

Developing risk professionals

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## Organisational resilience: A risk manager's guide

In 2019, the Institute of Risk Management (IRM) Innovation Special Interest Group (SIG) explored the theme of organisational resilience. Our work focused on understanding how UK organisations defined and how they were developing resilience. Through this project, we have reviewed guidelines, professional standards, white papers, books, consultancy reports and interviewed risk managers, CROs, Board members and consultants. In addition, we led discussions with IRM SIGs and Regional Interest Group (RIG) members to gain additional perspectives on the topic. The Innovation SIG Organisational Resilience project involved a total of more than a hundred people from multiple sectors, countries, and professional backgrounds in obtaining a holistic and integrated view of organisational approaches to building resilience in organisations. The outcome is presented in this guide.

Given the current debate around Covid-19 and many other potential risks, such as recurrent pandemics; climate change and its extreme weather disruptions; globalisation and the aim and challenges of operating in an interconnected world; terrorism and cyber-attacks, etc., organisational resilience becomes an essential part of an organisations risk management strategy. Indeed, many sectors are now embracing organisational resilience, with some being regulated so as to bolster resilience (e.g. aviation, financial services), whilst others are still trying to figure out what it means for them. EY reports that 80% of Financial Services (FS) Boards felt prepared for a major risk event such as the Covid-19 pandemic, whilst 80% of non-FS Boards felt unprepared for such an event (EY, 2020)¹. Though all these events may be in risk registers, the uncertainty comes from when they will happen and whether they will happen separately or concomitantly. Furthermore, will the first event generate cascading effects triggering others, and would we be able to deal with the overall impact or even understand the scale of it. Our aim here, however, is not to forecast or make perfect predictors of the future but to ensure organisational resilience is being built and enhanced inside companies.

Firstly, it is crucial to understand what organisational resilience could or should encompass, as well as what it does not. There is much overlap between this concept, other protective disciplines and risk management. This guide, therefore, enables risk managers and practitioners to explore the current methods and techniques used by companies to evaluate the adequacy and maturity of their organisational resilience.

This guide highlights what we, as risk managers and practitioners, can and should be doing to build and enhance organisational resilience. Recognising that organisational resilience should be context-specific and is an emergent property of multiple control/management activities. This guide also outlines how the IRM is helping to integrate Enterprise Risk Management (ERM) and organisational resilience frameworks. Thus, this work is likely to support managers' skills and capabilities in these topics.

This guide was developed in collaboration with multiple professionals, who shared their time and experience to enhance the value and recognition of our profession and institute. For them, all thanks and appreciation. We hope that this guide will be useful for you and that the discussion remains alive and dynamic. To this end, we kindly ask that you please share with us your insight and contribution via our online platforms on the IRM website, LinkedIn or email, so that we can continue learning together.

Enjoy your journey, and many thanks!

IRM Innovation SIG Team

<sup>&</sup>lt;sup>1</sup> PwC (2020) Nearly 80 % of Board Members Felt Unprepared for a Major Risk Event Like Covid-19: EY survey. Press release, 20 Apr 2020, New York. At: https://www.ey.com/en\_us/news/2020/04/nearly-80-percent-of-board-members-felt-unprepared-for-a-major-risk-event-like-Covid-19-ey-survey

## 1. Introduction

As the world becomes more complex, the threat of more intense shocks increases. At no time in recent history has this become more evident than during the Covid-19 pandemic.

But Covid-19 is not the only possible shock; unexpected disruptions can occur anywhere, at any time, in any form. Organisations are seeking more analytics and metrics to bolster their capability and agility in responding to disruptions and crises, and artificial intelligence and machine learning are likely to play a pivotal role in this area. Executives also predict a growing number of disasters impacting their organisations in the next three years<sup>2</sup>, e.g. climate change, disruptive technology, cyber-attacks and new regulations. Thus, building resilience has become a popular Boardroom topic as organisations strive to become "antifragile" (Taleb, 2012).

However, the meaning of resilience, and the way in which it is managed, appears to vary across organisations: ISO 22300:2018 refers to resilience as the 'ability to absorb and adapt in a changing environment'. Resilient organisations can preserve their core functions and recover from adversity, which helps them to weather general environmental disturbances better than their less resilient peers<sup>3</sup>: 'Resilient organisations maintain stability whilst exhibiting flexibility'<sup>4</sup>. Moreover, near misses may provide opportunities to better understand the resilience of an organisation and better detect and prioritise risks<sup>5</sup>.

The unprecedented disruption caused by Covid-19 to economies, health care systems, organisations and individuals, indeed, have tested organisational resilience as it is currently practised. The unfolding of the Covid-19 pandemic revealed gaps in many organisational resilience strategies. Even with business continuity, crisis management and resilience plans built into the organisation's operations, a number of organisations had to revisit these existing plans because they had not envisaged such an unprecedented global interruption. More agile and resilient solutions to address potentially devastating crises like Covid-19 will need to be identified.

This guide presents the current state of organisational resilience, exploring:

- > To what extent is resilience embedded into your organisations business models, and how to assess it?
- > How are risk managers successfully creating and preserving value by enhancing organisational resilience?
- > How can resilience capability be measured?
- > What Key Performance Indicators (KPIs) and Key Risk Indicators (KRIs) are being used to measure resilience maturity?
- > Are they sufficient and appropriate?
- > And how is this information reaching the Board?

This guide sheds light on the meaning of resilience in different sectors and to different stakeholders. It uncovers standards, guidelines and best practices that can be used by organisations while building resilience. It also considers how mature risk management practices can improve organisational resilience.

<sup>&</sup>lt;sup>2</sup> E&Y (2019) 22nd Annual Global CEO Survey: CEOs' curbed confidence spells caution.

<sup>&</sup>lt;sup>3</sup> Ortiz-de-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organizational resilience through sustainable business practices. Strategic Management Journal, 37(8), 1615-1631.

<sup>&</sup>lt;sup>4</sup> Yang, Y., Bansal, P., & DesJardine, M. R. (2014). What doesn't kill you makes you stronger: A multi-level process theory for organizational resilience. In Academy of Management Proceedings (Vol. 2014, No. 1, p. 13934). Briarcliff Manor, NY 10510: Academy of Management.

<sup>&</sup>lt;sup>5</sup> Dillon, R. L., & Tinsley, C. H. (2008). How near-misses influence decision making under risk: A missed opportunity for learning. Management Science, 54(8), 1425-1440. See also, Sheffi, Y. (2015). The power of resilience: How the best companies manage the unexpected. Cambridge: MIT Press.

Furthermore, it explores tools, techniques, measures, tests and narratives used to enhance organisational resilience. Finally, it highlights the current role of the IRM in training risk managers and building organisations of the future that can overcome the current crisis and future crises to come.

The guide covers the meaning and standards of organisational resilience (Section 2); how resilience and risk management are related and distinguishable among protective disciplines (Section 3); the intricacies of how organisations are building organisational resilience (Section 4), and the role of the IRM in recognising, maintaining, enhancing and communicating organisational resilience to multiple stakeholders (Section 5). Our insightful conclusions are drawn in the last section of this guide. Chapters were constructed to be read in conjunction or separately.

## 2. Organisational resilience: Standards and meanings

#### What does resilience mean to different interested parties or key stakeholders?

✓ What are the similarities between risk and resilience?
 ✓ Who has an interest in organisational resilience?
 ✓ What are the relevant regulations?

The meaning of resilience differs among disciplines. In physics, it refers to the property of a material to absorb energy when deformed and not fracture nor break; in other words, the material's elasticity. In ecology, resilience is the capacity of an ecosystem to absorb and respond to disturbances without permanent damage to the relationships between species. In psychology, resilience refers to an individuals' "coping mechanisms and strategies". In organisational and management studies, resilience represents the ability to maintain an acceptable level of service in the face of periodic or catastrophic systemic and singular faults and disruptions (e.g. natural disasters, cyber or terrorist attacks, supply chain disturbances).

This convergence of multiple meanings points to the interdisciplinarity of the concept of resilience. This implies that specialists from multiple backgrounds are likely to help with better understanding, managing and improving resilience.

Several standards and guidelines covering the management, enhancement and creation of organisational resilience have been developed in the last few years. In the mid-2000s, thought leadership has been developed within the United States by the International Consortium for Organizational Resilience. In 2014, the British Standards Institute (BSI) launched a debate titled "Guidance on Organisational Resilience". The International Standards Organisation created ISO 22316 in 2017, highlighting principles, attributes and activities that would enhance organisational resilience<sup>6</sup>. In 2018, the Bank of England published its most downloaded discussion paper to date, which presented operational resilience as a key feature for financial institutions' health in the UK. The UK's Financial Reporting Council (FRC) has recently made updates to the UK Corporate Governance Code to include emerging risk provisions. Also, the Federation of European Risk Management Association (FERMA) has called on the European Commission to create an EU resilience framework for catastrophic risks and financial losses resulting from non-physical damage business interruption (NDBI). Thus, we can see a clear momentum and increased interest in this topic.

All this movement did not pass unnoticed by consultancy firms and professional bodies, who have used the concept of resilience to develop a new language for how we do business and make strategic decisions. They claim that resilience will make companies "stronger, better and fitter" and that it is time to flourish and take resilience seriously. Most of this emphasis is more formally directed to financial services, given the Bank of England's aim to make operational resilience compulsory for these institutions. Nonetheless, others have illustrated that resilience is important for organisations in all sectors. They discussed that resilience is an element of current and future best practices in risk management, and it is useful to respond to current dynamic environments that are marked by digital transformation and reputational risks<sup>10</sup>.

<sup>&</sup>lt;sup>6</sup> ISO (International Organization for Standardization). 2017. ISO 22316:2017. Security and resilience – Organizational resilience – Principles and attributes. Geneva: ISO.

<sup>&</sup>lt;sup>7</sup> Deloitte (2018a) Stronger, fitter, better: Crisis management for the resilient enterprise. Deloitte Insights. Global Crisis Management Survey.

<sup>&</sup>lt;sup>8</sup> Deloitte (2018b) Time to flourish: The future of operational resilience in the UK financial services sector. Deloitte.

<sup>&</sup>lt;sup>9</sup> E&Y - Ernst & Young (2018) Getting serious about resilience: a multiyear journey ahead.

<sup>&</sup>lt;sup>10</sup> Franken, A., Goffin, K., Szwejczewski, M., & Kutsch, E. (2014). Roads to resilience: building dynamic approaches to risk. Airmic, London. Airmic (2018) Roads to Revolution Digital transformation: reshaping resilience for the future. Airmic, London.

All these attempts to conceptualise the (real) meaning of resilience and how it should be developed and managed demonstrates the widespread relevance of this topic. Scholarly research has also investigated resilience and highlighted that much is still to be known about it. Therefore, world-leading academic management journals have called upon researchers to also look at resilience as a way forward and what it means in practice<sup>11</sup>.

In this project, we conceptualised organisational resilience as comprising two different features [Figure 1]. On one side is what we called "Operational Resilience", which is composed of traditional risk management techniques such as risk analysis, assessment, monitoring and reporting. In addition, there are multiple other preventive elements of management and control, such as business continuity plans, crisis management, change management, corporate governance, auditing, and a plethora of internal controls and performance measurement systems. The complementariness among these techniques enables risk management to work as an integrator of multiple (sometimes disparate) perspectives joining people together aligned to the same organisational goals, purpose and values. On the other side, we have what is called "Strategic Resilience". This encompasses value-adding activities and perspectives; and an embedded culture that supports resilience propositions. It also includes a free flow in the communication to and from the Board, who must also set the tone from the top regarding resilience. That way, organisational resilience becomes more than just a paper-thin practice, but part of the culture embraced and driven by people's deep beliefs and actions.

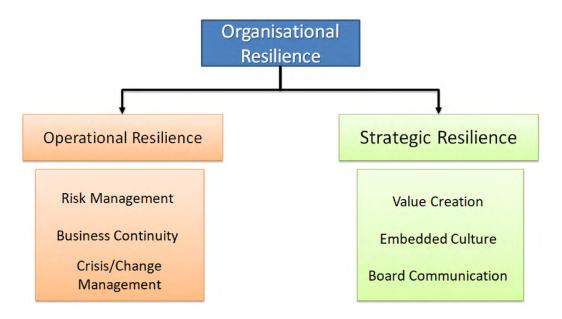


Figure 1 - Organisational resilience components

There are two other elements that are crucial to the success of this model, see Figure 2. First, the position where risk management sits in this structure, the relevance attributed to it, and the level of maturity achieved by ERM practices. Second, the performance measurement systems, such as KPIs and KRIs, and whether these were in place to support organisational endeavours toward creating more resilient practices, structures and people.

<sup>&</sup>lt;sup>11</sup> Van Der Vegt, G. S., Essens, P., Wahlström, M., & George, G. (2015). Managing risk and resilience. Academy of Management Journal. Vol. 58, No. 4.

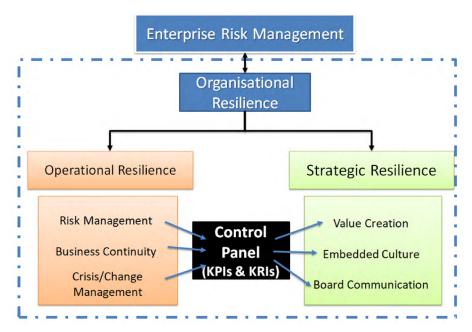


Figure 2 - Organisational resilience integrators

Much of the literature on resilience is still bounded by negative concepts such as "absorb but not fracture nor break"; "absorb and respond"; and "cope with stress and adversity and bounce back" - all of which expose the downside risks that might be impacting companies. There are two misleading features in this conceptualisation of resilience. The first refers to disruptions happening outside, out of the control of organisations, which may imply that companies should take a passive role in this regard. Furthermore, it implies that after changes, or "uncertainties that matter" (Hillson, 2016), organisations should come back to normal, that is, maintain things as they were before. However, as David Hillson stated, an essential element for successful risk management is learning from previous mistakes which may come internally and externally from organisational practices. Therefore, changes and disruptions must also push us to change and improve.

This development aspect of resilience is aligned with the IRM's role as a promoter of upside risk management as an enabler and value-adding activity for companies. Thus, we believe that resilience is not only about being prepared to respond satisfactorily to disruptions but also to create value and enhance opportunities. The original Latin word resilience means "rebound", and most of the literature states that resilience enables companies to "bounce back". However, "graceful degradation" refers to disturbances that can create "new norms", perhaps like the Covid-19, which position companies and economies to "bounce forward". Bouncing forward may mean to a point below the previous norm but still at acceptable and more sustainable services levels. Therefore, resilience is the capability of a system to adjust its functionality during a disturbance or perturbation to become better or do things right.

Hence, through an ERM framework, we can embrace a more holistic and integrated upside perspective of resilience. Thus, resilience can be an instrument to create value and competitive advantage. Indeed, companies like General Electric, IBM, and Swiss Re see the emerging interest in resilience as an opportunity for new products, services, and markets<sup>12</sup>.

<sup>&</sup>lt;sup>12</sup> Seville, E. (2016). Resilient organizations: How to survive, thrive and create opportunities through crisis and change. London: Kogan Page Publishers.

In summary, risk managers must be aware that the answer to "what does resilience mean?" is very different depending on what market or business sector and size you are from. The different multidisciplinary aspects of resilience in all kinds of systems point that organisations must not only be prepared to absolve and respond to disruptions but also to create a competitive advantage by building or enhancing it. A proactive stance in this regard may be essential for its promised positive outcome since regulations are rapidly developing in multiple sectors and imposing new and diverse minimum level requirements, which are expected from an organisation's resilience. That is also a growing area of business challenges and opportunities for consultants, governments, institutions, academics, and society more broadly, given the regulatory prominence and potential positive impacts on business performance of this theme. In this regard, we believe that Organisational Resilience can be understood better by distinguishing its operational and strategic components. Though currently, operational resilience seems to be the main focus from a regulatory perspective, it is the strategic value-adding binding elements of resilience that are the most promising elements of this debate. Yet this latter is blended, obscured or missing in the most current slant of it. This, therefore, demonstrates the importance of learning more in this respect, since bounce-back or -forward may be only achieved through rethinking and redesigning new normal(s) for business operations, which must be both more sustainable and economically sound for its short-, medium- and long-term overall performance. The position of ERM is essential for this matter; thus, unpacking the relationship between resilience and risk management is the aim of the following section.

## 3. Resilience and risk management

#### What does resilience mean to risk managers?

✓ Provision of a 'deep dive' with methods and outcomes

In the current world scenario, which is marked by high volatility, uncertainty, complexity and ambiguity (VUCA), threats are increasingly unforeseen. In addition, global markets are extremely interconnected, increasing risks and consequently, there is increasing pressure coming from regulatory authorities who require these risks to be managed. Traditional and established models are observed and scrutinised with a lack of trust, while organisations are driven by conflicting "performance and protect imperatives". As a result, in recent years, calls have been made for a shift from risk to resilience<sup>13</sup>. The basic idea is that we need to be prepared when threatening events occur, whether they are anticipated or unforeseen. However, is it risk management that drives organisational resilience or organisational resilience that determines risk management practices? Indeed, that question has also been raised in our discussions. However, given that resilient organisations did not become resilient by themselves, we must dig deeper into the causes of organisational resilience.

The evolution of Organisational Resilience experienced the focus on IT disaster recovery in the 1990s, the growing influence of business continuity in mid-2000 and a broader 'company-wide' multidisciplinary and multi-stakeholder perspective integrating protective and responsive disciplines more recently. Resilience thus is the combination of proactive ERM processes focused on maintaining the firm's continuity throughout disruptive challenges and long-term viability within dynamic external and internal environments. Recognised across industries and well-documented by the UK Civil Contingencies Act in 2004, the British Standard 65000 in 2014 and ISO 22316 (2017), resilience development recognises operational and strategic resilience as discrete but connected components in this framework, which requires joined up and well-integrated ongoing thinking and planning. While the most recent imperative of operational resilience seems to be increasingly seen through the outward lens of reducing the impact on services and products provided, rather than an inward focus, recent sectorial and regulatory trends also recognises the growing importance of resilience on value protection and creation across sectors, infrastructures and service most critical nodes<sup>14</sup>.

We must distinguish risk management and resilience from other protective disciplines. For example, whereas Business Continuity tends to be 'event orientated', ERM offers better lenses through which to view resilience as a strategic desired outcome for the whole company. In practice, though, preventive disciplines overlap and may have their importance shifted in different moments before, during and after disruptions occur, according to business models and structures. This resilience 'universe' is formed by proactive and reactive components, which aim to reduce downside-risk and increase the upside-risk likelihood (proactive resilience) by using tools, such as strategic planning and control self-assessments, for the continuous development of resilience capabilities. While reactive resilience focuses on thresholds, which once triggered, generate a response, for example, through business continuity or crisis management, to events that threaten an organisation's ability to achieve its objectives. The precise descriptions and types of disciplines included in this universe and their relative importance will be different for every organisation, with each responsible for agreeing on what is within their own 'resilience universe'.

Risk management has always been part of this 'resilience universe', and ERM plays a vital function in cementing these various disciplines together. ERM determines thresholds for proactive and reactive resilience, assessing extreme exposures and impacts and determining priority areas. It also creates a common ground to integrate perspectives and ensures that resilience components generate bespoke

<sup>&</sup>lt;sup>13</sup> Aven, T. (2019). The call for a shift from risk to resilience: What does it mean?. Risk Analysis, 39(6), 1196-1203.

<sup>&</sup>lt;sup>14</sup> See Bank of England, PRA & FCA (2018). Building the UK fiancial sector's operational resilience, Discussion Paper, London, 18 April. See also, Civil Aviation Authority (2016) Operating resilience of the UK's aviation infrastructure: A request for information. CAP 1420, June.

outputs, keeping actual organisational resilience capabilities within risk appetite and tolerance. By aligning efforts and integrating databases, ERM ensures consistency in decision-making processes, enabling organisations to comprehend alternatives through horizon scanning and scenario analyses of acceptable vulnerabilities and responses, both in terms of preventive and corrective treatments and controls. That way, risk professionals are uniquely positioned as a common ground and integrators to protective disciplines.

It is mature and integrated risk management practices that will generate and enhance organisational resilience. These practices must bring cooperation and collaboration across silos and areas of expertise. The E&Y report in 2015 states that to build resilient practices and organisations, risk managers must understand emerging vulnerabilities to create agile corporate structures and operations that are embedded in a coherent, consistent and resilient risk culture<sup>15</sup>. Although multiple elements will be joined together to create these resilient practices in each specific business case, a holistic risk governance capability, which is able to minimise known risks and scan the horizon for plausible and material emerging threats and opportunities, is crucial. Furthermore, in many cases, complex hierarchical corporate structures need to be simplified to enable fast decision making instead of overcompensating control processes. Finally, for these changes to move beyond a superficial change, it is necessary to develop commitment and assign ownership and a sense of accountability for risk management. Additionally an emphasis should be placed on the value of appropriate and controlled risk taking, which is essential to a healthy and resilient risk culture.

Over the Innovation SIG meetings, we concluded that resilience has multiple meanings, and it is context-specific. However, this complexity should not undermine our capacity to provide tailored analytical solutions to problems. In this regard, for instance, Greg Lawton, Co-Chair of the IRM Complexity SIG and CEO of Nodes and Links, recognises the importance of understanding the interconnections within systems (e.g. nodes and links). System's interconnectedness can amplify linear or non-linear compound effects of events and cause unprecedented and unforeseen consequences. Furthermore, even the act of measuring elements of a system can also affect its components. The study of complex systems, thus, may highlight weak links in a firm's supply-chain that could positively or negatively affect its business or even its competitors. These weak effects could impact whole sectors, like insurance firms, which may be under-pricing their policies because they cannot predict how small changes in the network may affect the system.

Indeed, sometimes, the resources required are already in place, but they have been underused. In this regard, it is essential to comprehend the current operations of the company, its strengths and weaknesses. Furthermore, risk managers pairing up with other specialists in the different areas will be able to draw a full picture of what composes a resilient organisation. That picture can be formed, for instance, by crisis management teams, business continuity experts as well as subject specialists, which in the case of a pandemic crisis, for example, could be represented by epidemiologists, or in the case of climate change, may need to be represented by environmentalists, activists, regulators, etc. In summary, this is a job for many hands and heads. Thus, we should work towards creating collaborative teams to create a broader, more holistic and integrated view of the desired future.

Resilience Committees may also be important features during crises since they will be composed of trained staff from different departments with complementary expertise. For large projects, decentralised decisions can be obtained with the support of judgement calibration techniques regarding risk and resilience using general knowledge quizzes among individuals and teams in order to assess group and individuals confidence and biases. This weakness could be further explored and improved through surveys and workshop training, leading to more accurate project forecasting. Trained subject matter experts also can be tracked against large project's timelines and outcomes, according to which improvements can be evaluated and implemented <sup>16</sup>.

<sup>&</sup>lt;sup>15</sup> EY (2015) Transforming risk management to enable a more resilient organisation.

<sup>&</sup>lt;sup>16</sup> According to Stephen Cresswell's IRM Innovation SIG presentation on "Judgement and Risk Resilience" in September 2019.

While interviewing managers and Board members, we noticed that there might be different stages of organisational resilience in place at companies (see also Cranfield, 2014). For instance, organisations that are more mature in ERM and resilience have used past crises as triggers for more mature resilience practices. These organisations see education as a crucial component to understand organisational practices better and persuade people regarding the necessary changes. The role of CROs, in these cases, has been to bring people together as well as foster inter-company collaboration, uncovering interconnectedness through the use of different analytical tools and techniques. Ultimately, the Board's support has been essential to sustaining this organisational/individual mindset and the proposition of mature ERM practices congruent to resilience frameworks.

Indeed, successful organisations have demonstrated capabilities that enabled them to be more resilient over time. These organisations have:

- > Developed the ability to anticipate problems before they build-up
- > Were able to build-in diversified structural flexibility to respond to both adverse and beneficial changes
- > Broken down silos and glass ceilings to allow risk information to flow freely and prevent 'risk blindness'
- > Implemented rapid response capabilities to avoid incidents escalating into crises
- > Learnt from previous mistakes from themselves and others making the necessary changes<sup>17</sup>

In summary, organisational "resilience" is an outcome of a well-executed enterprise-wide risk strategy and procedure, whereas business continuity tends to be event orientated. ERM offers lenses through which we view resilience as the desired outcome. Furthermore, the positive language of resilience as an opportunity for organisations must also be framed as an enabler for "competitiveness, re-shaping, growth, and strength" (Bell, 2020)<sup>18</sup>.

On the other hand, we cannot deny that there have been cases where this desirable organisational resilience has not been reached. This is usually represented by a gap between less mature risk management practices and the Board's expectations. In this case, Board members are looking to the future and expecting that risk management will be a strategic component of their business structure. This latter group wants to know what is coming next, the big picture and the complexity involved in decision-making. They are not concerned about resilience as an instrument to prepare a business and make it robust against moments of crisis but as a way to guarantee agility before, during and after disruptions. In this sense, in accordance with the IRM and ERM propositions, it is a shift from a focus on downside risks as threats to embracing the upside of risks/uncertainties as potential opportunities. Therefore, risk managers and CROs must not be thinking only about the compliance requirements of their practices but also creating space to think the unthinkable/unpalatable (Gowing & Langdon, 2015). They should provide solutions and prepare individuals on how to act according to Board expectations, internal guidelines and consolidated best practices during these events.

Unfortunately, it seems that not all risk managers have been able to respond to the Board's expectations and requirements and embraced risk management as a value-adding activity. This may be perceived as a lack of maturity in risk cultures and ERM practices inside organisations. Nevertheless, it is also due to a lack of tone from the top with regards to the value of risk management and resilience. Some managers have evidenced that in other companies, where they have previously worked or have known the practices, they have seen that real resilience propositions are sold easier after failures - confirming what has also been said by more successful CROs. That is, risk management practices, prior to these failures, could be seen as more about compliance to paper-thin requirements. Thus, until crises happen, those managers might

<sup>&</sup>lt;sup>17</sup> Franken, A., Goffin, K., Szwejczewski, M., & Kutsch, E. (2014). Roads to resilience: building dynamic approaches to risk. Airmic, London.

<sup>&</sup>lt;sup>18</sup> Bell, G. (2020). The Organizational Resilience Handbook: A Practical Guide to Achieving Greater Resilience. London: Kogan.

be encouraged and choose to stay 'dancing with the music'<sup>19</sup>. There are still risk managers who are focused on looking to the past and trying to explain what has happened as a way of looking to the future. It may be derived that this is a more operational rather than strategic perspective to risk management. Regarding the idea of resilience, these managers are defining "resilience" as being about preparedness and robustness in a cause-and-effect Newtonian model of classical mechanics rather than recognising the complexity of how the future may unfold in front of their eyes. In these cases, resilience seems to be the next stage, an aspiration for risk management practices, while compliance is maintained. In essence, these risk managers end up being prisoners of risk registers and tick-box exercise, while Boards seem too far away to be reached.

Organisational resilience is not obtained through the click of a button. Indeed, it is an evolutive organisational maturity process that is achieved through changes in mindset and according to specific organisational targets. Having said that, we do not expect that all organisations will be aiming to reach the same level of resilience since this is both costly and time-consuming. However, improvements must be taken in perspective of final goals and the Board's expectations. For instance, the Cranfield report (2014) demonstrates that companies might be presenting five levels of organisational resilience [see Figure 3]. Therefore, organisations will aspire to reach different levels of resilience built into their practices since that is just one component within their strategic goals and objectives.

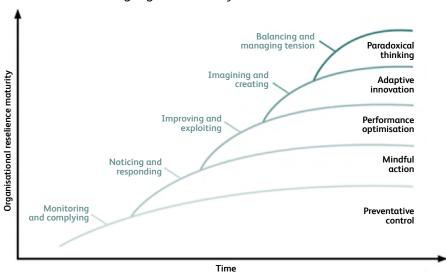


Figure 3 - Organisational resilience maturity levels. (Source: Cranfield, 2014)

Indeed, particularly talking to consultants, we noticed that resilience is a narrative, an ongoing stress testing facilitator, an instrument to re-emphasise the importance of mature risk management and preventive practices, and an integrator of measurements that may point more to the future. Thus, the gap between the Board's expectations and risk management practices has been and could be used as a driver for changes. In this respect, some Board members may not have yet fully grasped, nor been informed, about how risk management is embedded and functioning all over their organisation. Moreover, they may not know exactly where the gaps are and what the potential impact magnitude might be if issues materialised into real problems. As a result, they might be suffering from an unrealistic feeling of safety and believing in an illusion of control, which might be significantly higher than their stated and expected risk appetite and tolerance. In this sense, resilience propositions may enable risk managers to inspect and reduce this gap, levelling Board's expectations to actual organisational risk management practices and vice-versa. From this point of view, organisations may not intend to create the highest levels of resilience maturity (Cranfield, 2014), but may choose to engage in cost-benefit analysis of possible options according to their risk appetite and tolerance (more details about how this balance can be obtained will be provided in the following section).

<sup>&</sup>lt;sup>19</sup> That is a sideways quote attributed to Chuck Prince, the then CEO of City Corp in his 2007 FT interview, talking about failing liquidity. See more at: https://www.ft.com/content/80e2987a-2e50-11dc-821c-0000779fd2ac

The problem, however, is that often organisations take false assurance from aspirational response plans that set out what they think they will do and what the requirements will be, but often do not specify how these arrangements will be implemented. It is likely that these response plans are disconnected from relevant risks, risk appetite and tolerances. Sometimes crisis management arrangements do not adequately deal with information flow and decision making. Frequently teams are not sufficiently well trained and practised to be crisis ready. In summary, the management system to sustain and resource resilience is often absent. As a result, when the time comes (as it did at the end of March 2020), it is well-trained people and teams operating meaningfully via connected and well thought through plans that will work. This lack of connectivity across a meaningful resilience framework has caught out many organisations in the current climate, causing them to ditch poorly prepared plans.

Being more resilient, though, talks to a joined-up capability across proactive and reactive disciplines, anchored in sound risk management and integrating multiple areas of the business to develop capability. Resilience works best when it includes proactive resilience to prevent a crisis from occurring and reactive resilience to respond effectively. This crucial and holistic balance enables a very close, inextricable link with risks and their management. Therefore, we must be cautious against focusing only on business continuity in response to disruptive events. Resilience is an integrator of people and processes, which proactively seeks to balance perspectives and resources.

From this overview of challenges and solutions deriving from the interface between risk management and resilience, we conclude that risk managers must be aware of differences and complementariness between control and management practices, including their own. Since not all Boards are similarly aware and informed about the relevance of building up resilience capabilities, risk managers must work as educators and integrators of preventative practices, enhancing the organisational awareness regarding the importance of mature risk management processes and structures, collaboration and communication across-silos and hierarchies. Also, it is important to be aware that not all organisations should aim to reach the same level of maturity in organisational resilience. Therefore, the most important aspect of this process is to align the Board's expectations and actual control and management practice of the shopfloor. Finally, since organisational resilience represents a dynamic emerging property of complex systems, this is also an ongoing activity for risk managers nowadays.

In summary, resilience has multiple roles inside companies. Companies that are playing "infinite games" are focusing on creating a competitive advantage in the long-term (Sinek, 2019). Thus, ERM can be used to integrate practices to build and enhance organisational resilience, as the following section demonstrates.

## 4. Building organisational resilience

#### How can we do it / how do we do it

✓ From a risk manager's point of view
✓ Learning from both success and failure
✓ A selection of tools
✓ Measurement of maturity; Stress test/narrative

The definition of resilience and its interplay with enterprise risk management discussed in the previous chapter is far from set in concrete, and remains a work in progress. The measurement and management of resilience is a challenge in itself. First, because as we see, the definition of resilience is still fuzzy, and second, because this construct is complex, representing an emerging property of dynamic systems. Bearing this in mind, our aim in this section is to share the best practices encountered during this project in order to stimulate the debate and refinement of these processes among risk practitioners.

Firstly, it is important to recognise that resilience, similar to ERM, aims to break an organisation's silos, understanding that future outcomes and corporate strategic objectives require efforts on all fronts due to its highly uncertain and multifaceted nature. That perspective must prompt risk professionals to think about resilience capabilities holistically based on a flexible and collaborative workforce and processes. Today more than ever before, it is clear that companies must entrust their employees as their most precious assets. During the Covid-19 pandemic, for instance, staff had to be agile to adapt and committed to continue working despite all adverse situations and environment. Senior managers also had to think on their feet and come up with creative ways to keep the business running while motivating staff to keep up the good work. Governments had to show compassion and support to the most vulnerable through furlough programmes. Suppliers and customers had to rely on one another to cooperate in a new optimum. In sum, multiple stakeholders had to communicate and create a supportive culture, so the whole economy could somehow keep moving on. This understanding regarding the broader ecosystem where businesses are immersed is essential for the comprehension of its components and necessary adjustments.

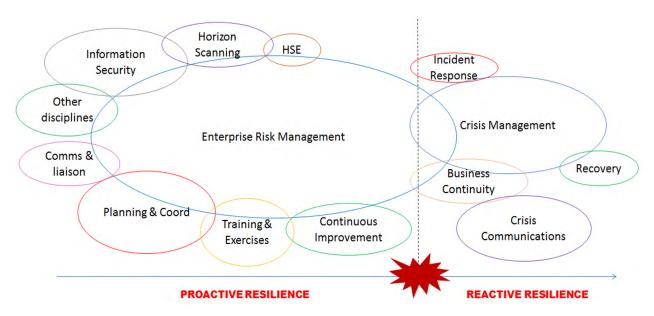
On top of that, businesses had to quickly think and confirm what their principal values and objectives were. Unfortunately, we saw many cases where money become the driving purpose for the organisation. However, at the same time, we saw cases where many lives were joined together in favour of a similar purpose, here an especial thanks to the NHS and all front line workers all over the world who sacrifice their lives and their treasured families for the good of us all.

All the above represent strategic elements of resilience frameworks. They are complex, dynamic, ambiguous and volatile. Therefore, uncertainty is a characteristic of these processes. Would people react as we thought? How could small actions impact long term vulnerabilities and opportunities? Would the good momentum be sustainable? For how long? How could we balance short term and long-term perspectives, keeping operations functioning without impairing long term objectives? These were a few questions that have passed through (and may stay) at the head of the C-Suite teams and risk managers before, during and after the pandemic.

How can we make sure that our organisations are truly resilient? That is certainly the one-billion-dollar question now, and we at the IRM Innovation SIG would love to have the final answer. The truth is that we can always prepare for disasters through simulations, but the actual response may also be quite different when a catastrophic or unprecedented event reaches us. That explains how training is important, as well as that the experience at the heat of the battle has no parallel to comprehend human behaviour since all assumptions are dropped when the rubber reaches the ground. We expect that crises will be a "showtime" moment while hoping that our actions will not exacerbate negative consequences. Nevertheless, better prepared and better-trained people surely have a higher likelihood to outperform less prepared and trained staff, even if we must certainly keep our eyes open for variance between expected and actual performance all the time.

The standards for analysis of variance must be set upfront since during the heat of the battle, more important decisions must be made, and it could be too late to put appropriate systems and metrics in place to keep up the pace of multiple fronts due to the upscaling consequences of concatenated disruptions. Firstly, companies must be aware of the data that they have already available to not try to reinvent the wheel and end up creating inconsistencies in duplicated operations across departments or hierarchies. In this sense, good data must be integrated data. Data that could be used to confirm or confront other sources, that is when we can perceive unwired connections and start to figure out what is in place and out of order, to bring the whole system back to the desired convergence point. Luckily, most of this data is already available in ERP and CRM systems within companies. However, we observe the need to consolidate internal databases with external ones as well as deal with a lot of unstructured data that we still have available in our systems.

The basic recommendation that we would like to give in this guide is: see first what you have available in your hands and then run to find where the missing pieces are. As we could see in Figure 1, the operational part of organisational resilience is obtained by the convergence of multiple protective disciplines. Unfortunately, here again, we may still see silo perspectives among business continuity, crisis management and traditional risk management practices. The lack of collaboration and integration among these departments may create a departmentalised view of organisational performance and resilience capabilities. Therefore, the integration of these and other protective disciplines is crucial for companies aiming to build in resilience, as represented in the following figure:



**Figure 4** - Proactive and reactive elements of organisational resilience (Source: Adapted from Risk and Resilience Ltd)

Figure 4 demonstrates that organisational resilience is obtained through the breakdown of organisational silos among preventive disciplines. It is the materialisation of proactive, holistic, integrated and more mature ERM practices. In practice, though, the overlaps between these disciplines may take different forms in each organisational context according to their structure, capabilities and risk appetite. Therefore, we must see these bubbles as dynamic forms of management and control that may merge and overrun each other to respond and adapt to disruptions and changes affecting the operation and strategy of companies.

Considering organisational resilience as an emerging property of complex management and control systems, risk management should adopt a dynamic, holistic, integrated and value-driven approach to build resilience in organisations in alignment with the ERM framework proposition. Mature ERM programmes must go beyond identifying, assessing and evaluating threats or even opportunities. They must also enhance the organisational resilience value proposition and integration in multiple hierarchies and departments, learning from both successes and failures, whether that comes from external events or within your own organisation.

To do that, we must acknowledge that resilience is always a relative measurement. Therefore, we must identify the level of resilience expected and against what is required. Everything is resilient (or fragile) up to a certain point and only relative to other objects and things. Historically, most emphasis has been put on "structural resilience" that aims to maintain competitive positions by avoiding or nullifying exposures, which can be obtained through insurance, for example. Nonetheless, the present VUCA environment, where organisations are surrounded by various emerging risks reinforced the necessity to also absorb, respond, adapt and recover from crises. These elements are usually covered post-hoc by BCM and Disaster Recovery plans, which, although important for "robust resilience", are insufficient and inefficient by themselves. Therefore, following a continual adaptive cycle, organisations must also focus on "dynamic resilience", learning and emerging stronger from stressors that allow them to adopt more flexible and intelligent business models and processes designs to constantly evolve their practices. In this regard, organisations must be more concerned about permanent losses rather than try to cover all potential future scenarios, as there will always be unknown unknowns. Based on current ERP systems and their respective KPIs and KRIs, companies could evaluate their resilience capabilities according to the following organisational categories below, for example:

Organisational Elements	Structural Resilience	Robust Resilience	Dynamic Resilience
1. Geography	Geopolitical stability	Diversified portfolio	Expansion into other countries
2. Market	Focus on existing competitors	Awareness of new entrants	Expansion through new partnerships (M&A)
3. Product	Maintain brand position	Range of product offerings	Innovations and disruptions
4. Customers	Threats of substitutes	Diverse client base	New demands and segments
5. Talent/People	Retention of talent pool	Dependency of talent (range)	Interdependencies of talent retention & staff satisfaction
6. Delivery	Strategic location	Punctual failures (BCM & DR)	Ability to scale up & down
7. Supplier	Supplier power	Contingency plans	Vertical integration
8. Finance	Gearing ratios	Funding availability and variability	New sources of finance
9. IT/Cyber	Reliance of data and cyber products and services	Cyber vulnerability evalutation	Leveraging data & technology

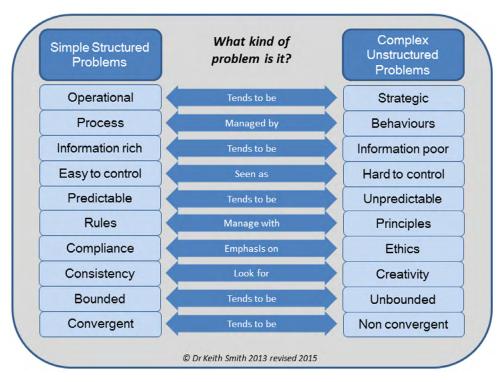
**Table 1 -** Structural, Robust and Dynamic characteristics of Organisational Resilience (Source: Adapted from MERC&CO)

The table above is by no means complete nor fully comprehensive since each company will be creating its own metrics and categories according to the prerequisites established regarding what it aims to be resilient against. Nonetheless, it is a useful example of standards that can be set to evaluate different aspects of organisational resilience and the position where the company stands. Not all companies will aim to achieve the maximum level of resilience, and that is not required, but tests should enable Boards to evaluate if the actual practices are within a tolerable range according to the risk appetite of each company. In this regard, resilience capabilities will be zig-zagging among these areas of interest, while actual practices are confronted with expected results/standards.

Although the first table may have enabled us to see how current KPIs and KRIs available in ERP systems could be used to measure aspects of organisational resilience, actual resilience must be obtained through more dynamic and up-to-date risk management technologies. The model proposed by SoluxR is a good example of that since through customised, timely, scalable and automated dynamic visual representations, this solution enables risk managers to follow emerging risks in real-time, investigating root causes and interdependencies with graphical representations of threats and opportunities. These RiskTech solutions enable low cost, highly reliable, timely and dynamic risk analysis of multiple geographies and organisational silos and can be run weekly as part of performance measurement systems. They provide visual insights

based on the most current evidence and data, flagging foreseeable trends and allowing the development of advanced scenarios and testings that drills down into the underpinning data. Furthermore, it reduces costs related to travel, labour hours devoted to integrated analyses, meetings and presentation preparation, since all data is integrated on a single platform that provides real-time dynamic reporting and decision-making support easy to access through mobile devices while keeping data integrity and governance, being fully transparent and auditable<sup>20</sup>.

Indeed, as we can see in Figure 5 below, the kind of problems business face today requires a paradigmatic shift on risk management itself from more simple and structured to more complex and unstructured problems.



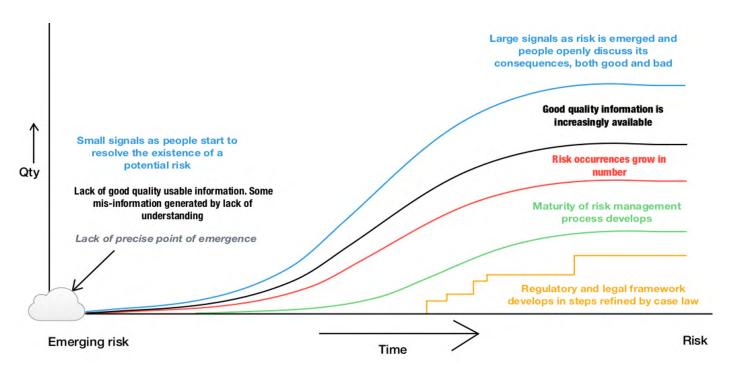
**Figure 5** - Paradigmatic shift from simple structured to complex unstructured problems (Source: Smith, 2015)

Although soon after the Covid-19 pandemic crisis has hit the world economy, some have blamed risk management for not preventing the problem, the pandemic has actually enabled business and us all to reflect further upon the information and mindset currently required to manage emerging risks. Since most risk management frameworks and systems are only designed to manage "Slow Risk Clockspeed" risks (Smith, 2015), whereas the information needed is sufficient and available before the extreme event, most extreme events, or long-tail risks, will not fit into this category. As a result, what we need is a "Fast Risk Clockspeed" perspective and understanding in managing emerging risks. For that reason, Smith (2015) has proposed the clock speed risk model years ago and recently updated it differentiating simple and complex risk solutions in regard to fast and slow risk clock speeds (see Figure 5).

Traditional risk management practices tend to focus on simple structured problems where processes can be designed with rich information available in an easy to control and predictable environment. Hence, reasonable rules can be identified and imposed, so the required compliance is guaranteed by the convergence and consistency of bounded operational closed systems. Unfortunately, that is not how the current reality looks like. Current problems seem to be a lot more complex than previously supposed. As a result, risk solutions must be rethought and re-framed to correspond to reality; we cannot expect that reality to conform to the solutions we propose.

<sup>&</sup>lt;sup>20</sup> See more details at: https://www.soluxr.com/solutions/

Firstly, risk management must be driven by a strategic perspective of business models and operations. People are at the epicentre of this process, and their behaviours must be directed to the proposed intentions and organisational goals. However, human comportment is not fully predictable and controllable. Given the nature of complex systems, information may be poor and ambiguous. Therefore, it is hard to establish static controls and foresight. Nevertheless, that does not mean that solutions and improvement opportunities are impossible. Risk managers just need to be creative and establish principles that will guide individuals' and organisational conduct, constantly checking if outputs are falling into the expected boundaries of unbounded opened systems. Futhermore, due to their inherently dynamic nature, these systems may be recurrently diverging from, and not necessarily smoothly converging into, the established parameters. In summary, organisations need to adapt to be able to work on the right-hand side of this diagram above, not just on the left. As time passes by, more information starts to be available and better solutions can be implemented, see Figure 6 below:



**Figure 6** - Quantity of available information over time regarding emerging risks (Source: Smith, 2015).

As Figure 6 illustrates, changes in perspective required to deal with emerging risks are explained by the nature, quantity and quality of information and its evolution over time. Smith's (2015) diagram demonstrates differences in the type of signals and responses applied at the first glimpse of emerging risks and options available when more concrete risks appear in companies' risk radar. These differences regard the quality of information, the number of events observed, the maturity of risk management processes and regulatory responses. In a nutshell, emerging risks are commonly characterised by weak signals pointing to their potential existence framed by dubious information, which may lack the quality and accuracy required to design predicting models since their emergence is uncertain in its origins and evolution. On the other hand, "risks", as we commonly conceive them, are characterised by more concrete and reliable signals that enable us to estimate both their positive and negative consequences and engage in more open and fundamental discussions. The quality of the information available for these more traditional risks are widely available and reliable, and as the number of occurrences grows, databases and data, in general, become more accurate and precise. This, in turn, triggers the development of more mature risk management processes to deal with threats and opportunities and call the attention of more stakeholders. Ultimately, more sedimented risks require regulatory positions/statements in the form of legal frameworks that may be refined over time by law cases which are more reactive in nature. The main problem in regard to resilience

capabilities and response to disruption is observed during these inflexion points between normality and crisis. Whereas the need for switching may be evidence in hindsight, it may be ambiguous in foresight<sup>21</sup>. Therefore, it is often easier to jump straight into selecting KPIs but more challenging to understand what types of data are necessary to inform decision making and to ask who is deciding and on what basis.

With the rise in emerging risks, where the risk is identified, but the body of information and knowledge is still weak, classic risk management with impact and likelihood hits a bit of a problem. Frequently, we can see there will be a substantive impact, but with the lack of information, the likelihood is almost impossible to assign and thinking in terms of 'likelihood value' can be a roadblock to action. By switching to the language of Scenario Analysis, which is the way these things are often explored, we can use the concept that something may be considered 'Plausible' even if we find it difficult to assign a value to the dimension of 'likelihood'.

Therefore, we may need to ask 'why' before 'how' and consider if a situation is 'possible' and 'plausible' rather than to act only when we can assign a numeric value of likelihood. To embed resilience considerations in decision-making processes is relevant to demonstrate actions focused on culture as well as metrics. Internal and external debates on organisational resilience must emphasise how building resilience capabilities is a value-adding activity, recognising that prevention is cheaper than correction and that it is in times of crisis that your investments in organisational resilience (and maybe your insurance) will pay off. The hardest part is to convince multiple managers and the Board about the value added by control activities during times of calmness since these activities are usually not direct revenue-generating centres. Nevertheless, thinking ahead and widely about how the future may look does make organisations and individuals better prepared to deal with problems when they materialise.

Dynamic forecasting models developed by RiskTechs can generate useful data for organisations building resilience. While traditional reports normally only collate information that people already hold, RiskTech apps running daily or weekly small targeted surveys would enable risk managers to "report forwards" with timely, accurate and robust analyses to track risk velocity, likelihood and potential impact almost on a daily basis as well as develop and adjust financial forecasts to predict risks for the next 5, 10, or even 20 or 50 years. Various horizon scanning and scenario exercises may also enable organisations to simulate disruptions and test capabilities that do not need to be measured daily but can be evaluated and adjusted to each specific organisational requirement. Quantitative self-assessments complemented by comprehensive qualitative descriptions of threats and opportunities to achieve strategic objectives may provide further insights into the materialisation and clock speed of emerging risks. Therefore, risk managers must be aware of recent market trends, the digital revolution brought by new risk technologies and interconnections in global supply chains.

Resilience is ultimately about an organisation's core values and mission. Therefore, the idea of long-term sustainability brought by the proposition of resilient organisations reinforces old claims made in the risk management arena and its main proposition of ERM marked by interconnectedness, integrations and a holistic understanding of corporate financial performance.

<sup>&</sup>lt;sup>21</sup> Mikes, A. & Power, M. (2020). The switch: Negotiating between normality and crisis. Oxford Answers. Available at: <a href="https://www.sbs.ox.ac.uk/oxford-answers/switch-negotiating-between-normality-and-crisis#.XrKSAhCRonk.linkedin">https://www.sbs.ox.ac.uk/oxford-answers/switch-negotiating-between-normality-and-crisis#.XrKSAhCRonk.linkedin</a>.

## 5. The IRM role: Building organisations of the future

#### How can the IRM support you in building organisational resilience?

✓ Recognise and maintain the resilience your organisation already has
✓ Enhance your organisation's resilience capability
✓ Communicate the need and value of organisational resilience

The IRM has been enhancing risk professional's skills through training and certification for more than three decades. The focus on building up organisational resilience has always been the indirect effect of the IRM's primary goal of recognising, maintaining, enhancing and communicating ERM as an integrated and holistic value-added approach to multiple stakeholders.

In that regard, the comprehension of core components of risk and resilience management has never been more important. The world we know has changed, and we are transitioning into a new norm, while the longstanding structures and foundations we knew are challenged. The IRM aims to create resources to increase organisational resilience across organisations, improve risk culture and engagement levels with risk and resilience initiatives, ensure risk and resilience objectives are met; create an awareness of the value added by risk and resilience management, and strengthen confidence from stakeholders. Risk professionals must comprehend organisational resilience key concepts, definitions and international standards; demonstrate the interrelations and distinct characteristics of risk and resilience management and the benefits this integration offers to companies, checking and reviewing ERM maturity level, roles and responsibilities to create a process that integrates these concepts with other preventative disciplines.

The IRM recognises organisational resilience's multiple interfaces and aims to enable risk professionals to adapt and prepare organisations to change, understanding their vulnerabilities and anticipating future threats and opportunities to adapt, respond and/or recover from disruptions. This can be obtained by identifying abnormal, unstable and complex events that could threaten an organisation's strategic objectives, reputation or existence and by implementing awareness and response procedures into companies.

Recently, we observed that operational resilience has been gaining momentum among financial service firms, but its alignment with ERM is a prerequisite to achieving the true strategic resilience that will enable companies to effectively respond to, recover and learn from disruptions. The importance of integration should not be confined only to risk management and resilience within companies but disseminated across supply-chains since disruptions could have effects that go across various industries. Thus, resilient organisations have combined systems and processes and people toward a singular purpose.

The IRM has been working on multiple fronts to make this happen. From a digital risk management perspective, professionals must be able to understand and explain how new technologies and digitalisation are disrupting businesses, changing the risk environment and posing new ethical challenges to business and society. The IRM has been exploring how appropriate risk management tools and techniques can be applied, adapted and developed in the digital context and provides a detailed introduction to cybersecurity principles and practices<sup>22</sup>. From a supply chain risk management perspective, the IRM has been equipping risk practitioners with the ability to apply their risk management perspective in a world where value is increasingly added via a supply chain. Thus, globalised outsourcing, specialisation and just in time production are changing risk environments, which are linked to an expanded range of complex interconnections among businesses<sup>23</sup>.

<sup>&</sup>lt;sup>22</sup> See more at https://www.theirm.org/qualifications/digital-risk-management-certificate/

<sup>&</sup>lt;sup>23</sup> See more at https://www.theirm.org/qualifications/supply-chain-risk-management-certificate/

The IRM Innovation SIG, among other IRM SIGs and RIGs, is also contributing to this discussion. In 2018, we published the "Horizon Scanning: A Practitioners Guide", recognising that risk managers need to be more active in dealing with emerging risks and how risk activities should be visualised and reported to senior management teams, which has a real value to professionals intending to build resilient organisations<sup>24</sup>. Horizon scanning deals with complexity, challenging assumptions and reviewing multiple ways that events may unfurl in order to support the resilience of organisations. In this sense, it is an evidence-based technique, not to predict the future, but rather to review options so that better decisions can be made. This involves an organised and formal process of gathering, analysing and disseminating value-added information to support decision making; a systematic examination of information to identify potential threats, risks, emerging issues, and opportunities. This allows for better preparedness and the incorporation of mitigation and exploitation into the policy-making process. The exploration of what the future might look like helps with understanding uncertainties better and analysing whether the organisation is adequately prepared for potential opportunities and threats (IRM, 2018). In summary, "Horizon scanning works as an "alerting and creative activity" to identify emerging issues through picking up early warning signals, and to provide insights into how to organise and explore weak signals" (IRM, 2018: 5).

Also, in 2018, the IRM Innovation SIG explored how risk managers are using artificial intelligence (AI), the challenges and opportunities it presents, and how AI solutions have been deployed to tackle climate change and other risks. These new technologies present potential threats and opportunities for business coming from the multifaceted, decentralised, and dynamic nature of their development. Based on a network with more than sixty risk management professionals, the IRM Innovation SIG emphasised how AI solutions should support risk management and clarified what risk managers want from them. We demonstrate that new skills will need to be developed to control and test AI mechanisms and that risk managers must have access and scrutinise this new AI "black box". Ultimately, we propose that companies should develop isomorphic learning techniques to adapt advancements from different areas into their organisational practices.

In sum, the IRM and its SIGs and RIGs have been providing resources to enable risk managers and companies to recognise and maintain organisational resilience as well as enhancing resilience capabilities while communicating it to multiple stakeholders. This can be obtained when organisations anticipate, adapt, respond and/or recover to changing situations with decisive action to protect their operations from breaking down. Organisations must test variances in their expected and actual responses to real-life incidents and changes in their business environment. Scenarios and stress testing may provide a way to simulate and safely test resilience capabilities in the face of challenging situations, but they represent one half of the story. Businesses may actually need to mimic real-life scenarios to strengthen their capabilities, for instance, the network capacity to handle everyone working from home (or check if people can actually log in to extranet servers). Certainly, it is not necessary or feasible to create scenarios for each and every circumstance. However, when properly designed, these exercises can demonstrate resilient capabilities across a number of plausible circumstances.

<sup>&</sup>lt;sup>24</sup> See more at https://www.theirm.org/media/7423/horizon-scanning\_final2-1.pdf

## 6. Conclusions

As it has been said at the beginning of this guide, it is not the role of risk managers to *know* everything up front, but to *prepare* for what *might* happen, using the ERM arsenal that they have in their hands and being aware that the future will never be identical to past trends, irrespective of the data available<sup>25</sup>. Therefore, dealing with resilience is dealing with uncertainty and unknowns. That puts significant challenges to any kind of "objective" measurements but can be overcome by more accurate and timely data gathering about people's perceptions through new risk analytics and RiskTechs based on Natural Language Processing (NLP) and innovative data visualisations<sup>26</sup>. An appropriate way to deal with risk velocity and change is still required<sup>27</sup> since valuable data could be already available in ERM and ERP systems but not yet properly or completely used by organisations<sup>28</sup>. Thus, systems, people, processes and practices must be integrated so that emerging risks can be closely monitored.

Over this Organisational Resilience Project, the IRM Innovation SIG has been able to understand better how risk managers, Board members and consultants see the challenges and opportunities to organisations building resilience capabilities and embedding them into their cultures. It became clear that organisational resilience is not just about techniques and operational resilience, but it is also a change in the organisations and individuals' strategic mindset and risk culture, which needs to be adapted in order to be prepared to deal with constant changes presented globally by the current VUCA environment.

This guide demonstrates that the construction of resilience capabilities is a challenge in itself since the definition of resilience differs among disciplines, individuals, corporations, roles, departments and hierarchical levels. From an ERM perspective, we must be careful to maintain a positive tone while dealing with organisational resilience in order to recognise its required characteristics to manage both downside and upside risks. The former could be represented by aspects such as organisational preparedness, robustness, adaptability and bounce back capabilities. However, the latter must also be acknowledged since resilience can represent a competitive advantage to the long-term continuity and sustainability of institutions. Resilient organisations thus would be able to see resilience as an enabler to enhance organisational competitiveness, growth, and strength, which may end up re-shaping particular practices and points of view (Bell, 2020)<sup>29</sup>.

Throughout the resilience evolution within different business contexts, risk management has always been part of this process. However, the ERM framework, as an upside risk management proposition, might have sat as a distinct function with varying degrees of connectivity, or not, to 'resilience' in organisational settings. Nevertheless, the powerful combination of risk management and resilience enables firms to achieve a fully integrated understanding of business exposure, preparedness, adequacy, direction, absorption and responsiveness capacities to reduce the likelihood and magnitude of potential and actual disruptions' impact. Therefore, ERM performs a pivotal, powerful and integrating role in organisational resilience's development and maintenance.

The integrated organisational resilience model (presented in Figure 1) demonstrates operational and strategic components of organisational resilience that must be integrated into an ERM framework, enabling individuals and companies to translate preventive disciplines scattered solutions into a universal control panel that monitors, check and measures how enhancing resilience capabilities are affecting organisations' value, communication and culture as well as how these aspects may interfere with operational capabilities and practices.

<sup>&</sup>lt;sup>25</sup> See more at: https://www.theirm.org/news/the-resilience-value-proposition/

<sup>&</sup>lt;sup>26</sup> See more at: https://www.soluxr.com/

<sup>&</sup>lt;sup>27</sup> Smith, K., & Borodzicz, E. (2008). Risk clockspeed: a new lens for critical incident management and response. The Systemist, 30(2), 345-370.

<sup>&</sup>lt;sup>28</sup> See more at: https://www.mercandco.com/post/in-with-the-old-2-evolution-of-supply-chain-risk-and-resilience

<sup>&</sup>lt;sup>29</sup> Bell, G. (2020). The Organizational Resilience Handbook: A Practical Guide to Achieving Greater Resilience. London: Kogan.

The different perspectives presented among the participants of our study demonstrates that there are still divergences in different levels of an organisation's hierarchy, so Boards must be aware of unfulfilled expectations regarding (untested) resilience capabilities and risk management assurance. Thus, expectations must be translated into a strategic perspective of resilience across disciplines and practices embedded in a supportive culture in order to avoid becoming only an operational tick-box exercise. Risk managers thus may work as enablers for the creation of integrated and holistic resilience capabilities that are not only a characteristic of particular professionals but reflect the interest of companies.

We demonstrate that, although some companies seem to have chosen to wait until real crises to move up, mature and strengthen their resilience capabilities, disruptions are not a prerequisite to companies' awareness about the need to build up resilience capabilities. Resilience must go beyond the desire of individuals to represent the requirements of an era and the environment where companies are operating. For that reason, consultants have been working on the alignment of Board expectations and organisational resilience capabilities through tests, checks and monitoring exercises of the response of actual capabilities when they are put into stress testing and scenarios. Unfortunately, the Covid-19 pandemic crisis has proven that companies may not be as prepared as they thought they were, and the available time to adapt is shrinking in front of our eyes.

Our guide presents possible solutions to some of the problems observed above. First, it is crucial that more education and clarity regarding how resilience claims are translated into practices are introduced through training programmes and open communication channels to specific issues faced inside each corporation. Second, this information must be timely and accurate. Therefore, ERP and performance evaluation systems must be adapted to the digital era and staff at all levels must be encouraged to share challenges and opportunities experienced in their daily routines and horizon scanning exercises. Third, we must understand how to deal with the unexpected and the complexity that surrounds us all. Beyond risk registers and lessons from what has gone wrong, we must be aware of emerging risks and what is coming next. War games and scenario planning and analyses can enable us to see the future ahead and changes that may not be as far away as we previously considered.

For that reason, the IRM has been working on many fronts to prepare the next generation of risk professionals in this and other matters. Special Interest Groups have been launched to deal with prompting problems in our society, such as the digital revolution, climate change and complex systems. Furthermore, the IRM is expanding its operations in other countries and connecting people from all over the world in different sections and areas of expertise to create a more holistic and integrated view of threats and opportunities that businesses will (and are) face(ing). These initiatives have been translated into training courses and certifications, which are now available to a wider public through online platforms that aim to democratise this knowledge and prepare risk professionals to deal with resilience and other issues confronting organisations and society.

This report represents the intent of the IRM and the Innovation SIG to enable risk professionals to see beyond their daily routine and activities, always moving beyond compliance to make sure that ERM maintains its value as a strategic, relevant management tool that enables companies to achieve their most desired goals and objectives. In this regard, for example, an important debate during the production of this guide was related to where ERM should sit. By the end, our proposition was that given that organisational resilience seems to fit quite nicely within the ERM framework and provide a new language to its claims, then concerns regarding resilience must be comprehended as a (more mature) component of the ERM within companies. Indeed, the proposition that organisational resilience reinforces old claims from ERM frameworks appears to hold true. Value is added when change is viewed holistically across all disciplines of the organisation. Risk culture, as well as the general culture of an organisation, can be shaped and embedded through a shared context and shared ideas across all hierarchical levels and departments.

Nonetheless, the main aim of this guide is to break silos and old paradigms regarding claims of power and status among organisational actors. Resilience provides us with terminology to show that managing risks is certainly not only about avoiding potential threats that may or may not materialise at a certain moment in time. It is not about CRO's neurosis or hysteria and permanent preoccupation, but about a constant state of awareness that should mark the profile of those working in the current VUCA world economic environment. In this regard, resilience is about organisational and individual preparedness, the development of capabilities to respond as well as (re)establish functional operations, which should be considered before, during and after disruptions. We cannot wait for the next wave to reach us to learn how to swim; at that point, it will be too late.

Therefore, ultimately, this guide reinforces the ERM's claim to break the silos and the boundaries stated as limits to both risk management, organisational resilience as well as other protective disciplines. We can work better together. We work better thinking with our whole brain, recognising blind spots, moving towards an open conversation regarding our strengths and weaknesses in order to share our experience, expertise and data. Thus, resilience is ultimately about collaboration.

For that reason, we aim here not to create and increase further the division among protective disciplines and experts but create an open platform for collaboration. More than ever before, we see that power relies on bringing different perspectives and data together, thinking holistic and integrating understandings. Certainly, that may not happen as harmoniously as it sounds, but it is the role of risk managers to spark this sentiment across departments and hierarchies: we are here together, for one another, we are one. One species on our planet, fighting for a better world. Not just for one of us, but for all of us, to humanity and to what goes beyond human beings, to all species, to the whole world. Without any doubt, that will require the support of many: analysts, managers, directors, Boards, investors and governments. But we can do it if we believe.

Perhaps that has been the strongest lesson left by the Covid-19 pandemic to all of us. Yes, we can have a different world, and (perhaps) a better world. Yes, we can look after each other and put lives before money and power. Yes, we can think about a better world, a more harmonious world, where the whole of humanity is working and thinking about a single goal, a better goal, to make the world better, more sustainable, more harmonious, more resilient for us all to survive. Yes, (perhaps) we can (if we believe).

It is important to (re) emphasise that this guide does not intend to represent an ultimate and universal answer to the problem that organisations face while trying to build resilience capabilities. We acknowledge that this problem is a lot more complex than what is portrayed here. For that reason, our SIG would like to leave an open door for further discussions and shared experiences on this topic. If you would like to share ideas or cases regarding how the proposition presented here has helped you to reflect upon and rethink some of your risk management practices and experience, please, contact us through our emails and social media platforms. We are looking forward to hearing from you too.

Many Thanks,

IRM Innovation SIG

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#### **Robert Luu** Director of Customer Success, Galvanize, Singapore

"Whether you're directly in risk management practice or not, the IRM provides a great qualification to immerse yourself in to grasp the foundational knowledge that touches on a variety of topics of today, and the technological advancement of the future."



#### Carla Knight, IRMCert Risk Management Specialist, Exxaro Solutions, South Africa

"IRM qualifications are an excellent way to ensure that you stay relevant and on top of the changing risk management field. It has taught me so many things especially in the areas where I do not see myself as an expert."

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