Securing digital supply chains

How cyber security drives resilience in business transformation

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Introduction

As outlined in our C-suite barometer report, technology transformation remains among the top priorities identified by business leaders across industries. However, as digital supply chains and tech surfaces grow, so does the cyber risk landscape.

This risk is compounded by global expansion; not only do growing businesses make for more attractive targets of cyber crime, but expanding businesses also mean expanding supply chains, especially when localised solutions are required.

Regulation further complicates the matter; as requirements vary from country to country, they can also exacerbate the tendency to take a compliance-based approach to cyber security as opposed to a true risk-based approach.

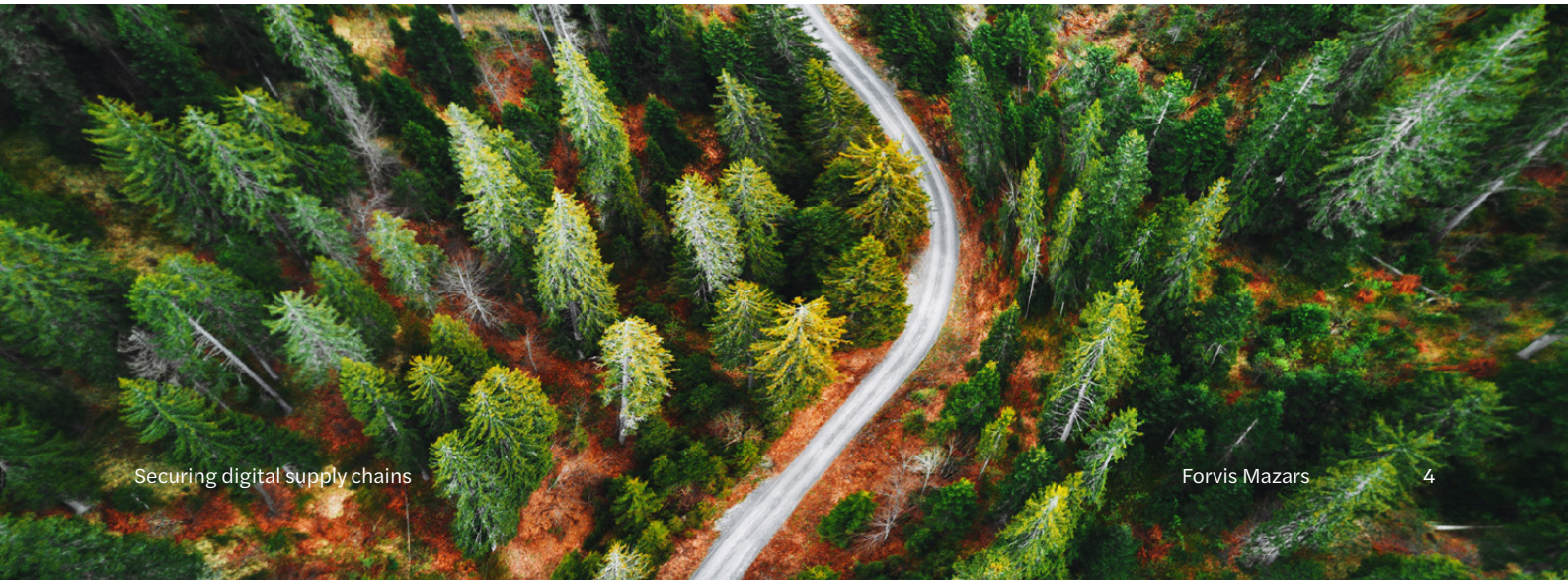
However, for businesses who truly embrace cyber security as essential, the benefits go beyond reduced risk. **As awareness and priority of cyber security improves across the market, cyber-conscious businesses will have a reputational advantage in their supply chain.**

This report delves into the most critical cyber security challenges identified by our experts, examining how businesses can navigate a rapidly evolving threat landscape. Our experts provide actionable insights on adopting a risk-based approach to cyber security, ensuring resilience and competitive advantage in an increasingly complex and interconnected digital environment.

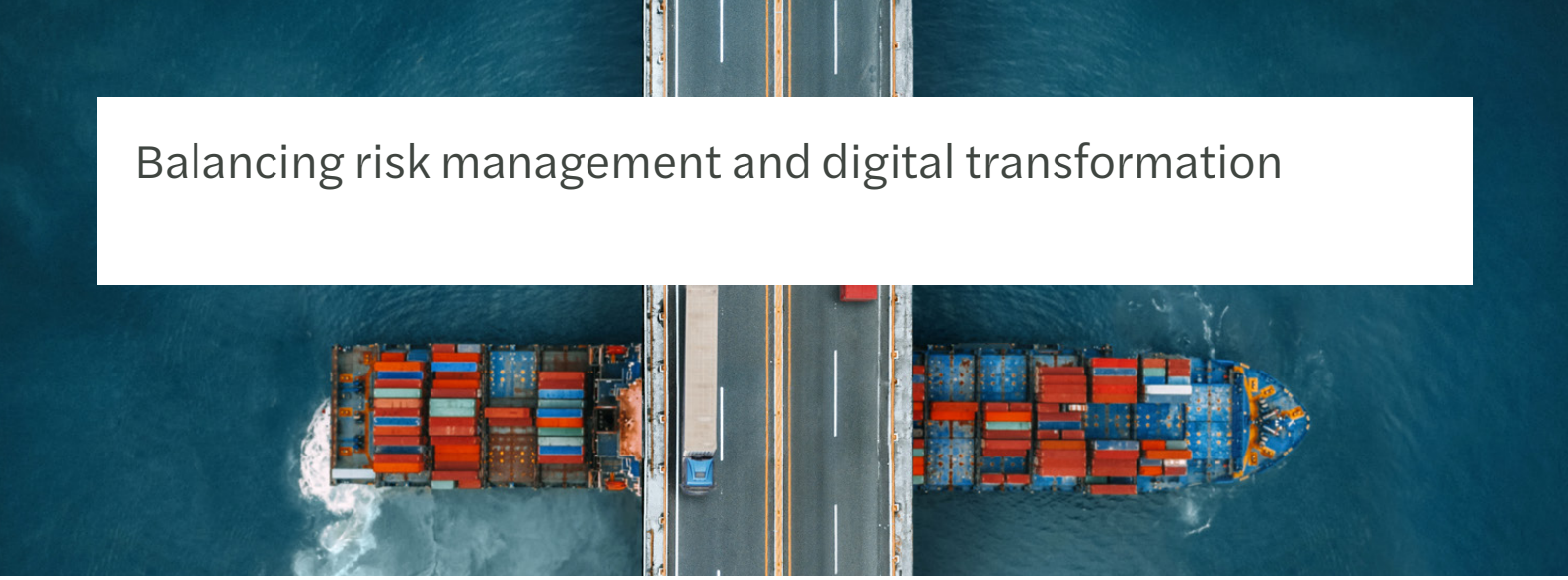
With global expansion, evolving regulations, and sophisticated cyber threats, the need for robust cyber security has never been more essential for sustainable business transformation.

"Digital transformation isn't optional, which means cyber security is more essential than ever."

Jan Matto
Partner & Head of Cyber Security,
Forvis Mazars Group



Balancing risk management and digital transformation



The COVID-19 pandemic was a major accelerant for digital transformation initiatives. Not only did businesses have to adapt to survive, but the expectation moving forward, especially from a workforce embracing work-from-home and work-from-anywhere arrangements, was that digitisation would persist. The use of internet-based cloud services has only continued to grow, especially as new innovations like AI cloud services have been introduced.

> "The tech surface of most businesses is larger than ever, and most of those businesses don't know how much risk that creates for them."

Jayson Dudley
CISO, Forvis Mazars Group

However, every one of these advancements creates new cyber risk; and because most businesses had to adapt quickly, many digitisation decisions were made without the recommended level of cyber due diligence and in many circumstances without any conversation or risk evaluation with cybersecurity experts. Every addition to a business's technology environment creates a new branch in their complex web of suppliers, and *their* suppliers, ad infinitum.

Unfortunately, cyber crime has evolved in lock-step with the cyber landscape as a whole, if not more rapidly. It exists at an industrial scale, and digital innovations like AI only make it easier for bad actors to execute sophisticated attacks. This includes state-sponsored cyber crime, which is more and more prevalent in line with geopolitical developments.

How a risk-based approach to cyber security can enable digital transformation

So, how can ambitious businesses balance digital transformation with cyber security? It may seem easiest to start with an assessment of the current tech surface, but digital supply chains change daily, meaning the sands shift too quickly for a point-in-time security review to be meaningful.

Instead, we recommend taking a risk-based approach that starts from the business infrastructure:

1. Start with your core business infrastructure

Instead of focusing on what suppliers are in place and working backwards, begin by mapping out critical business functions in a supplier-agnostic way. This can then be used to identify where and in what state the most sensitive and business-critical data and processes exist.

2. Understand your risk areas and potential impact

Once you can identify the "crown jewels" of your business, you can start to quantify the impact of any of them being compromised to varying degrees. This will allow you to more objectively evaluate access and integration risks throughout the infrastructure.

"You can't protect everything at the highest level without impeding business, so it's important to understand what your crown jewels are so you can protect them above all else."

Anton Yunussov
Director, Forvis Mazars, UK

3. Know your cyber landscape and cyber threats

Cyber security is a crucial part of due diligence, and it goes beyond a compliance checklist. By starting from that core business infrastructure, every decision can be made with true risk management in mind. This necessitates in-depth cyber expertise, including knowledge of local and global cyber security risks, methods and regulations.

4. Define cyber security requirements

Only after the above steps are complete (and understood by business leadership) can true risk-based cyber security policies and requirements be defined. These will likely be tighter or more restrictive in higher impact areas, but those decisions and resulting measures will be proportional to the value of the affected assets.

Note that a true risk-based approach goes beyond the digital supply chain, too. Security controls should be incorporated into the design phase of software development, for example, through continuous code review, security testing, containerisation, etc.

This risk-based approach to cyber security means policies and requirements will be a true reflection of the business's value and priorities, instead of trying to validate technologies according to an externally defined (and therefore somewhat arbitrary) standard.

How a risk-based approach to cyber security can improve IT collaboration

IT and security are often seen as restrictors or even blockers of organisation's growth. Whilst the average employee's perception of this may seem justified, it can be dangerous to allow an oppositional mindset to emerge between IT and the rest of the workforce.

As those entering the job market are more and more technologically savvy, employees are requesting (and often simply arranging) access to more point solutions than ever before. If the IT and security teams evaluating these requests are seen as obstructions to business operations, it creates the risk that these employees will look for workarounds, likely creating even more risk as a result.

“Cyber security should be a business enabler and a competitive advantage, not a blocker to doing business.”

Sandeep Sharma
Director, Forvis Mazars, UK

Another benefit of a risk-based approach is that it can facilitate education. If the rest of the business understands the infrastructure and the possible impact of it being compromised, policies and approaches to new technology will make more sense to non-cyber professionals.

A risk-based approach may introduce good friction

Don’t shy away from good friction to help protect business-critical data and assets; speed is not always the best solution.

Integration is a core part of digital transformation, but when that integration gives suppliers unrestricted or unmonitored access to the company‘s core assets, or creates a risky environment, it may not be worth the risk. This applies as well to technology solutions that offer a “one-stop shop” experience; whilst this may be attractive from financial and operational perspectives, too much reliance on a single solution is inherently risky. Well-considered segmentation can help keep the business safe.

“Good friction may seem to go against digital transformation, but it actually decreases risk and increases resilience. This is how you do digital transformation in a responsible, sustainable way, and the market will reward you for this effort as the focus on cyber security increases.”

Jan Matto
Partner & Head of Cyber Security, Forvis Mazars Group

This is also true for expansion into higher risk territories. Segmentation within the business may create friction, but if it helps mitigate the risks with the highest impact to the company, it deserves consideration.

Taking a risk-based approach requires time and expertise, but ultimately enables businesses to grow confidently — both globally and across their technology surface — because there is an innate understanding of what needs to be protected, at what level, and why.

The future of cyber security means protecting the ecosystem

As cyber threats become more sophisticated, with threats such as cascading supply chain attacks or state-sponsored initiatives, the potential impact of these threats increases. Entire ecosystems and industries can be devastated by a single incident. And unfortunately, this pace of evolution will only get faster thanks to the advent of generative AI.

For this reason, much of the newest pieces of legislation – such as the Digital Operations Resilience Act (DORA) or the Digital Services Act (DSA) – talk about "protecting the ecosystem." This language reflects the fact that, essentially, each business is only as secure as its least secure supplier, and a threat to one is a threat to all. This makes securing the entire supply chain essential to a good security program.

And it's not just a matter of compliance; regulatory requirements are reflecting an overall market demand for cyber secure suppliers, creating a reputational and competitive imperative to look beyond the individual business.

However, it's impossible to adequately identify, evaluate, and mitigate risks throughout the entire, end-to-end supply chain, even focused only upstream. The web of suppliers and solutions is too complex and changes too frequently.

Instead, businesses can help protect their ecosystems by doing the following:

1. Taking a risk-based approach

Regulations and compliance standards vary, so a true risk-based approach as outlined above will help identify the overlap and fill in the gaps between the different requirements.

2. Integrating policies into commercial agreements

This is mandated by some new regulations, but regardless, companies should commercially require suppliers to adhere to or exceed the standards deemed necessary for the nature and level of access being granted. In the case of suppliers touching business-critical pieces of the infrastructure, these agreements should guarantee the level of support and assurance required to cover the possible impact of an incident. Where possible, agreements should include cyber and business KPIs to help measure compliance.

3. Enforcing these agreements

If compliance standards have taught us anything, it's that a requirement is often only seen as such if it's enforced. Otherwise, noncompliance isn't a risk. Audits and reviews should be conducted regularly, including a service owner (i.e. someone not from IT or security), to review compliance on an evidence basis, including any relevant KPIs as defined in the agreements.

If every business in an ecosystem were to take this approach, it would create a radiating effect, reducing risks for all organisations in the ecosystem and shielding one another from possible harm.

How effective cyber security improves business resilience

Because of the increased frequency and sophistication of cyber threats, both malicious and incidental, it's no longer a question of "if" but "when." This is exacerbated by the pace at which tech surfaces expand, including software, operational technology, and Internet of Things (IoT).

One of the biggest lessons learned during the CrowdStrike incident of July 2024 was that many businesses were powerless to do anything to help restore their systems. Impacted businesses threw all their IT and security resources at the problem, but ultimately, they were reliant on a single supplier to issue a patch; a supplier which many of them may not have even been aware of within their digital supply chain.

An effective cyber security programme includes the ability to detect, identify, respond to and quickly bounce back from cyber incidents. This will help minimise the impact of incidents that do occur, ensuring business continuity and reducing vulnerability. This resilience is so important that it's being referenced in new regulations; one of the most notable examples is DORA.

The most important way to build this resilience is to define and test cyber security policies. Risk-based approaches to cybersecurity should include processes for restoring access, rerouting data, isolating threats and vulnerabilities, and communicating in the event of an incident.

These policies also need to be tested thoroughly via staged simulations or even red team exercises (reflecting "real world" conditions to assess levels of security). If at any point a third party is required for restoration, recovery, or any other part of the process, they should also be involved in testing.

"Only with thorough testing can businesses truly evaluate whether their cyber security measures are sufficient for a resilient business; otherwise they risk finding out the hard way during an incident that there were critical gaps."

Wadi Mseddi
Partner, Forvis Mazars, France

Future-proofing for cyber security requires a transformation mindset

According to recent research, global cyber attacks on corporations are increasing; up by 30% in Q2 2024 alone. What this means is that cyber security measures sufficient for today won't be sufficient next year, or even six months from now. Therefore, the only way to approach futureproofing is to adopt a transformation mindset. The principle of perpetual adaptation has been embraced in other areas of business, including technology, but it must apply to cyber security as well.

> "Bad actors have enormous resources, and they're very sophisticated. Cyber teams must continually adapt and evolve to keep the business protected."

Omar Chaabouni
COO, Forvis Mazars, Tunisia

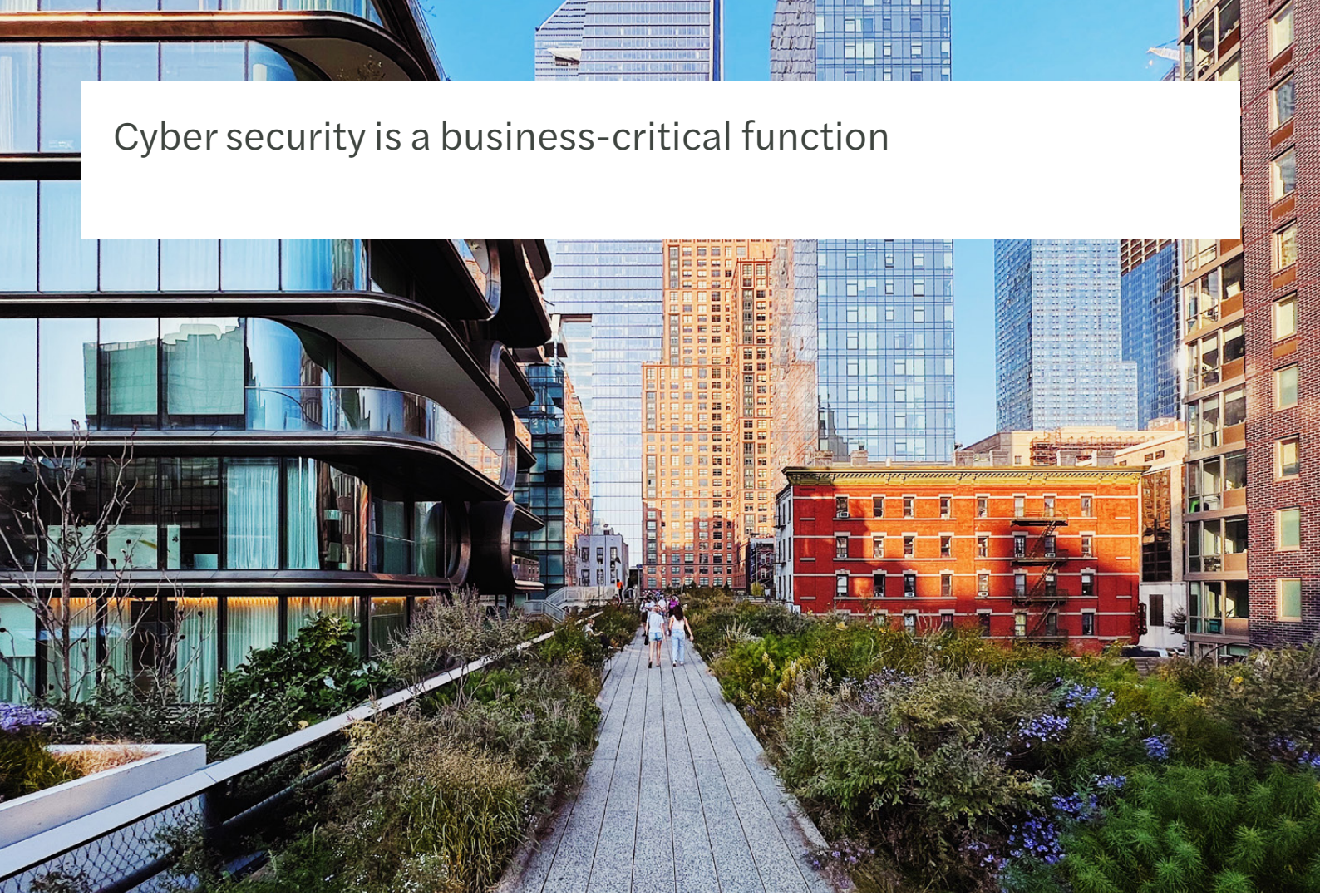
According to Dr Abbas Shahim, professor at Vrije Universiteit Amsterdam and renowned cyber security researcher, a transformation mindset is a key part of cyber security education, with the best education occurring in three phases:

1. **Awareness** – helping leaders and workforces understand that things can go wrong, and how
2. **Training** – teaching teams how to handle it when (not if) things go wrong, as well as how to make things go right
3. **Transformation** – businesses must continually evolve, grow, and repeat steps one and two to protect themselves and their ecosystems

Some ideas for applying a transformation mindset to cyber security include:

- Organising cyber security as a management cycle, like in the NIST cyber security framework 2.0
- Focusing on collecting operational resilience data to help identify weak points in the cyber security strategy
- Evaluating the strategy regularly via comprehensive penetration (or pen) testing, simulations and red team exercises
- Acquiring and retaining knowledgeable cyber security experts whose focus is on evaluating new and emerging risks rather than IT management
- Reporting thoroughly on key behaviour, risk and resilience metrics, including upward, downward and lateral reporting
- Including cyber security experts at the C-level so risk is at the forefront of critical business discussions and decisions
- Incorporating security updates and education into all-hands meetings and other business-wide communications

Cyber security is a business-critical function



Despite the increased awareness of cyber security in the market, many businesses still view it as an extension of IT, or as a nice-to-have. However, the prevalence of this mindset is an illustration of why it is so important for forward thinking, resilient businesses to prioritise cyber security.

Educating the workforce on cyber security

The C-suite is the first level that needs improved security awareness. Not only are they likely to be the decision makers around around cyber resources,, but they are also the most attractive targets for cyber criminals due to their relatively unrestricted access to critical business data. Before any other education initiatives, it's important to educate company executives on the reality of cyber security threats, as well as the possible impact an incident could have on the business. This knowledge will allow them to take a cyber secure approach to decision making, hopefully including cyber experts in some of those decisions.

Once the C-suite is on board, it's important to educate the rest of the workforce as well. They need to understand that they're the last line of defence, and how to identify and report suspicious activity. However, the real benefit of a cyber educated workforce is that it makes it much easier to collaborate. Employees who understand the nature and impact of modern cyber incidents are less likely to bypass policies and controls to get what they want, and they're more likely to tolerate good friction in the form of reduced access and due diligence in exchange for improved protection of company data.

One of the most effective ways to educate the workforce is to share the results of penetration testing, phishing campaigns, and red team exercises. Hearing about hypothetical scenarios is one thing, but it's far more of a wake-up call to see those scenarios played out in their day-to-day.

Cyber security requires sufficient resources to operate well

With several high-profile breaches and outages in international media over the last couple of years, businesses are more aware of cyber risk and its possible impact than ever before. Unfortunately, when the time comes to invest, many companies fall short, failing to allocate adequate people, budget and prioritisation to truly secure the business.

Cyber security is a business-critical function

All the measures outlined here - monitoring, investigation, strategy, reporting, testing, due diligence, education, etc. - can require significant budget to execute, which can put many business leaders off investing and prioritising. A sufficient programme requires sufficient budget, and even more for a best-in-class one. However, when compared with the quantified impact of a cyber incident, that investment is worth it for the assurance and resilience it brings to the business. Reputational impact and competitive advantage are not to be underestimated either, with a follow-on effect for the bottom line.

That said, it's rare that a business can cover all aspects of a robust cyber security programme internally. Where internal resource or expertise is unavailable, it's better to supplement with qualified third-party experts than to go without.

The best way to gain cyber engagement is to speak in business terms

One of the benefits of digital transformation is the amount of data available about the business. By combining operational, financial and security data, it's more possible than ever to quantify the potential impact of cyber threats to the business. These metrics are useful not only in reporting, both internally and to fulfil regulatory requirements, but also as KPIs to use with customers who apply the same risk-based approach to their relationship with you as a supplier.

Even more, it's possible to take it a step further by combining those risk and impact metrics to determine cyber cost. By multiplying the risk of a certain incident by the likely impact of that incident, businesses can quantify the cost of a particular threat. This can then be applied to purchasing decisions, and even to return on investment calculations.

"If you don't quantify cyber risks for technology solutions, you could lose the entire ROI you've built with them, and more. That cost potentially far outweighs the efficiency you've gained."

Paul Truitt
Partner & Cyber Practice Leader,
Forvis Mazars US

When the numbers exist in currency value, it's much easier for leaders and their businesses to understand the value of cyber security to the organisation. This allows them to secure the investment required to protect the business in the long term and provides the ability to weigh cyber investments against other business initiatives.

At Forvis Mazars, we help businesses remain cyber secure. With decades of experience assessing, training, and testing, our team of cyber security professionals can help you create a risk-based cyber security approach that will not only support compliance but also build resilience and longevity.

Learn more about our cyber security solutions here.

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