

OPERATIONAL RESILIENCE

Providing smart, proactive solutions throughout a firm's journey to operational resilience



Protiviti is one of SIFMA's 10 Premium Associate Members. Through this enhanced level of participation, Protiviti consultants actively engage with SIFMA committees and working groups, share insights and expertise on crucial industry developments, speak at conferences and events, and contribute to SIFMA's advocacy efforts for effective and resilient capital markets.

Through this partnership, Protiviti is facilitating the development of the industry response to the UK discussion paper in a major white paper, which consolidates the industry's viewpoints on operational resilience and provides crucial guidance on how firms can build a firmwide operational resilience culture in today's dynamic landscape. Protiviti is leveraging its knowledge of at least 60 related regulations and industry practices to help develop industrywide best practices for implementing a resilience program, with a focus on governance and alignment with foundational elements – business, cyber, third-party and technology.

Protiviti will continue to engage with industry players on resilience scenario testing exercises to simulate “extreme but plausible” events that can impact important business services of firms. The results of the exercises and the continued discussions around the white paper will drive the next phase of this collaborative effort to help firms enhance operational resilience.

SIFMA is the leading trade association for broker-dealers, investment banks and asset managers operating in the U.S. and global capital markets. On behalf of the industry's nearly 1 million employees, they advocate on legislation, regulation and business policy, affecting retail and institutional investors, equity and fixed income markets, and related products and services. SIFMA serves as an industry coordinating body to promote fair and orderly markets, informed regulatory compliance, and efficient market operations and resiliency. It also provides a forum for industry policy and professional development. SIFMA, with offices in New York and Washington, D.C., is the U.S. regional member of the Global Financial Markets Association (GFMA).

Operational Resilience

Important to any financial institution in today's environment of rapid change, operational resilience continues to be top of mind for industry executives and supervisory authorities around the world.

Operational Resilience: The ability of an organization to withstand adverse changes in its operating environment and continue the delivery of business services and economic functions.

In the summer of 2018, in response to recent outages impacting the financial sector and growing cyber concerns, the Bank of England, the Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA) released a joint discussion paper titled Building the UK Financial Sector's Operational Resilience. Additionally, in March 2019 the Monetary Authority of Singapore (MAS) published discussion papers on technology risk management and business continuity management.

The UK supervisory authorities on December 5, 2019, proposed new rules and expectations aimed at strengthening the operational resilience of the financial services sector. These include a shared policy summary and three consultation papers directed at specific firm types, namely, recognized payment system operators and specified service providers, central securities depositories, and central counterparties. Additionally, to complement the policy proposals on operational resilience, the PRA issued a paper on outsourcing and third-party risk management.

WHY IS IT IMPORTANT?

- Dynamic landscape increases the risk of “extreme but plausible” events
- Implementing pandemic planning and response strategies will reduce the effects of a pandemic on the organization
- Impacts the stability of the financial system as well as the viability of firms
- Key focus area for the regulators
- Resilience events can increase risk and threaten growth
- Enhancing a firm's resilience can create long-term competitive advantages and mitigate cost

Important Business Functions and Services

A COMMON TAXONOMY

It is clear that regulatory expectations for operational resilience will induce firms to take a higher-level view, focusing on the business services provided to the sector.

The functions listed at the top of the table represent a non-exhaustive list of business and economic functions which are relevant to operational resilience and may be considered important. In addition to formalizing a process to identify important services, firms will also need to understand the important business processes, systems, and third parties that enable those services to be delivered.

Financial Services Important Functions	Capital Markets and Investment Activities	Wholesale Funding Services	Consumer and Commercial Banking Services	Payment, Clearing and Settlement Services	Insurance Services	Funding and Liquidity Services
Economic Functions	Capital Markets & Investment	Wholesale Funding	Deposits & Savings	Payment, Clearing, Custody & Settlement	General Insurance	Money Markets
Business Services	Primary Market Secondary Market Prime Brokerage Asset Management Risk Management <ul style="list-style-type: none"> • Trading • Equities • Fixed Income • Derivatives • F/X • Other 	Securities Financing Securities Lending Fed Window Treasury Auctions Private Equity	Retail Accounts <ul style="list-style-type: none"> • Saving • Checking • Debit Lending & Loan Servicing Mortgages Credits Cards Corporate Lending Trade Finance Credit Card Servicing	Payments <ul style="list-style-type: none"> • Retail • Wholesale Global Messaging Clearance Settlement Cash Services Custody Third-Party Operations	Life Insurance Pensions Investments Annuities	Individual Commercial
Industry Utilities (Payments, Clearance, Settlements and Market Data)						
Important Infrastructure (Energy, Communications, Information Technology)						
Shared Platforms/Shared Infrastructure (Supply Chain, Third Parties, Cloud Providers)						



Operational Resilience Overview

Protiviti Framework

UNDERSTANDING OPERATIONAL RESILIENCE

Protiviti’s Operational Resilience Framework identifies the key components firms must consider when formalizing and managing resilience of the important business services they operate.

<p>How is operational resilience governed effectively within the organization?</p>	<p>RESILIENCE PROGRAM GOVERNANCE</p> <ul style="list-style-type: none"> • Collaboration • Oversight • External Communications • Board Reporting <ul style="list-style-type: none"> • Enterprise Orchestration • Sector Coordination • Training & Awareness • Crisis Management 	<p>Adverse events that trigger tail risks include:</p> <ul style="list-style-type: none"> • Environment/climate events • Catastrophic utility/provider outages • Failure of core IT infrastructure or key IT applications • "Bare metal" or other significant cyber event • Pandemic preparedness and strategic planning
<p>What business services are important? To what extent can they be interrupted?</p>	<p>BUSINESS SERVICES</p> <ul style="list-style-type: none"> • Define & Prioritize Important Business Services • Establish & Monitor Impact Tolerances 	<p>...impacting external parties;</p> <ul style="list-style-type: none"> • Customers • Regulators • The broader market
<p>Are the proper foundational elements in place and mature enough to support resilience objectives?</p>	<p>FOUNDATIONAL ELEMENTS</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid #ccc; padding: 5px; margin: 5px;">Business Resilience</div> <div style="border: 1px solid #ccc; padding: 5px; margin: 5px;">Cyber Resilience</div> <div style="border: 1px solid #ccc; padding: 5px; margin: 5px;">Third-Party Resilience</div> <div style="border: 1px solid #ccc; padding: 5px; margin: 5px;">Technology Resilience</div> </div>	<p>and requiring companies to understand:</p> <ul style="list-style-type: none"> • The impact of adverse events, including velocity and persistence of events • How to respond properly and recover • How to "build" resilience
<p>Can the organization demonstrate resilience through substantive testing of "extreme but plausible" scenarios?</p>	<p>ASSURANCE</p> <div style="text-align: center;"> <pre> graph LR A[Assess] --> B[Mature] B --> C[Orchestrate] C --> D[Assure] D --> E[Evolve] E --> A subgraph Testing T[Recurring Testing Scenarios] end T --- A T --- E </pre> </div>	<p>and requiring companies to understand:</p> <ul style="list-style-type: none"> • The impact of adverse events, including velocity and persistence of events • How to respond properly and recover • How to "build" resilience



Common Challenges

As with any new regulation, there is uncertainty over the proper meaning and how individual organizations would be affected. Given the amount of financial regulation institutions already face, another regulatory obligation would create unnecessary stress or burden.

Firms must contend with differing and sometimes competing definitions of terms such as important business services and impact tolerance. The lack of clarity on these terms would make it difficult for institutions and regulators to align on interests and objectives.

While companies have established disaster recovery and business continuity programs, they struggle to provide true front-to-back process views of their business services. Aligning thousands of systems and processes to business services is a challenge.

Established recovery time objectives (RTOs), often given in minutes or hours for important business processes, are not realistic in tail-risk scenarios, which can be catastrophic. This is particularly true in certain cyber scenarios where uncertainty of breadth of compromise and subsequent containment draw out realistic timelines. These RTOs and expectations may differ among business leaders, senior leadership and the board and need to be addressed.



Protiviti View

Operational Resilience is not a new concept; many of the foundational elements have already been addressed in prior regulations and guidance. Firms can build upon existing programs as they formalize their resilience efforts.

Protiviti's role in defining the industry's response to operational resilience provides us a unique perspective on how to define the new terms outlined by regulators. Our experts can help financial organizations understand intolerable harm, establish impact tolerances, and define important business services.

In order to increase resilience of business services, it is important that a front-to-back view exists. Protiviti has established methodologies to develop and maintain data mapping of important path items – business functions, systems, and third parties – leveraging available information and existing processes as a starting point.

As part of the process to establish realistic impact tolerances, Protiviti will inform the board on actual time-to-recover capabilities by using a series of “extreme but plausible” scenarios. This process will educate key stakeholders on real-world scenarios the firm may face and identify potential funding needs to remain within defined impact tolerances.



A Common Approach to Operational Resilience

01

Evolve Governance and Culture. Establish proper governance functions and implement a resilience program based upon the needs of the organization's important business services. Develop real time operational resilience dashboards, reporting and cultural levers that will evolve enterprise behavior.

02

Identify Important Business Services & Processes. Understand your business services and processes and formalize those that are considered important. Important business services (and processes) are those that have been identified through separate regulatory obligations or meet established criteria that demonstrate a broader importance beyond the firm.

03

Establish Front to Back Mapping of Important Business Services. Build upon existing continuity practices to establish and maintain comprehensive mapping of critical process, applications, third parties, and other components that contribute to delivery of important business services.

04

Understand Intolerable Harm and Establish Impact Tolerances. Understand the impact of an operational resilience event on the various stakeholders of the firm. Establish impact tolerances for important business services. Extending beyond traditional recovery time, impact tolerance represents the point at which an interruption threatens intolerable harm to applicable stakeholder groups.

05

Scenario Test & Improve. Test the "extreme but plausible" scenarios to better understand realistic recovery times versus established impact tolerance. Testing will indicate where investment in technology or processes is needed in order to stay within tolerances. Lessons learned through testing should be considered and acted upon to continue to improve resilience.

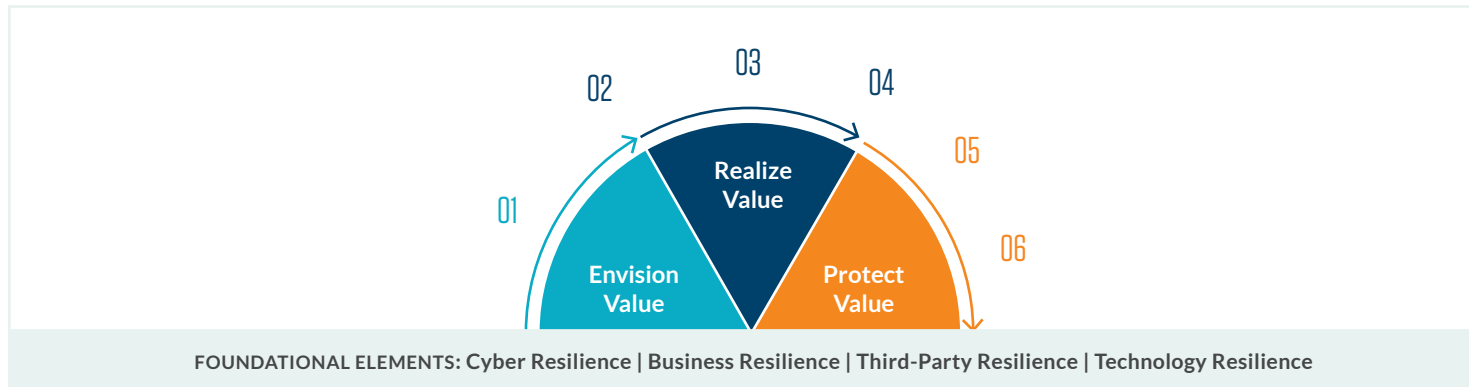
06

Self-Assess. Identify key resiliency risks (by e.g. theme, function, domain), and design detailed deep dive assessments that drive outcomes that are in line with industry standards and regulatory expectation. Create measurement mechanisms that can demonstrate change and resiliency improvement.



Service Offerings

HOW WE CAN HELP



01 Resilience Assessment

Assess the firm’s current practices with regard to operational resilience, including an assessment of the foundational elements.

02 Business Services Formalization

Analyze existing business services to determine criticality, establish initial impact tolerance methodology and create economic impact scenarios for business services defined as important.

03 Resilience Program Implementation

Design and implement a resilience program leveraging Protiviti’s framework, with a focus on governance and alignment with foundational elements.

04 Maturing Foundational Elements

Address known deficiencies in foundational elements of operational resilience: Business Resilience, Cyber Resilience, Third-Party Resilience, Technology Resilience.

05 Resilience Scenario Testing

Challenge existing resilience practices through enterprisewide scenario testing to simulate “extreme but plausible” scenarios impacting important business services of the firm.

06 Resilience Assurance

Develop overall operational resilience internal audit plans, ingrain operational resilience into existing audits and provide assurance over the operational resilience program.

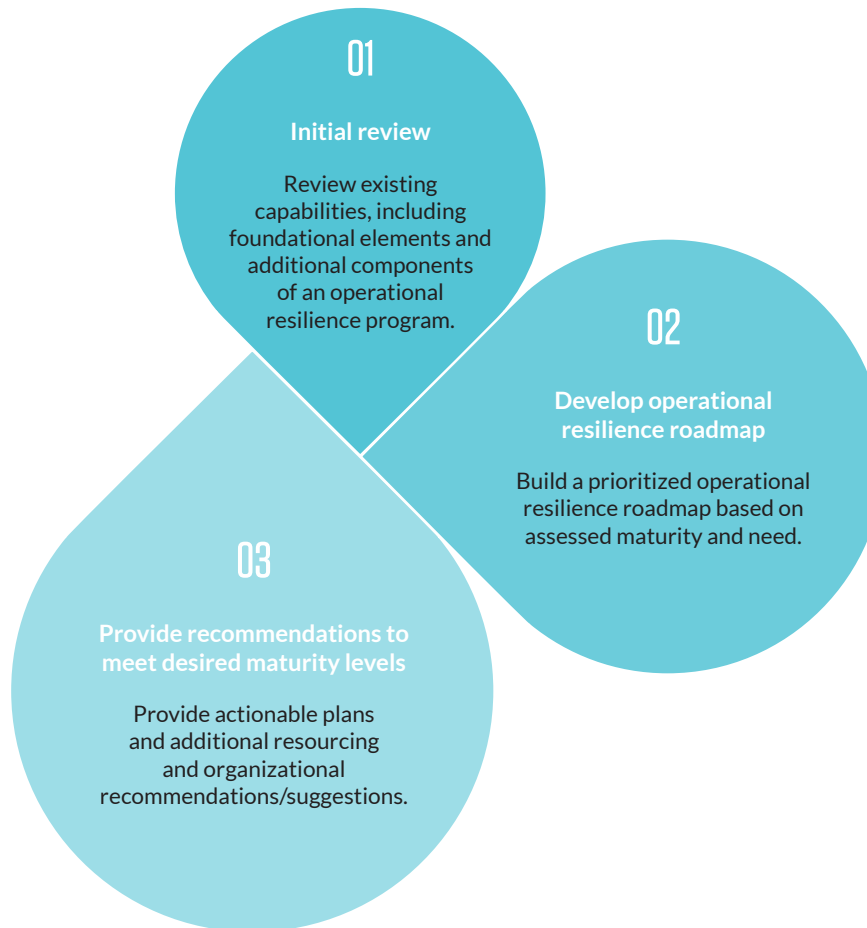




Are You Prepared for Operational Resilience?

HOW WE CAN HELP

The journey to operational resilience starts with understanding the current state of the firm's operational resilience and knowing how many existing capabilities can be leveraged to support resilience efforts. Through our Operational Resilience Assessment offering, Protiviti experts will partner with you across the following key steps:



Have You Established Your Important Business Services and Impact Tolerance?

HOW WE CAN HELP

Protiviti will partner with your organization to analyze existing business services to determine criticality, establish initial impact tolerance methodology, and create economic impact scenarios for business services defined as important.



DEFINE BUSINESS-IMPORTANT SERVICES

Protiviti employs a framework for establishing if a business service will be deemed as important or noncritical based upon:

- Regulatory filings: Utilize and align with historical regulatory filings to ensure proper designation of the business service
- Financial and market metrics: Provide a quantitative analysis to support conclusions of the regulatory review



ESTABLISH IMPACT TOLERANCE OF IMPORTANT SERVICES

Protiviti experts will help your firm understand the impact tolerance of a important service by establishing:

- Cost of a resilience event as a function of time
- Quantifying impact of “extreme but plausible” events using proven methods, such as FAIR
- Estimation of the maximum tolerable period of downtime of the important business service



UNDERSTAND IMPACT ACROSS STAKEHOLDERS

Protiviti works with your firm to understand the effect on stakeholders of a resilience event. Due to the dynamic nature of some events and many variables in how stakeholders may be affected, there are significant challenges in fully understanding an event’s impact. Firms need to understand the impact and the necessary processes and procedures beyond recovery-time objectives to ensure that an operational resilience event causes minimum impact.



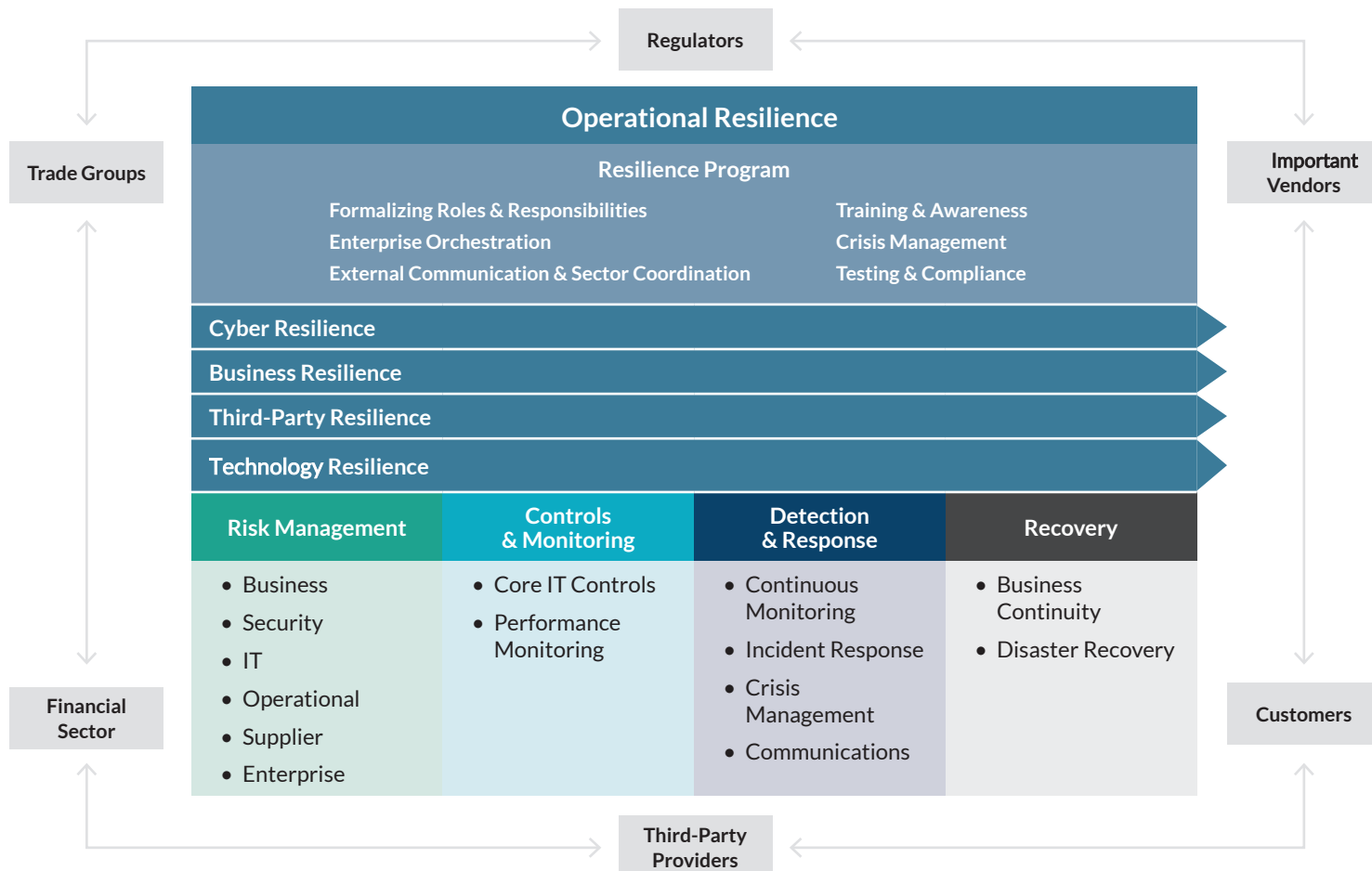
Business Services Formalization



Has Resilience Been Implemented Across the Enterprise?

HOW WE CAN HELP

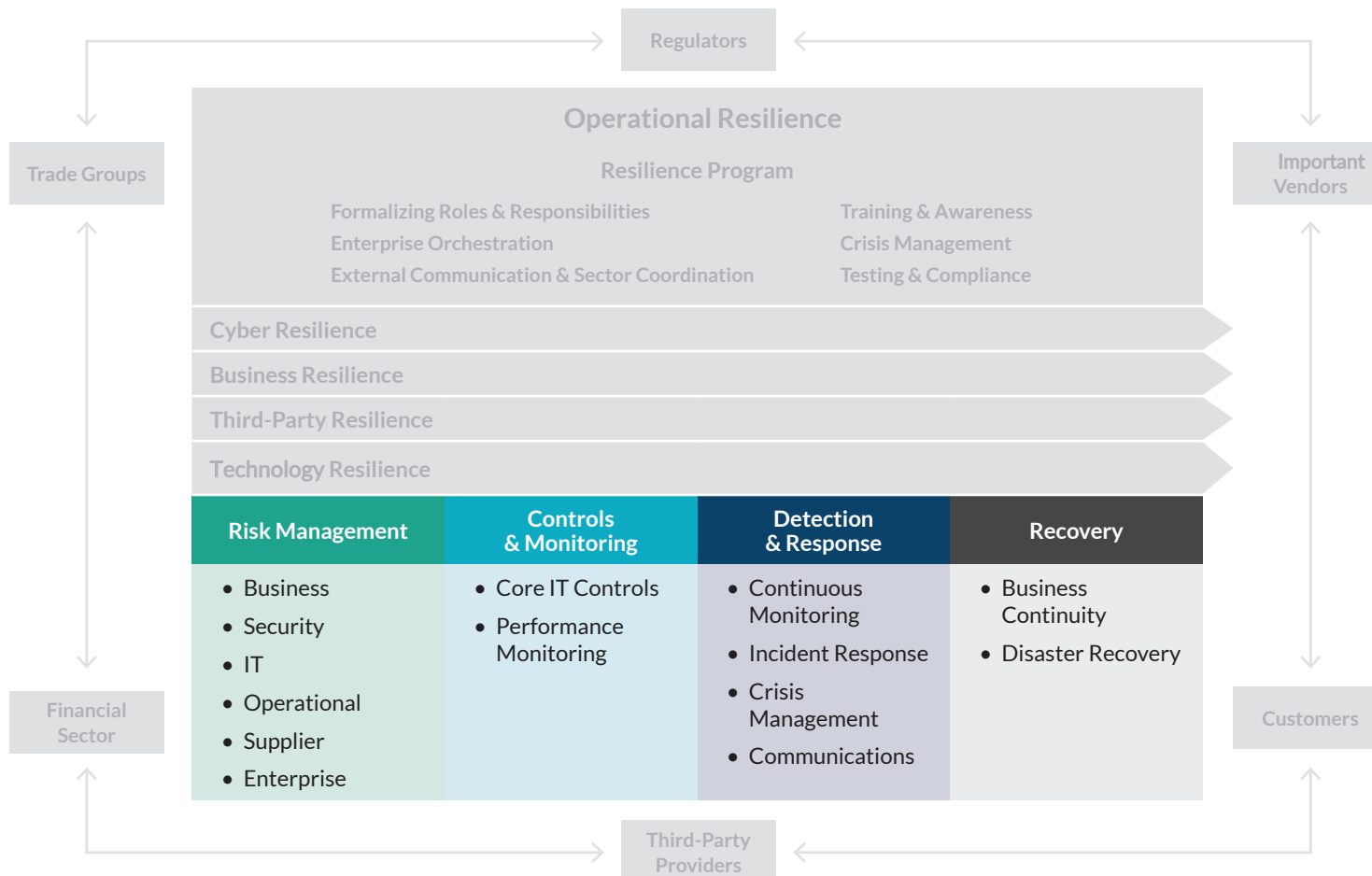
Protiviti will help your firm design and implement an overall resilience program, with a focus on governance and alignment with foundational elements.



Do Your Existing Capabilities Support Your Operational Resilience Objectives?

HOW WE CAN HELP

Protiviti will help you mature the foundational elements of operational resilience by building resilience into your existing processes.



Maturing Foundational Elements



Are You Able to Demonstrate Your Firm's Operational Resilience?

HOW WE CAN HELP

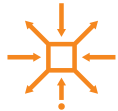
Protiviti will partner with your organization to challenge existing resilience practices through enterprisewide scenario testing to simulate “extreme but plausible” scenarios impacting important business services of the firm.

Our scenario testing process is outlined below:



INTERVIEWS AND WORKSHOPS

We utilize interviews and facilitate workshops to drive insight and agreement on the potential scenarios for a diverse audience, including board members.



DEFINE INHERENT RISK

We help define inherent risk to an organization while holding objective discussions on mitigating controls, allowing a clear view of residual risk to be developed.



LEVERAGE EXISTING TOOLS

Easy-to-use tools are leveraged as this information is developed and is provided for the organization to use in future reviews of, and updates to, your threat landscape.



DETERMINE HIGHEST SECURITY PRIORITIES

We will develop a clear picture of your highest security priorities in a meaningful context that enables a more efficient and effective set of next steps to be developed.



Have You Considered Internal Audit’s Role in Operational Resilience?

HOW WE CAN HELP

Our internal audit experts will partner with your organization to develop overall operational resilience internal audit plans, incorporate operational resilience into existing audits, and provide assurance over the operational resilience program.



SPONSORS

- Executive Leadership
- Board/Audit Committee



STAKEHOLDERS

- Chief Operating Officer
- Resiliency Officer
- Chief Risk Officer
- Chief Information Officer/Chief Technology Officer
- Chief Information Security Officer
- Business Continuity
- LOB Leadership (for Important Business Services)



AUDIT SCOPING CONSIDERATIONS

- Have we formally defined criticality of business services?
- Are impact tolerances established and tested?
- Are “front-to-back” mappings of components of business services understood and maintained?
- Is structure in place to properly govern resilience across the enterprise?
- Are “extreme but plausible” scenarios tested regularly?



Resiliency Governance
Foundational Audits (e.g., Cybersecurity, Business, Infrastructure, Third-Party)
Standalone Resilience Audit (e.g., front-to-back business service)
Integration into ALL standard Business/IT Audits
Participation in Firm/Sectorwide Testing Activities



ABOUT PROTIVITI

Protiviti is a global consulting firm that delivers deep expertise, objective insights, a tailored approach and unparalleled collaboration to help leaders confidently face the future. Protiviti and our independently owned Member Firms provide consulting solutions in finance, technology, operations, data, analytics, governance, risk and internal audit to our clients through our network of more than 75 offices in over 20 countries.

We have served more than 60 percent of *Fortune* 1000® and 35 percent of *Fortune* Global 500® companies. We also work with smaller, growing companies, including those looking to go public, as well as with government agencies. Protiviti is a wholly owned subsidiary of Robert Half (NYSE: RHI). Founded in 1948, Robert Half is a member of the S&P 500 index.

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