Managed** as yourself. To do this, we look at whether you are behind, in-line or ahead of your peers.

If you are in-line, you are broadly comparable to most companies at your level of readiness. If you are ahead, you are doing well in this area and should be looking at other areas to improve to get a balanced approach. If you are behind, you need to focus attention and investment in this area to bring your Cyber Risk Readiness in to line.

If you achieve a rating of in-line or ahead in all sections, you are ready to be moving up a readiness level in short order."

Q9: To what level do you have the following in place for managing your IT physical security?

A:

- Security staff screening
  5
- Prebooked appointments
  5
- Identity verification
  5
- Man-traps to enter/exit
  5
- Biometric authentication
  5
- CCTV monitoring
  5
- Man-shadowing (staff and visitors must work in pairs or be accompanied)
  5
- Change authorization, approval, and logging
  5

Q10: Which of the following best describes your adoption and implementation of IT security best practice? Please select one

A: We use an external expert assessor (using standards).

Q11: How prepared are you for the following aspects of your assessment and implementation of GDPR (General Data Protection Regulation) compliance?

A:

- Knowledge of obligations
  5
- Assessment of capabilities and gaps
  5
- Implementation planning
  5
- Implementation execution
  5
- Continuous improvement/best practice beyond the GDPR itself (beyond the regulations)
  5
- Understanding mitigation of penalties based on early detection/remediation
  5

Q12: Do you tend to invest tactically (point products/as needed) or strategically (part of a plan) in IT security products or solutions? Please select one

A: We tend to buy strategically across the board.

Q13: How often do you report on IT security status to the business? Please select one

A: Weekly

Q14: What is your primary means of managing your IT security infrastructure? Please select one

A: We use a certified partner to help us manage our IT security infrastructure.

Q15: To what level have you adopted automation in your IT security management? Please select one

A: Automation across the board

Q16: When it comes to your use of automation, how do you intend to change your use of this? Please select one
A: Increase it a little

Q17: Do you make use of the following regarding IT security?
A:

- NGFW (next-generation firewall)
  Yes
- IPS/IDS (intrusion detection/protection)
  Yes
- Vulnerability management
  Yes
- Micro segmentation (fine-grained separation and isolation of traffic between specified hosts or domains)
  Yes
- Unified security management (data and information interchange between devices and tools),
  Yes
- Third-party professional security service (pre-sales/design/implementation)
  Yes

Q25: Which statement describes the extent of your use of managed security services providers? Please select one
A: We prefer to use them over doing things in-house.

CYBER RISK MANAGEMENT BREACH DETECTION AND REMEDIATION PERFORMANCE RANKING BY QUESTION

We're now going to look at how you performed in three key areas of Cyber Risk Readiness. In each case, we'll look at how you compared to others in the same readiness ranking of **Managed** as yourself. To do this, we look at whether you are behind, in-line or ahead of your peers.

If you are in-line, you are broadly comparable to most companies at your level of readiness. If you are ahead, you are doing well in this area and should be looking at other areas to improve to get a balanced approach. If you are behind, you need to focus attention and investment in this area to bring your Cyber Risk Readiness in to line.

If you achieve a rating of in-line or ahead in all sections, you are ready to be moving up a readiness level in short order."

Q18: Do you make use of the following regarding IT Security: Breach detection
A:

- Threat intelligence services
  Yes
- Real-time analytics
  Yes
- Advanced threat protection/sandboxing
  Yes
- AI/heuristics
  Yes
- Malware detection
  Yes

When compared with the next level, **stage5** you would be positioned as **Ahead**

Q19: Do you make use of the following regarding IT Security: Breach response
A:

- Intelligence gathering solutions such as 'honeypots'
  Yes
- Forensic logging and analysis
  Yes
- Failover/system recovery
  Yes
- Tiger/go teams
  No
- External incident response partner
  Yes

When compared with the next level, **stage5** you would be positioned as **Inline**

Q20: Do you make use of the following regarding IT Security: Breach response
A:

- automated breach response (e.g. machine learning)
  Yes
- Policy updates
  Yes
- Disaster recovery policy
  Yes
- External disaster recovery providers
  Yes
- Compromise assessments
  Yes

When compared with the next level, **stage5** you would be positioned as **Ahead**

Q21: Have you done the following in regards to understanding your Cyber risk profile?
A:

- Assessed your risk of suffering a cyber breach
  Yes
- Understand potential scale of exposure
  Yes
- Done a data assessment of critical data
  Yes
- Understand posture of extended supply chain or partners
  Yes
- Developed a security breach response plan
  Yes

When compared with the next level, **stage5** you would be positioned as **Ahead**

Q23: How often do you test your IT security defense capabilities through third-party verification? Please select one
A: Every year

When compared with the next level, **Optimized** you would be positioned as **Behind**

Q24: How often do you test your cyber breach incident response plans? Please select one

A: Every 6 months

When compared with the next level, **Optimized** you would be positioned as **Behind**

TOLERANCE FOR CHANGE

A final factor to consider in understanding how well firms embrace the need to swim with sharks is their ability to cope with IT change. As outlined earlier in this report, best practice approaches towards cybersecurity represent a deviation from standard behavior that has evolved over a period of decades. In order to enact changes in mentality and philosophy towards security, the ability to embrace change in the underpinning IT is an important enabling factor.

A key example here is digital transformation, which is one of the key reasons why enterprises are being forced to swim in these shark-infested waters in the first place. Standard practice among security professionals may be to seek to block the adoption of technologies such as social business, mobility big data/analytics and cloud. Their adoption represents an exposure to risk. However, this is not the mature approach; instead of blocking digital transformation, the enlightened enterprise must seek to empower users, providing them with the tools to adopt digital transformation securely.

As demonstrated in figure 4 below, the more mature an organization is as defined by this study's framework, the more comfortable they are in coping with IT change. At the low end of the scale, the least mature enterprises tend to struggle with any IT change, or least they struggle when asked to enact anything other than basic changes to applications and services. However, as we move up the maturity framework, it becomes more likely that an enterprise will describe itself as being able to cope with these changes, or even 'very good' at delivery of them.

These findings show that, in today's security environment, one of the keys to being a successful, dynamic enterprise is to take a mature approach towards security and is able to harness (rather than fear) IT change. The door swings both ways, with one theme being a reflection of the other. The ability to make IT changes requires affirm grasp of the security implications. At the same time, in order to adopt a mature stance towards security, an ability to enact the required changes to IT is critical.

Capability for Coping with Change by Cyber Risk Maturity Levels

Q2. When it comes to business requests for new or enhanced applications or services, which statement best reflects your IT department`s capabilities?

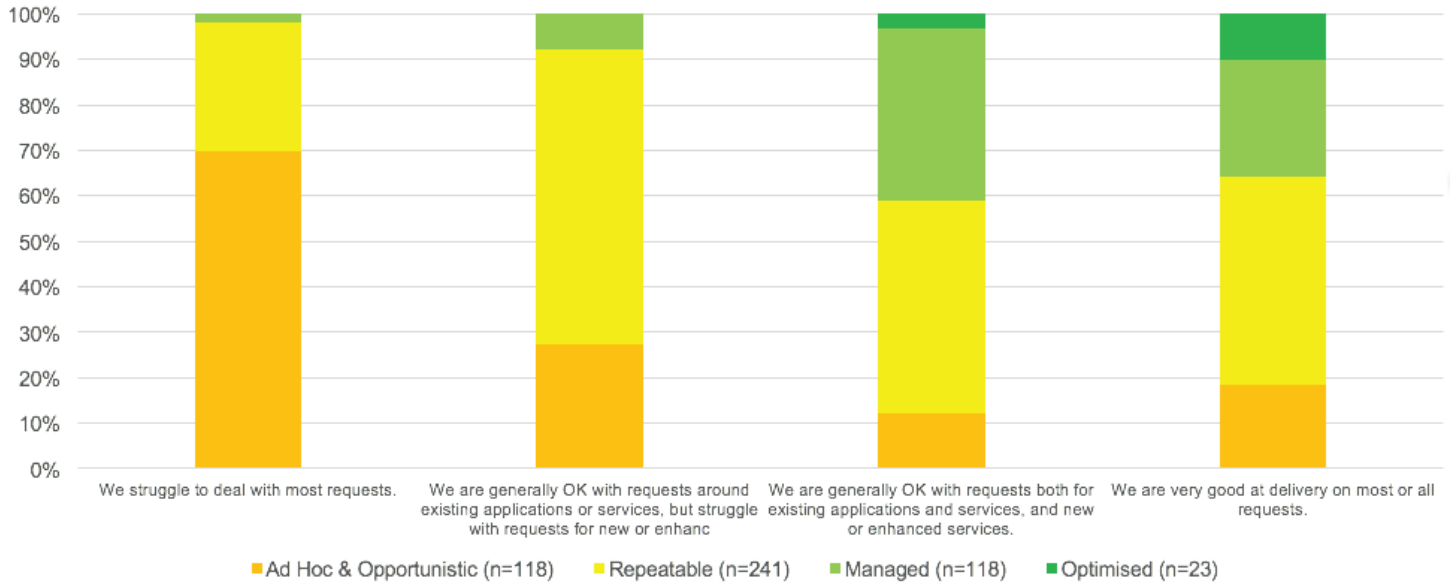


Figure 4 *Source: IDC, 2016*

10 RECOMMENDATIONS FOR YOUR ORGANIZATION

Here are ten recommendations that provide a framework for your enterprise to improve its level of maturity in security:

- **Compare your position with your immediate peers in terms of industry, size and geography.**
- **Establish your appetite for maturity and where you aspire to be.**
- **Establish the gaps in your current security approach compared to your aspirational state.**
- **Consider making use of third party security specialists to help design and implement the changes required to reach your goal.**
- **Identify the security processes and activities that are critical compared with those that are low value and repetitive.**
- **Consider where lower value activities can be automated to reduce resources.**
- **Consider where outcomes could be improved by working with MSSPs. Lower-value activities may be a good place to start, taking advantage of global and industrialized delivery models.**
- **However, as MSSP becomes business as usual, consider where specialist capabilities are available that may boost the desired outcomes, which may include cost as well as quality.**
- **Take a risk-based approach towards security that encompasses the whole of the enterprise, All users are a potential 'insider threat', so security culture and strategy must be holistic.**
- **Embed security representatives within new business initiatives from the start. Ensuring that new initiatives are 'secure by design' will make life easier further down the line.**