Roads to Resilience

Building dynamic approaches to risk to achieve future success

A report by Cranfield School of Management on behalf of Airmic
Sponsored by Crawford, Lockton & PwC

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Executive Summary

"How can businesses ensure their future success against the growing array of risks?"

To answer this key question, Cranfield School of Management and Airmic studied a number of leading organisations that have managed to create a resilient culture in order to protect their business, brand and reputation. '*Roads to Resilience*' follows the highly acclaimed '*Roads to Ruin*' report, published by Airmic in 2011. This looked at high-profile crises involving 23 companies, which left their reputations in tatters. The main objective of this new report is to help companies avoid corporate catastrophe by learning from those who are leading the way in creating resilient organisations.

For boards, the incentive to become resilient goes well beyond merely avoiding disaster. Companies that are confident in their risk management have the confidence to be more enterprising and entrepreneurial, thereby not only identifying risks but also seizing opportunities. The research found that the qualities embedded in resilient organisations enable them to succeed in other respects. They are more responsive to their customers and the markets they serve, their staff and suppliers are motivated and loyal, they gain trust by being more dependable and achieve better results for shareholders. In short, resilience should be at the heart of strategy and part of the overall vision of every organisation. Resilience enables organisations to deal more effectively with both expected risks and the unexpected ones.

Cranfield researchers interviewed executives, management and staff with risk management responsibilities, including CEOs, at eight chosen organisations. They found overwhelmingly that the key to achieving resilience is to focus on behaviour and culture. This may involve fundamentally re-thinking and challenging prevailing attitudes towards risk. Traditional risk management techniques, whilst essential, do not in themselves create a culture of resilience.

"You've got to have the right culture; otherwise you're never going to embed anything. Nobody's going to do the training, nobody's going to put it on their personal agenda and talk about it, the networks aren't going to happen, the network is where your culture lives" (SVP, Head of Global Risk Management, IHG).

"*It has got to start at the top of the organisation, with supportive language that shows we are more interested in how we learn and move forward, than holding an individual accountable"* (CEO, UK General Insurance, Zurich).

The five principles of resilience

Although the case study organisations are very different and have different ways to achieve resilience, the research found five capabilities or principles in common. This report refers to them as the five Rs. It is not sufficient to have just one or even most of them; an organisation must seek to have all five to achieve resilience. These are:

- **Risk radar:** the ability to anticipate problems and see things in a different way will help an organisation develop an early warning system and be able to seize new opportunities.
- **Resources and assets:** well-diversified *resources and assets* provide the flexibility to respond to opportunities as well as adverse or changing circumstances.
- **Relationships and networks:** risk information flows freely throughout the organisation up to directors to prevent the 'risk blindness' that afflicts many boards.
- **Rapid response:** capability that prevents an incident escalating into a crisis or disaster because people and processes are in place to quickly restore things to normal.
- **Review and adapt:** learn from experience, including near-misses and make the necessary changes and improvements to strategy, tactics, processes and capabilities.

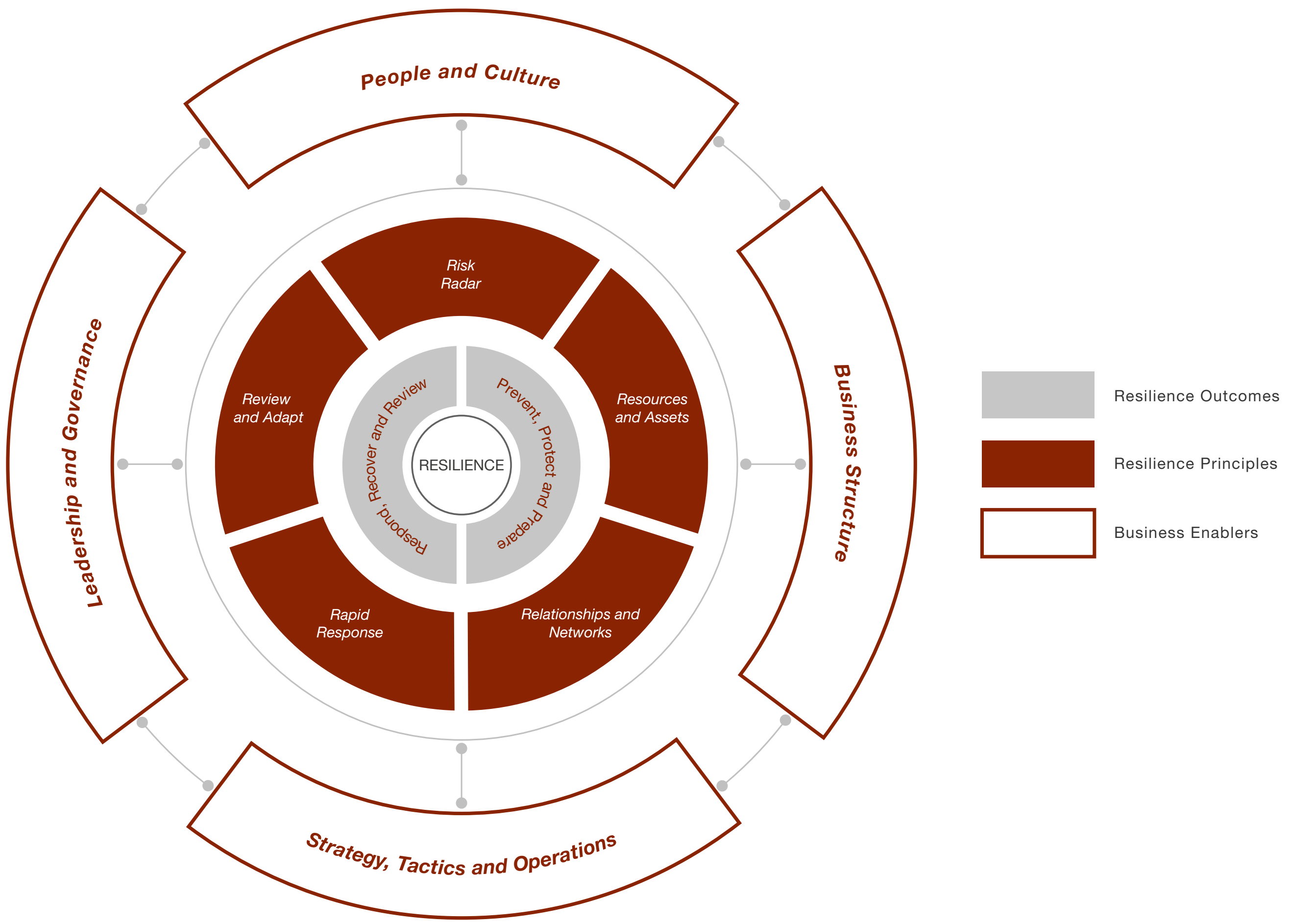
The four business enablers

These resilience principles do not just happen; they reflect the fact that companies have nurtured a resilient environment through: *people and culture; business structure; strategy, tactics and operations* and *leadership and governance.* This report refers to these organisational qualities as 'business enablers'. Whilst all organisations have these enablers, in some organisations, they are better developed than in others. As with every aspect of resilience, the board must take responsibility and provide leadership by setting the tone from the top, such that each business enabler supports the resilience agenda.

The findings of the research are captured in Figure E.1 Achieving increased resilience delivers benefits and these enhanced capabilities are shown as proactive 'prevent, protect and prepare' and reactive 'respond, recover and review' outcomes. The research found that resilient organisations are characterised by having the five resilience principles in place in a way that enhances the four business enablers.

Figure E.1

Resilience outcomes, principles of resilience and the business enablers



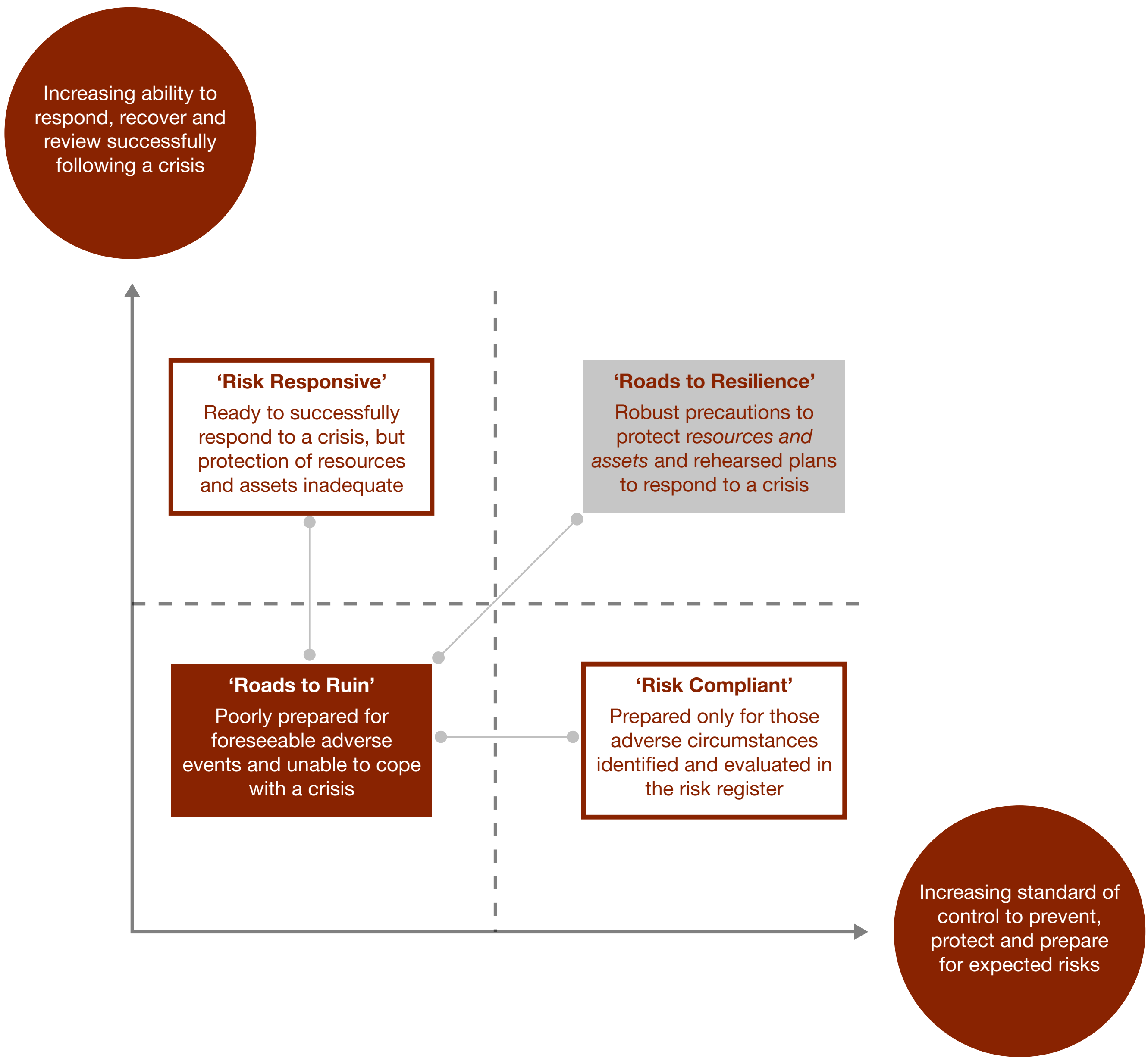
Key actions and challenges

The report deliberately does not dictate how boards should respond to the challenge of strengthening the business enablers, but the research identified eight hallmarks or action points normally found in resilient organisations. Whilst facilitating them may be the responsibility of the risk manager or risk committee, board oversight, *leadership and governance* are essential. In particular, the organisation must ensure that employees and other stakeholders understand what these activities mean and buy into them.

- **Raise risk awareness,** with relevant lead and follow indicators to identify trends, emerging risks and opportunities.
- **Avoid board risk blindness,** by encouraging the sharing of information and bringing uncomfortable truths to senior management, so that board decisions are well informed.
- **Develop risk architecture,** including involvement of representatives from the supply chain, contractors and business partners to evaluate risk exposures.
- **Plan crisis management** and develop crisis management teams, separate from normal management, to be activated at pre-determined trigger points.
- **Determine risk attitude** and develop risk appetite positions for each of the main types of operational risk for the guidance of managers.
- **Undertake risk assessment** by developing a dynamic approach, so that the risk register becomes more than just a list of risks.
- **Establish resilience agenda,** including a board mandate to increase resilience and protect the reputation and brands of the organisation.
- **Ensure risk governance,** by establishing an appropriate version of the 'three lines of defence' model to provide proactive assurance for the board.

Figure E.2 summarises the findings of the research by plotting increasing standards of risk control against increasing ability to respond to a crisis. The conclusion is that a resilient organisation can both proactively plan for the expected and reactively cope with the unexpected. However, being either 'Risk Compliant' or 'Risk Responsive' is not sufficient to achieve resilience; an integrated approach that combines both is required.

Figure E.2
The resilience matrix



Complementary roles of boards and risk managers

In organisations that achieve resilience, boards and risk professionals have complementary roles. The board provides strategic leadership, sets the tone and establishes the governance structure. The risk function works closely with operational management to create an effective framework and culture within which the organisation can achieve resilience. This will require both the technical expertise traditionally provided by risk managers and also a committed style of leadership to ensure that all levels of the organisation are fully engaged in this process.

Although technical resilience expertise will continue to be essential, it is just part of the picture; softer skills such as communication are also essential. The report concludes that risk managers have a vital role in driving resilience, implying a broader remit than has traditionally been the case. They have to decide where they aspire to be in this broadened risk scenario and identify the wider business skills required to play a leading role.

> "If you can explain why it will help that person achieve their objective they will buy into it … some risk managers make it too academic"
>
> Chief Risk Officer, Olympic Delivery Authority

For boards, achieving resilience demands a concerted corporate effort. It should be a dynamic and never-ending process, focused on creating a genuine understanding of risk to make an organisation more enterprising and ultimately more successful. By bringing together the comprehensive insights and experiences of those who have succeeded, this report challenges businesses to measure themselves against best practice, take the necessary actions and achieve the benefits of becoming resilient.

Summary of main resilience benefits

- optimal protection and utilisation of resources to take advantage of opportunities
- supportive *relationships and networks* to build successful brands and reputation
- knowledge of emerging risks to develop crisis plans to respond to adversity; and
- identified lessons and amended business model to gain competitive advantage

Preface

John Hurrell
Chief Executive, Airmic

Airmic is very pleased to publish our new research into the ingredients of corporate resilience.

In our earlier research, '*Roads to Ruin*', we looked at the underlying causes of 18 of the most catastrophic failures of risk management over the prior decade. The report, prepared by Cass Business School, concluded that these failures were not due to any lack of compliance or regulation, but in almost every case, due to a breakdown in risk governance exacerbated by board risk blindness.

In our new research, prepared by Cranfield School of Management, we wanted to explore, through a series of in-depth case studies, whether successful corporate resilience was characterised simply by an absence of the key points of failure outlined in '*Roads to Ruin*' or whether there were more factors in operation.

As we expected, there was no 'silver bullet' to be found in the case study organisations, but these companies all demonstrated a commitment to the five principles of resilience outlined in the report. In these organisations, risk management was found to be integrated into strategic and operational decision-making and formed part of the very essence of the corporate identity.

This report highlights that effective risk management goes way beyond compliance or adherence to standards. The findings have profound implications for both boards and risk professionals, and are outlined in detail in this report.

About the Authors

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Keith Goffin is Professor of Innovation and New Product Development at Cranfield School of Management in the UK. He has extensive experience of product development from both an industrial and an academic perspective. Previously, he worked for 14 years for Hewlett-Packard Medical Products, in management and marketing roles. At Cranfield, he teaches on MBA and executive programmes, and is a visiting professor at business schools in France, Italy, Germany and Sweden. He regularly acts as a consultant on innovation management to leading organisations and has published extensively – more than 150 articles and three books.

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Paul Hopkin is based in London as technical director at Airmic. He was previously director of risk management for The Rank Group Plc and prior to that head of risk management at the BBC. He started his career in risk management as one of HM Inspectors of Factories with the Health and Safety Executive. He has also worked extensively in the insurance industry, including periods as technical director at Sedgwick Risk Control Services and managing director at Fenchurch Risk Management.

He was the project leader of the working group developing ISO 31004, the implementation guide to the international risk management standard, ISO 31000. Until recently, Paul was the lead examiner for the Certificate in Risk Management (CIRM) qualification from the Institute of Risk Management. He is the author of the recently published textbook for the CIRM course entitled '*Fundamentals of Risk Management*'.

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Professor of Operations Strategy

Marek's current research interests are manufacturing strategy, identifying customer hidden needs, supplier management, sustaining change initiatives, and new product portfolio management. He has published extensively in both academic and practitioner journals, authoring numerous articles and reports on supplier management, innovation, manufacturing performance and manufacturing strategy.

As Director of Cranfield's renowned Best Factory Awards, Marek has received significant public and private funding for his research on factory performance in the UK and has co-authored several major reports. He is Director of the Global Manufacturing Roundtable at Cranfield. The roundtable's researchers work with manufacturing companies on projects to improve operational competitiveness and performance.

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Being uncomfortable is both a challenge and an opportunity for Elmar. As a passionate skydiver his interests, both privately and professionally, revolve around management of risk and uncertainty. In order to raise enthusiasm for managing the unexpected, Elmar engages widely with industry and advocates of project management such as the Association for Project Management (APM).

Over the past few years, Elmar has become involved in the development of graduate grogrammes and customised executive development, providing intuitive and deliverable methods for managing the unexpected. He also publishes widely on aspects of risk management, resilience and high reliability organisations.

Contents

List of Figures

List of Tables

Section 1 is the overview and detailed summary of the research and should be read first. For risk professionals and senior executives who wish to gain a rapid insight into the conclusions of the research, it is recommended that Section 2 is read next. It gives a clear picture of the advantages of resilience and describes the overarching principle of 'risk radar'.

Then, risk professionals can go to Section 7, which explains the implications for risk professionals and provides examples of resilience practices. Board members can go to Section 8, which summarises the lessons and challenges for board members and the implications for *leadership and governance*. Additionally, risk professionals are especially encouraged to read Sections 2 to 6 on the five principles of resilience. These sections give a clear idea of the capabilities that the case study organisations have created and provides a structure for other organisations to use to identify their level of resilience.

Section 1: Introduction to ‘Resilience’

Section 1: Introduction to 'Resilience'

Overview of Section 1

'Resilience' is a developing concept that expands the scope of risk management and reflects the increasing need for organisations to protect their reputation and achieve their goals. It is characterised by the five related and inter-dependent principles of *risk radar, resources and assets, relationships and networks, rapid response* and *review and adapt.* The research described in this report found that in the case study organisations, each of the resilience principles can be embedded through the 'business enablers' of the organisation. These business enablers are identified in the research as *people and culture*; *business structure*; *strategy, tactics and operations*; and *leadership and governance*. A resilient organisation achieves greater stakeholder trust, is more confident in dealing with risk, and has robust controls in place for the anticipated risks, as well as the ability to successfully respond to an unexpected crisis, learn the lessons and emerge stronger.

Rationale for the research

In complex and changing business environments, one of the key questions that boards should ask themselves is*: "What can we do to ensure the future success of our organisation against the growing array of risks?"* To answer this question, new research, conducted by Cranfield School of Management together with Airmic, looked at eight leading organisations that constantly have to deal with complexity and uncertainty, but have created a culture and systems to protect their business, brand and reputation, and thereby achieve a greater level of organisational resilience.

A key driver of the new research was the 2011 '*Roads to Ruin'*[1] report. Based on information in the public domain, it looked at 18 high-profile crises involving a total of 23 companies. Each crisis left corporate reputations in tatters. The report concluded that the *"firms most badly affected had underlying weaknesses that made them especially prone both to crisis and to the crisis escalating into a disaster"*[2]. Such organisations were liable to have a risk information 'glass ceiling' preventing timely and appropriate risk information being passed to the board, resulting in board risk blindness. The 2011 report painted a picture of organisations struggling to deal with crises. However, the report did not investigate how some organisations achieve high levels of stakeholder loyalty, manage to avoid crises and/or prevent a crisis turning into disaster. Therefore, new and probing research was necessary.

The new research described in this report generated detailed insights by conducting primary case study research[3]. The ways in which risk is managed in order to achieve greater resilience was investigated at: AIG, Drax, InterContinental Hotels Group (IHG), Jaguar Land Rover, Olympic Delivery Authority (ODA), The Technology Partnership (TTP), Virgin Atlantic and Zurich Insurance. The research found that these organisations go far beyond what would be regarded as traditional risk management. They recognise that volatile business environments require an original and dynamic approach to risk management. These organisations were selected for study because they were willing to discuss the actions they had taken to develop and enhance their approach to risk management.

In the eight organisations studied, the traditional tools, techniques and structures of risk management were understood and extensively applied. However, it is clear that these approaches are regarded by management as necessary but not sufficient to achieve the desired level of organisational resilience. Managers perceive risk management to be about protecting and championing the reputation of the organisation and creating resilience. Such organisations are adaptive to change, as they do not just focus on building stronger defence mechanisms. Instead, they build the capability to deal with both the expected and the unexpected, protecting reputation and integrity, while still remaining focused on achieving their business goals. Furthermore, resilient organisations not only develop the ability to quickly identify emerging risks, but they are also better placed to recognise and take advantage of business opportunities – the upside of risk-taking.

Risk professionals and the boards of these organisations understand that risk is a strategic and tactical priority, not just an operational one, and are acutely aware that risks reside at every level and in all business decisions. Consequently, boards and senior executives understand that their challenge is to influence the corporate culture and embed risk awareness throughout the organisation. It is clear from the research that the attitude of the board to risk and risk management is a major factor in making resilience possible.

1 Atkins, D., Fitzsimmons, A., Parsons, C. and Punter, A., '*Roads to Ruin': A Study of Major Risk Events: Their Origins, Impact and Implications,* Airmic, 2011.

2 *ibid,* page 1.

3 For a detailed description of the methodology used for the case studies, refer to Appendix B.

Although each of the case study organisations operates in a different business environment and has taken a very different approach to pursuing resilience, the research identified some commonalities. For example, the capabilities of everyone within the organisation are harnessed, together with those of key stakeholders, to develop a comprehensive but adaptable approach to risk management. Similarly, each of these organisations has a culture in which everyone has increased risk awareness and fully understands the importance of risk management. Thus, these organisations can be said to be 'bristling with risk awareness'.

To achieve such a level of risk awareness, the case study organisations have taken risk management from a position where it is perceived as only the responsibility of a specialist function, to being integrated throughout every part of the organisation and beyond. Such a change requires risk professionals to take a broader role than they are traditionally used to, or tasked with. Similarly, board members need to take a different attitude to risk and risk management if they want to make their organisations more resilient – that is, more able to deal with the many issues that can negatively impact the success and reputation of an organisation. The array of challenges facing risk professionals and board-level executives is highlighted throughout this report.

Broadening scope of risk management

A major challenge facing risk professionals and boards is the growth in the scope of risk management. Previously, risk management was focused on loss prevention, protecting people and physical assets, ensuring that, for example, manufacturing operatives were safe and quality products could be delivered. Audit and compliance activities were central to this approach. However, as the remit expanded to a wider array of commercial risks, the discipline of risk management developed tools and approaches to identify and deal with key issues, such as matrices to assess the probability and impact of different types of risk and recording the results in risk registers. In resilient organisations, risk management extends beyond physical operational risks to include commercial delivery risks and longer-term risks to strategy, tactics, the business model and reputation amongst stakeholders.

Existing risk management tools have been modified and extended to apply to the service industries, although aspects such as the customer experience are less tangible and harder to manage. In recent years, the customer experience, brand and reputation have emerged as key assets for organisations. These intangible assets are much more difficult to manage from a risk perspective. Reputation, for example, can be arduous to build but can be rapidly and irrevocably destroyed by a broad range of events or scenarios within a business and its extended network. Organisations are recognising this and re-focusing their risk management as illustrated by the following quote from one case study: "*The purpose of risk management is to champion and protect the trusted reputation of IHG and its brands*" (SVP Head of Global Risk Management, IHG)[4].

Brand may be more important for some organisations than others. However, every organisation faces the challenge that its reputation can be seriously damaged if a crisis arises and is not dealt with quickly and appropriately. In the era of social media, news travels almost instantaneously and it cannot be contained. Too many organisations have yet to adapt their risk management approach to this new and changing environment.

Implications for risk professionals and boards

For risk professionals, the range of assets that need to be protected and utilised is broader than previously. A corollary of this is that risk departments cannot always predict and manage every risk. Rather, the risk function must find ways in which to support and encourage other departments to take full responsibility for managing their own risks, whether they are strategic, tactical, operational or, increasingly, reputational. This is a leadership and facilitation role, but that does not mean it is a simple one, as it depends on an organisation having a culture that embraces risk management and supports the achievement of resilience. The role of risk professionals must evolve from managing risk to helping build the capability of an organisation to become resilient. Risk professionals need to develop business skills in addition to their technical and specialist expertise.

The implications for boards are different as their remit is more strategic, while still needing to ensure governance of tactical and operational issues. Boards also need to be more aware of the importance of risk culture. Risk considerations may not be explicit, but boards should ensure greater focus and more analysis of risks in setting strategy, developing tactics, monitoring operations and maintaining oversight of decision-making. Boards need to become more engaged with the resilience agenda and take proactive actions to ensure that business enablers are enhanced to include effective resilience activities.

4 Quote taken from IHG case study, see Appendix A. The other case study organisations had an equally strong focus on reputation.

The levels of risk to be considered have also changed. Often risk management has focused exclusively on the operational level and the development of operational risk appetite positions or statements. This approach overlooks the two other levels: strategy and tactics. At the strategic level, the decisions made by boards involve commercial risks that are considerable. Strategic decisions will be influenced by the attitude of the board to risk. When strategy has been established, tactics have to be developed to implement the strategy and this will involve management of projects and/or programmes of work.

Almost all organisations have major projects that are often not adequately analysed from a risk perspective. If major projects are not managed correctly, reputation and financial performance can be endangered and resources incorrectly allocated. Therefore, risk professionals and boards need to:

- manage risk across their full range of assets, from products, people and operations, through to the customer experience, brand and reputation
- ensure that risk management is considered not only at the operational level but also at the tactical (or project) and strategic levels.

Recognising that the scope of risk management has changed is the first step towards making an organisation more resilient. However, achieving resilience is complex and, as the plural in the title of this report '*Roads to Resilience'* implies, the research found that there are multiple ways in which resilience can be attained. Nonetheless, the organisations studied do exhibit common traits that can help other organisations identify, plan and implement their own specific *road* to resilience.

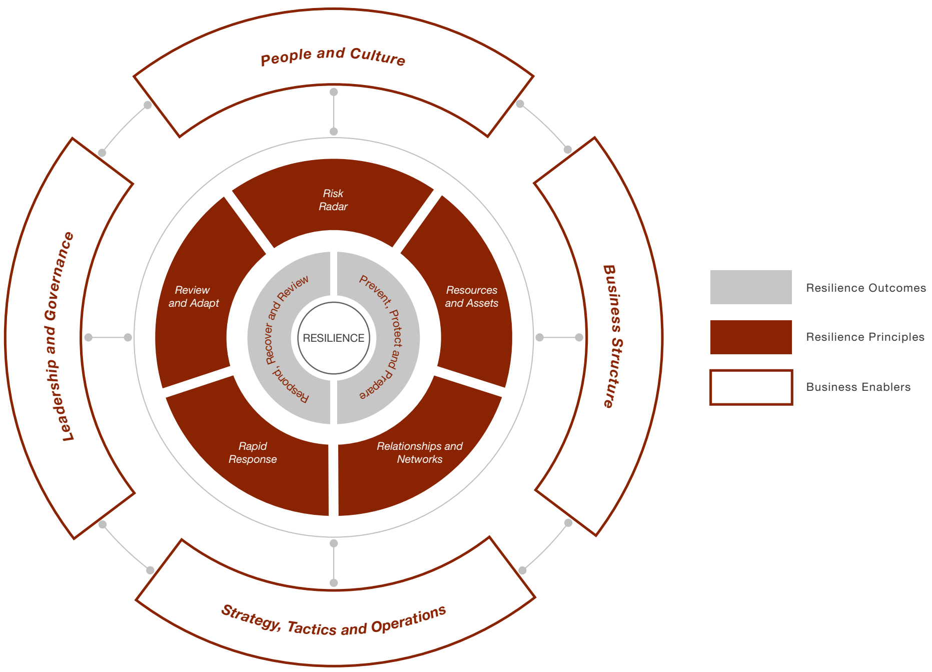
Key findings of the research

Based on the extensive data collected at the case study organisations, Figure 1.1 is a model illustrating the relationship between the key findings of the research. Organisations that have succeeded in placing resilience at the centre of their performance achieve the resilience outcomes. They have common characteristics, described in this report as the five principles of resilience. Together, these principles make an organisation better able to prevent adverse events, protect *resources and assets*, as well as prepare for adverse circumstances. Achieving the five principles of resilience will also enhance the reputation of the organisation, facilitate more innovative approaches and ultimately secure greater success.

Resilient organisations also plan how to respond and recover from unexpected adverse events, and how to review the events and learn for the future. They build risk awareness throughout the organisation as part of avoiding the risk information 'glass ceiling' already mentioned. Risk awareness throughout the organisation also ensures that departments and functions liaise effectively and avoid risk information 'glass walls' between functions. This enhanced risk awareness throughout the organisation helps to build resilience based on the confidence to seize business opportunities by understanding risk. This approach is often referred to as the 'upside of risk' and this mature attitude to risk-taking is found in the case study organisations.

Figure 1.1

Resilience outcomes, principles of resilience and the business enablers



Principles of resilience

The five principles of resilience are difficult to achieve. Each one is essential for achieving resilience, as no one of them is more important than the others, nor can any of them be ignored. The components of the principles identified by the research are listed in Table 1.1 and the principles themselves are described below:

1. **Resilient organisations have exceptional risk radar.** *Risk radar* helps an organisation identify issues before they develop into major incidents, it gives an early warning, and helps risks to be considered in aggregate and different types of risk information to be collated. This is achieved by ensuring that everyone in the organisation is aware of the importance of risk and the need for vigilance, in relation to *strategy, tactics and operations*. No one individual and no single function (such as the risk management department) can be as effective at detecting risks as an organisation with high involvement.

2. **Resilient organisations have resources and assets that are flexible and diversified.** They establish clear operational risk appetite positions and then identify potential weaknesses through scenario analyses and stress-testing of *strategy, tactics and operations*. They use the diversity of resources to reduce risk and develop the necessary skills for risk management, throughout the organisation and beyond. This could include avoiding single points of failure, reducing dependence on single critical resources, including suppliers, markets, brands, products, investors, knowledge and customers. Resilient organisations are aware of intangible assets such as reputation and develop proactive strategies to manage these assets.

3. **Resilient organisations value and build strong relationships and networks.** Resilient organisations do not just manage risk within their own organisational boundaries. They proactively manage risk throughout their networks of customers, suppliers, contractors and business partners. A customer-centric approach is crucial, as it shapes the way all types of relationships are formed. Openness with all stakeholders engenders trust and loyalty, as well as a desire to collaborate and share information. This means that when adversity hits an organisation, all stakeholders communicate with each other.

4. **Resilient organisations have the capability to ensure decisive and rapid response.** A key characteristic of *rapid response* is that an organisation not only has defined processes for dealing with predictable risks, but (perhaps more importantly) also the ability to respond to and cope with the unexpected. To achieve this, employees have the skills, structures, motivation and empowerment to respond appropriately. They are able to respond swiftly to an incident to ensure that it does not escalate into a crisis or disaster and to restore the organisation to a (perhaps new) normal as quickly as possible.

5. **Resilient organisations review and adapt to changes and adverse events.** Risk management procedures and staff training are always being tested, refined and enhanced. This results in employees being self-critical and willing to openly admit mistakes and report near-miss incidents in the knowledge that this openness will strengthen the resilience of the organisation. Every potential adverse event or circumstance is identified, analysed and evaluated, so that lessons are learned and improvements made to strategy, tactics, processes and capabilities.

Business enablers

Figure 1.1 shows that underlying and embracing the principles of resilience are four business enablers. These business enablers define and support the business model for the organisation. They are *people and culture; business structure; strategy, tactics and operations*; and *leadership and governance*. As indicated by the figure, the enablers can, in combination, be used to support resilience. The ways in which the business enablers lead to increased resilience are context-specific, as they depend on the size, nature and complexity of the organisation, as well as its business environment and wider capabilities.

All organisations have these enablers in place, but their differing nature indicates why there are different roads to resilience. Every organisation has the capability to achieve increased resilience, but it requires risk professionals and boards to decide how each of the business enablers can be enhanced to change the way an organisation views risk management and the achievement of increased resilience.

Consideration of Figure 1.1 and Table 1.1 should prompt risk professionals to consider how far the principles of resilience have been achieved in their own organisation. In addition, this report gives risk professionals clear recommendations on how to achieve a greater level of resilience. It also gives examples of actions for board members to determine how the business enablers can be enhanced to increase resilience. Deciding how to advance and/or augment the enablers (in combination) defines the specific *road* to resilience for the organisation.

All organisations have these enablers in place, but resilient organisations enhance their enablers by including the resilience actions identified in the research. The business enablers are considered in detail in Section 8 and Table 1.2 lists how each business enabler can be enhanced to increase resilience.

Table 1.1
The five principles of resilience and their components

Risk Radar	
• high involvement • constant vigilance	• avoid complacency • challenging questioning
Resources and Assets	
• risk appetite • limit dependencies	• build flexibility • scenario planning
Relationships and Networks	
• shared purpose and values • no-blame culture	• open communication • customer focus
Rapid Response	
• decisive and appropriate actions • identified teams and processes	• empowered responses • rehearsed reaction plans
Review and Adapt	
• structured learning • near-miss reporting	• independent reviewing • desire to improve

Table 1.2
The business enablers and associated resilience action points

People and Culture	
• increase risk awareness	• avoid board risk blindness
Business Structure	
• develop risk architecture	• plan crisis management
Strategy, Tactics and Operations	
• determine risk attitude	• undertake risk assessment
Leadership and Governance	
• establish resilience agenda	• ensure risk governance

Structure of the report

This report is research-based, but written to provide pragmatic advice for risk professionals and board members (both executive and non-executive directors), as well as other senior management. It is aimed at those who want to ensure that risk management and resilience permeate their organisations to constantly protect and promote brand and reputation. It must be stressed that achieving resilience is challenging and it requires significant board-level support and direction.

To show how the eight case study organisations achieved increased resilience, this report has the following sections:

- Executive Summary: this gives an overview of the key findings of the research for board members and other senior managers.
- Section 1: this introduction explains the rationale of the research and is designed to give risk professionals and board members an overview of the main findings of the research and structure of the remainder of the report.
- Sections 2-6: these describe each of the five principles of resilience, giving examples from the eight case studies. These sections are designed to give risk professionals a full understanding of *what* resilience is, the advantages it brings to an organisation and *how* it can be achieved through management of the four business enablers.
- Section 7: this section evaluates the key characteristics of resilience and explains the implications for risk professionals. It provides many examples of the practices that organisations have implemented to achieve the principles of resilience in a structured and comprehensive manner.
- Section 8: this section is important for board members because it considers the actions that should be taken to enhance the business enablers and thereby increase the resilience of an organisation.
- Appendices: there are two appendices, the first of which comprises the case studies (Appendix A). These describe how each organisation manages risk and increases resilience. Readers are recommended to read case studies outside their sector, as these can stimulate ideas on different approaches to achieving resilience. Appendix B provides an explanation of the research methodology used in undertaking the research and generating the '*Roads to Resilience'* report.

Failure to attain the necessary level of resilience can undermine an organisation's ability to achieve its business goals. In extreme circumstances, it can result in disaster of a magnitude that undermines the status of the organisation as a 'going concern' and threatens its very existence. Table 1.3 lists the findings of the research in terms of the outcomes associated with increased resilience that support future success. Resilient organisations not only set goals, but they also proactively seek information about the risks that can either impede or enhance success, initially by having effective *'risk radar'.*

Table 1.3
Organisational resilience and associated outcomes

Prevent, Protect and Prepare	
• controls in place for the expected risks, as described in the risk register • robust risk awareness to assist with design and implementation of strategy	• optimal utilisation of *resources and assets* to take advantage of opportunities • supportive *relationships and networks* to build successful brands and reputation
Respond, Recover and Review	
• ability to respond to a crisis, cope with the unexpected and learn lessons • knowledge of emerging risks to help develop and test crisis management plans	• crisis plans to respond successfully to adversity and achieve enhanced profile • identified lessons and amended business model to gain competitive advantage

Each section includes a short (boxed) extract from one of the case studies, relevant to the topic discussed. These are taken from the full-length case studies in Appendix A. In this section the boxed extract is from the Olympic Delivery Agency (ODA) case study which, although not a commercial organisation, did show many characteristics of resilience. It illustrates the importance of risk management and resilience in delivering a major construction project. Particularly interesting was the way that the Chief Risk Officer at ODA moulded the culture of this (start-up) organisation to approach risk management differently and succeed where other major construction projects had failed[5]. The value of a shared common purpose and set of values is well illustrated. This extract demonstrates that when resilience is a shared aspiration, difficulties and challenges can be more easily overcome and success achieved.

Case study: The Olympic Delivery Authority

When the ODA was established in 2006 it was a totally new organisation and it benefited from having a 'start-up' culture. The commitment shown by the whole team was critical to its success. Within the ODA there was a real shared purpose: "*We had this one team ethos, we were all in this together like the Musketeers, one for all and all for one*" (Chief Risk Officer, ODA). An important factor supporting this collective culture was a stable and cohesive top management team, who developed trust and confidence through working with each other and sharing a common goal.

This shared purpose meant that "*it was a very positive environment to work in, there was no political bickering, no infighting, no one stabbing you in the back, you were all part of a team*" (Chief Risk Officer, ODA). It was felt that this absence of internal politics had a major impact on reducing the stress of the project, making it fun and a challenge, rather than a high-stress assignment. The sense of shared purpose was apparent across the entire project. "*If you went on to the park and you had 30 people lined up in front of you, you couldn't tell if they were ODA, CLM or a contractor, it was like a seamless team and everyone was committed to delivering this goal of the Olympic Park*" (Chief Risk Officer, ODA). As a result, staff turnover was very low. This was critical to knowledge retention, which featured high up on the risk register as a key element of resilience.

Whilst risk management is commonly associated with the financial services sector, it has not been so widely adopted in construction. This presented some initial challenges and led to "*one or two skirmishes in the early days*" (Chief Risk Officer, ODA) in defining risk management methods and terms, as well as in embedding working methods that addressed risk management.

It was found that the way to effective risk management was through communication and "*to present things in a way which shows the person you are talking to that it is beneficial to them. If you can explain why it will help that person achieve their objective, they will buy into it … some risk managers make it too academic*" (Chief Risk Officer, ODA).

A second important aspect of communication was with government stakeholders. The ODA team were open and honest in discussing risk internally and in their relationships with key stakeholders. When presenting on risk issues to government, they made sure that "*we were presenting government with solutions not just problems … and because we built a good track record they had confidence in us we could deliver*" (Chief Risk Officer, ODA). This combination of openness, solution focus and trust allowed the team to maintain a very positive relationship with the government – their key stakeholder.

For more insights into resilience at the ODA, refer to the full case study in Appendix A

5 In several other countries where the Olympics were held, the equivalent organisations were closed down *before* the Games. Interestingly, the ODA also succeeded in bringing a greater safety focus to construction and there were no fatalities and far fewer injuries than in previous Games. See: ***http://m.ehstoday.com/construction/exploring-record-breaking-health-and-safety-performance-2012-olympic-games***

Overview of the report

This section of the report provides the overview of the report contents and structure. Sections 2 to 6 of this report examine each principle in detail and the report then considers the implications for risk professionals in Section 7 and the implications for board members in Section 8. The actions that should be taken to achieve each principle and enhance the business enablers are described in Sections 7 and 8 respectively. The role of the board is critically important in achieving resilience and the supportive actions of board members in the case study organisations are extensively described. Figure 1.1 summarises the findings of the research and it shows the relationship between the resilience outcomes, resilience principles and the business.

Effective risk radar will ensure that an organisation can anticipate and plan responses to developments, including disruptive events and emerging challenges, as well as beneficial changes in the business environment.

Section 2: Resilience Principle No 1: ‘Risk Radar’

Section 2: Resilience Principle No 1: 'Risk Radar'

Overview of the 'Risk Radar' principle

Effective *risk radar* will ensure that an organisation can anticipate and plan responses to developments, including disruptive events and emerging challenges, as well as beneficial changes in the business environment. With good *risk radar*, organisations have earlier indication of the unexpected. This also results in the number of unexpected developments becoming proportionately smaller and the organisation being in a better position to take advantage of changes. Early indicators of challenging circumstances are identified, analysed and the potential impacts are evaluated for a wider range of risks, including upside risks. Being aware of emerging risks and able to prevent a crisis from becoming a disaster is a key characteristic identified in the case study organisations. Establishing effective *risk radar* requires organisations to expand their risk management processes beyond conventional risk mapping approaches to include all networks and stakeholders.

Introduction to 'Risk Radar'

Quickly identifying emerging issues and risks is crucial to maintaining an influence over events. The first principle of resilience identified in the case study organisations was a highly-developed capability for understanding expected risks and planning the response to unexpected risks – an 'early-warning' system. This is referred to as *risk radar* and it is described in this report as the overarching principle, because it supports both risk management planning and crisis response. Resilient organisations know that when the responsibility for risk is shared, the vigilance of everyone in an organisation is more powerful than relying solely on a risk management department. This section explains *risk radar* and gives insights into how the case study organisations have built this capability, which enables them to be more aware of a wider range of emerging risk, both in relation to adverse and beneficial developments.

Understanding 'Risk Radar'

There are four components associated with this principle of *risk radar*:

1. **High Involvement:** radar involves everyone within an organisation being aware of the need to be on the lookout for emerging risks. This means that the responsibility and commitment to recognise and manage risks resides not only within the risk function. Operations people at every level, for example, can play a key role in providing *risk radar*, as in the boxed extract from the InterContinental Hotel Group (IHG) case study demonstrates. However, the research demonstrated that *risk radar* is also important in setting strategy and developing tactics.

2. **Constant Vigilance:** not only is everyone responsible for guarding against risk, but they do this constantly rather than relying on a periodic review of the risk register. All employees have the time and expertise to be on the look-out for the expected and help respond to the unexpected. For example, at AIG, the organisation strives to ensure that "*everybody is managing all the risks all the time …* " (Chief Risk Officer, AIG).

3. **Avoid Complacency:** there is a danger that organisations constantly administering the same business and operational processes can become complacent, over-confident that everything is under control and miss warning signals, including beneficial developments. This can lead to emerging risks being overlooked or under-estimated, as initially they appear inconsequential. Therefore, resilient organisations recognise the threat of complacency and take steps to avoid it. For example, Drax, which runs a major power station, believes that it should never feel at-ease and aims to maintain a "*'chronic unease', so complacency must not set in*" (Generation Manager, Drax).

4. **Challenging Questioning:** everyone is encouraged and empowered to raise their concerns, even if this means asking awkward questions. For example, at InterContinental Hotel Group the non-executive directors are trained in risk management issues directly after they are appointed. They are then expected to provide objective and critical feedback. In addition to encouraging employees to ask questions, *risk radar* depends on applying suitable tools and techniques, as described below.

AIG uses what it calls a Vulnerability Identification Process (VIP). This is a regular survey of thousands of employees to gain their candid views on the risks the organisation faces. Part of the constant questioning is being aware that the initial indications of an emerging problem or incident will be hard to spot. These can be termed 'weak signals' and represent indications that are missed or ignored by many organisations. Questioning conducted by different functions also helps develop better understanding of how to respond to and, if appropriate, take advantage of these 'weak signals'.

Rather than relying on individuals or the risk management department alone, resilient organisations involve all of their employees in identifying risks. Employees are encouraged to be vigilant, avoid complacency and constantly question what they see. When risk information is generated, it is quickly communicated to senior managers. *Risk radar* helps an organisation identify risks earlier and communicate these to senior managers who can then take the necessary steps to respond rapidly in a controlled and considered manner.

The boxed extract from the InterContinental Hotels Group (IHG) case study illustrates the importance of *risk radar* as a principle that supports the delivery of the customer experience. It shows the value of constant vigilance and the avoidance of complacency based on routine threat and vulnerability assessments (TVA). The IHG case study demonstrates that, when *risk radar* is well established, an accurate TVA can be undertaken and necessary responses identified and implemented. The same approach is also taken by IHG to the risks associated with the tactical and strategic aspects of the business.

Case study: IHG – Threat and Vulnerability Assessment (TVA)

Guests expect to be safe and secure in IHG hotels, wherever they are, this includes in high-risk places where security is more challenging. However, IHG has developed an approach and a security network to mitigate such risks. The approach starts with a TVA – Threat and Vulnerability Assessment – something that every IHG hotel operating in high ambient threat locations will conduct. However, in locations where the political situation poses more risks, the security network that IHG has created plays an essential role. The security network is key to IHG's approach to security across the estate in all areas and threat environments. The network consists of all of the security managers at IHG hotels, who report anything out of the ordinary in 'Security Intelligence Reports'.

These feed through to the Global Risk Management Department, which analyses the information, seeks additional information from other sources, identifies trends and decides on actions. The IHG Risk Management and security community also has strong contacts with a wide variety of sources including government agencies around the globe. Such sources give warnings about possible terrorist and criminal activity and this was the case in a Beirut hotel a few years ago: "*A well-placed source told us they believed that terrorists in Lebanon were planning an attack on the IHG branded hotel in Beirut. We were given further details and are used to dealing with such information: we must use any intelligence we get and make decisions based on that to mitigate the threat to the hotel, its guests, staff and visitors*" (Head of Security Risk Management). So the security team was set into action immediately.

The TVA was the starting point for a renewed risk analysis and two IHG security experts immediately flew to Lebanon. Both had a military background, like many in the IHG security community, and they checked for any obvious security vulnerabilities of the hotel. The pair knew that "*even with the limited intelligence provided by the source we needed to act. Our first job was to decide how the hotel might be attacked, when and by whom. Our second job was to design 'bespoke mitigation' – ways to prevent an attack – and get them quickly implemented*" (Head of Security Risk Management). In visiting the hotel, the two security experts observed how the hotel functioned on a typical day, with an eye for what terrorists would be looking for. Quickly, it emerged that regular deliveries meant that delivery vans were often parking close to one of the hotel towers. Immediately, this risk was mitigated by having the deliveries rescheduled and re-routed, to reduce the risk that a delivery van could be high-jacked and used in an attack. Measures were also taken to prevent other possible ways of attacking the building.

The security improvements were made quickly and so it became harder for the terror cell to plan its attack. Shortly afterwards, members of the terror cell were captured by the local authorities. It emerged that their main plan had indeed been to substitute a delivery van and fill it with explosives, but because of the IHG security experts' mitigation measures, this became unviable and the attack was delayed.

For more insights into resilience at IHG, refer to the full case study in Appendix A

Enabling ‘Risk Radar’

Effective *risk radar* is achieved by ensuring a high involvement of stakeholders, constant vigilance and avoidance of complacency, as well as creating an environment where everything is challenged and questioned. It is also about ensuring open and effective communication throughout the organisation and its networks to avoid the board risk information ‘glass ceiling’ and the ‘glass walls’ between functional areas that results in board risk blindness. Managers need to consider how each of the enablers of resilience, *people and culture; business structure; strategy, tactics and operations;* and *leadership and governance* can be utilised in creating and/or enhancing *risk radar*.

People and culture

Organisational culture is key to generating the involvement and commitment of all employees. Across all the case study organisations, it is clear that risk professionals work with their board members and senior management teams to create an appropriate resilience culture. Some key examples are provided below, but with the caveat that these approaches should not be viewed as a recipe; some ideas will be relevant and applicable to other organisations, whereas some will not.

Generating high involvement in risk management is common to all of the case study organisations. At AIG, risk management is the obligation of every employee and is not allocated only to the risk management function: “ *… it is everybody throughout the organisation who is involved*” (Chief Risk Officer, AIG). AIG employees are also encouraged to ask challenging questions of their managers and to raise concerns about possible problems. There is an acceptance at the senior levels that posing difficult questions benefits the organisation and avoids the board risk information ‘glass ceiling’ described in the ‘*Roads to Ruin*’ report that results in board risk blindness.

At Zurich Insurance, the organisational culture is based on ‘Zurich Basics’; these encourage openness to the extent that “*good news travels fast but bad news travels faster, but whereas some organisations have a culture of punishing bad news – we almost encourage it*” (CEO Global Life, Zurich Insurance). “You’ve got to have the right combination of control frameworks in place coupled with the right people capabilities and a culture that’s prepared to be open and transparent. The mantra I use is when you identify an issue, flag it up the line first and handle it second … (CEO UK General Insurance, Zurich).

Communication is considered to be such an important issue that AIG has set up a governance forum “ *… to ensure that our communication is effective, our communication is well understood, our communication fits what our staff at different levels expect and our communication is diverse, because there is no one communication* [method] *which is going to be effective* [on its own]” (Managing Director, AIG UK).

At Drax, the chronic unease that the organisation maintains makes people more vigilant and one manager explained this as: “*Every day you come to work, you come to work believing that this could be the day you get injured and it is your job to work with the teams, with your supervisor to identify what could injure you and prevent it*” (Engineering and Safety Manager, Drax). With a large number of contractors on site, Drax has also realised that its own risk management culture must be shared effectively with these other organisations. This shows that achieving effective *risk radar* sometimes requires organisations to look beyond their boundaries and this demonstrates the connection between *risk radar* and another principle of resilience: *relationships and networks*.

Creating a culture of risk management that enhances resilience is an area that IHG has concentrated on for a number of years and “*from our perspective, the success of a business is based around its culture. I know … it can be a bit clichéd*” (General Counsel and Company Secretary, IHG). IHG has been careful to go beyond the cliché and employee workshops are used to define appropriate behaviours that are summarised in the organisation’s ‘Winning Ways’[1]. Some of the behaviours that particularly support *risk radar* are: “*We always look for ways to improve*”; “*we take responsibility and take decisions even when they’re difficult*”; and “*we challenge ourselves and encourage those around us*” (SVP Head of Global Risk Management, IHG). Openness and candour are encouraged and in senior management meetings, the CEO expects everyone to share their viewpoint, even if it is critical.

Front-line employees at IHG know that fast communication is critical and this is also the case at Virgin Atlantic. For example: “*When the Mumbai bombings happened, our airport manager in India picked up the phone and told us that these bombs had started going off. Literally within five minutes of that happening, we phoned the information through to a number of UK government departments who at that time were not aware that the event was occurring. Commercial entities have a key role to play in the prompt reporting of global incidents*” (Head of Corporate Security and Resilience, Virgin Atlantic).

1 The complete ‘*Winning Ways*’ document is reproduced in the IHG case study in Appendix A.

IHG has invested a lot of time and effort to create a structure that ensures that the recognition of risks is embedded throughout the organisation. With an open system of 4,600 mainly franchised hotels, IHG aims to raise risk awareness, risk capability and culture through its leadership and training. IHG continues to invest heavily in a growing suite of management tools and learning solutions that target different roles in the organisation and address specific and general risk topics. Different corporate functions support this and they meet on a regular basis to decide how to further improve the whole risk management / resilience process.

Business structure

At all of the organisations studied, there is a clear structure for the management of risks. Typically, each area of a business is responsible for creating its own risk register but, in managing their registers, a cross-functional review ensures that no important aspects are overlooked. AIG's risk registers are reviewed first by the level at which they were generated. Typically, this might be on a monthly basis with input from different functions (for example, a risk management committee and a technical risk committee at Drax). At The Technology Partnership (TTP), risk assessment is focused at the project level and projects are peer reviewed monthly to ensure that all the risks inherent in a highly uncertain R&D environment are identified. At Drax, risk registers are then collated and are overseen by the audit committee. A common feature of the case study organisations is that they do not treat the risk register as a static document, but use it to drive actions to improve resilience.

At the Olympic Delivery Agency, a standard reporting format was used to increase the level of vigilance. This showed the status of each project, the current level of risk and the financial impact of those risks. ODA used a scoring mechanism that considered impact on cost, time, reputation and some secondary objectives that allowed them to prioritise their efforts. The risk management method was designed to be proactive and forward looking: "*We encouraged the project managers to keep an active log of what we called 'Trends and Issues', so we could see trends emerging and issues arising*" (Chief Risk Officer, ODA).

IHG's strategic *risk radar* includes extensive use of in-house and external specialists in consumer insights, market research and horizon scanning as shown in a recent publication on future trends in the travel sector in a publication called '*The New Kinship Economy*'[2]. Tactically, *risk radar* includes keeping a finger on the pulse of the industry including competitor activities, industry performance metrics and analyst reports. This is combined with internal management information and performance metrics. Operational *risk radar* is vast and includes IHG's social media listening and response capability, which is available for all hotels and employs a central team to monitor and respond to customer issues through various social media channels.

Within the operational *risk radar*, IHG also leverages its network of safety and security specialists from hotels across the globe – its 'eyes and ears' on the ground. The company works with these risk champions to further embed the right level of risk awareness and specific capability across staff in all their hotels. These internal resources complement a vast number of intelligence sources outside of the organisation and a specialist central risk team to synthesise, assess and onward communicate the incoming risk information. The Major Risk Review is IHG's process for identifying, managing and ongoing monitoring of the key strategic, tactical and operational risks across the business. This process leverages the extensive risk data available and enables IHG leaders to proactively manage all risks.

TTP is an organisation that deals with uncertainty. R&D projects, by definition, have a high level of risk and project schedules are uncertain. To manage project schedules, TTP relies heavily on the experience of its staff. In addition, to keeping everyone vigilant, all project metrics, such as the time required for a particular task, are quoted with a tolerance, reminding those responsible for a project that timescales are estimates that need to be carefully monitored.

Strategy, tactics and operations

***Risk radar* not only scans at the operational level but also at the project and strategic levels. It was found that the case study organisations constantly monitored risks related to their business strategies and main projects. For example, Drax analyses the upside and downside of its chosen business strategy. Similarly, IHG uses a triangular diagram to remind people to think broadly across three types of risks: strategic risks related to the Group's brands, business model and reputation across key stakeholders; tactical risks that impact the delivery of strategy, commercial targets and plans for change; and operational risks that affect the safety and security of physical assets, people, systems and processes.**

To support their *risk radar*, the case study organisations use various processes to facilitate the identification, analysis and sharing of risk information. The tools and techniques used for risk analysis provide information for the risk registers of different areas of the business, which are then

2 See ***http://www.hotelnewsresource.com/article69905.html***

aggregated. At AIG, the key tools are the vulnerability identification scheme, mentioned earlier, near-miss reporting and scenario planning. Similarly, Drax uses risk scenarios, risk assessment matrices and near-miss reporting (with an emphasis on using photographs and diagrams) and it applies its ‘Golden Rules’ to safety – any work that is identified as being risky is stopped immediately.

At Jaguar Land Rover, a trend analysis showed that some suppliers might be unable keep pace with a rapidly increasing global demand for new models. To proactively deal with such issues, Jaguar Land Rover has embedded risk specialists alongside supply chain managers. Working together, they have rationalised the supplier base to reduce the dependence of Jaguar Land Rover on small, low-volume suppliers and have introduced a system to better monitor the capacity and capability of suppliers. This has been vital to the organisation’s on-going success and resilience.

Although the tools and techniques of risk management play a role, risk professionals at the case study organisations recognise that they are by no means sufficient on their own. There is a need to ensure that the risk register does not become a static document or snapshot of risk levels on a specific day. “*A risk assessment is not the words on a piece of paper; a risk assessment is the thinking... it is appreciating the risks*” (Generation Team Section Head, Drax). This approach re-enforces the view that resilient organisations treat the risk register as forming the basis of their risk action plan to enhance the level of resilience.

Leadership and governance

In the case study organisations, *risk radar* is actively led from the top. To demonstrate top management’s commitment to risk, executive committee members typically assign themselves one or more major risks from the organisation’s overall risk register and accept ultimate responsibility for addressing these. Another aspect of leadership that supports *risk radar* is when senior management is visible on a regular basis at the operational level. This shows that management is on the alert and motivates employees to act accordingly.

For example, managers at every level in IHG understand the operational aspects of the business and talk about leading through example by regularly being in the front line.

At Virgin Atlantic, the senior leadership team is intimately engaged in the business: “*I walk around the office a lot but also around the operation at our airports. I get a tremendous sense of input and energy from seeing our global operation in action and witnessing our teams delivering with a great sense of pride*” (Director of Operations, Safety and Security, Virgin Atlantic). In addition to informal visits, Virgin Atlantic also has monthly ‘meet and greet sessions’, where top management visit operational areas for discussions with staff[3].

In addition to their visibility with front-line staff, senior managers in resilient organisations signal the importance of reviewing risk management. Senior managers at Drax take steps to prevent hierarchical barriers from slowing the flow of risk information: “*I’m not a person who makes use of the hierarchy; I break down barriers rather than forming barriers*” (Generation Manager, Drax). Another factor at Drax is that the senior management team all work in a small open plan office, which really helps collaboration between them. Additionally, stakeholder access to management is deliberately made easy and, for example, “*if customers want to talk to directors they get to talk to directors*” (Operations Director, Haven Power).

To avoid complacency or ‘group think’ from setting in at the highest levels, a number of the case study organisations conduct annual reviews of their boards and use this to support the *review and adapt* resilience principle. In these instances, independent third parties audit committee or board members from parent organisations explore and provide recommendations for improving the effectiveness of boards in terms of, for example, board members’ ability to speak up, the soundness of governance practices and the breadth and depth of risk discussions.

This demonstrates the link between the principles of resilience by drawing together the *risk radar* and *review and adapt* principles. It should also be noted that emerging international regulations and governance obligations often require checks and balances to demonstrate that vigilance is ensured and that complacency is avoided, but resilient organisations go beyond minimum governance obligations to gain benefit from these governance processes.

3 The focus on being visible in the operational side of the business was found to be common across various levels of management at Virgin Atlantic and other case study organisations.

Summary of actions to achieve the 'Risk Radar' principle

Research at the case study organisations resulted in the identification of a wide range of resilience practices under each of the four components of the *risk radar* principle, as follows:

Actions

High Involvement

- routine project and other team liaison meetings
- build on the existing risk culture and expertise
- business partner, contractor and supplier liaison meetings

Constant Vigilance

- build market and social media intelligence networks
- monitor events that could damage reputation
- investigate the financial security of business partners

Avoid Complacency

- learn from the experience and mistakes of others
- meetings to explore emerging risks
- review of supply chain and delivery chain risks

Challenging Questioning

- top management and NEDs trained in risk management
- structured challenges to existing resilience processes
- forum to discuss resilience presumptions in the business model

Resilient organisations avoid and/or manage potential single points of failure by reducing their dependency on single critical resources such as markets, customers, products, brands, suppliers or other business partners.

Section 3: Resilience Principle No 2: ‘Resources and Assets’

Section 3: Resilience Principle No 2: 'Resources and Assets'

Overview of the 'Resources and Assets' principle

This principle ensures that an organisation has planned the allocation of *resources and assets* in a way that anticipates the need for flexibility and diversity, as well as ensuring *that resources and assets* are utilised in the most effective manner. Strategy and tactics need to be developed in line with the attitude of the board to risk and in a way that will build the reputation of the organisation. Resilient organisations avoid and/or manage potential single points of failure by reducing their dependency on single critical resources such as markets, customers, products, brands, suppliers or other business partners. The ability, as well as the mechanisms, to divert resources in response to changing circumstances is pre-planned by resilient organisations and they are also able to identify and seize opportunities, taking advantage of the positive aspects of risk.

Introduction to 'Resources and Assets'

To avoid single points of failure, resilient organisations reduce their dependency on particular critical *resources and assets* including customers, suppliers, markets, brands, products, investors, knowledge and business partners. They identify these potential weaknesses through scenario analyses and stress-testing of *strategy, tactics and operations*. Based on the insights gained, they increase the flexibility and diversity of their *resources and assets*. The focus is on selecting a set of internal and external capabilities that can be aligned to manage risk effectively and take advantage of business opportunities as they arise. This includes developing the range and diversity of resources that will be the most effective in both dealing with expected risks and responding to the unexpected ones.

Understanding 'Resources and Assets'

Resilient organisations have *resources and assets* that are flexible and diversified and there are four components associated with this principle:

1. **Risk Appetite**: setting the risk attitude and operational risk appetite for the organisation and its networks is an important strategic step in avoiding and mitigating certain risks up-front. Undertaking this task sets the parameters within which the organisation will do business. Defining risk appetite also prompts an organisation to check how dependent it is willing to be on particular suppliers, markets or resources. Risk appetite is especially important in relation to operations and should be consistent with the attitude of the board to strategic and tactical risks.

2. **Limit Dependencies:** the case study organisations have all taken steps to limit their reliance on specific customers, products, markets, contractors, suppliers and other business partners. This reduces their exposure to single points of failure and potential problems are mitigated by diversification of resources. TTP operates in different markets, including consumer products and medical devices, so that it is less at risk from market fluctuations. It also limits dependency by deliberately seeking to have a balance of high-risk and low-risk projects in its portfolio.

3. **Build Flexibility:** an unexpected downturn in a major market can spell disaster for a business if it is unprepared. This is why the case study organisations use flexibility as part of their business model. The use of flexibility may include having multiple production sites and assets. If a particular part of the operation encounters problems, the impact on the wider organisation is contained. Flexibility does not prevent risks from materialising, but it does ensure the organisation has more than one way of dealing with the consequences.

4. **Scenario Planning:** the case study organisations use well-developed and sophisticated scenario planning and stress-testing. Standard scenario planning tries to identify potential risks and what the suitable responses would be. A broader approach also looks at the resource implications and asks what the ideal range of resources (both internal and external) would be for each of the scenarios identified. This approach helps to challenge underlying business assumptions and develop plans for futures that are uncertain and largely unmeasurable.

In the boxed extract from the case study, flexibility and appropriate diversity of resources enable Drax to develop its strategy and respond to changing circumstances. It also supports the conclusion that flexibility and diversity of resources greatly improve resilience.

Case study: Drax – protect the main asset

The large number of contractors that are often on site requires specific risk management: "*The other arm to safety culture is when people employ contractors on site then we've got* [an assessment] *document ... Have they been on site before? Are they a regular on site? Are they permanently on site? And depending on what they're doing, are they cleaning the offices or are they actually carrying out a complex lift? So depending upon the risk then these people will be audited ... And it is similar to an SOS audit* ['Spotlight on Safety Audit']" (Generation Team Section Head).

Right from the top of the Drax Group there is a fundamental focus on risk management and "*often our president will sit in our meetings, we meet as a group formally to review risk management in a deep dive way at least once a quarter*" (SVP Corporate Development, Drax Biomass). This is recognised at all levels of the organisation and a shift supervisor said: "*I would say safety is highest on priority as regards management ... so they would definitely take that into consideration first and foremost*" (Unit Shift Controller).

Managers show a strong association with the assets: "*I say we very much protect the plant and the performance of the plant is very, very important to us. So our management team have a very good reputation: we're seen as people that run a very safe and high-performance operation so the plant its availability is very, very high, our ability to execute capex projects on time and to budget I think is perceived by the market to be very, very good and I think some of that comes with your own one big asset so you're going to look after it. If you're running a portfolio maybe you're not going to protect all your assets as carefully but because we have one asset we have to look after*" (Head of Risk and Corporate Finance).

This is recognised and respected by employees at other levels. For example, one employee said: "*I think the leadership we have is important, I think first and foremost the guy at the top of the* [Drax Production Director] *organisation ... has a wealth of experience of operating plants, he's* [gota] *petrochemical background and he's spent the last almost eight or nine years at Drax ... so continuity of leadership is important and the style of leadership is important*" (Engineering and Safety Manager).

Across the Group, the hierarchy is present in terms of reporting lines but is restrictive. Managers perceive their role in a particular way. One said: "*What helps in my position is ... I've got an understanding of what happens ... I'm not a person who makes use of the hierarchy; I break down barriers rather than forming barriers. Not many people will look at me as a boss ... the guys respect the job that I'm doing and they're happy to talk to me, we've all got a job to do and it is good to have good communications*" (Generation Manager). Another point is that "*all the senior management team work in a small open plan office so we don't have our own offices ... you can overhear conversations ... and it really helps collaboration*" (Engineering and Safety Manager). Access to management is also deliberately made easy: "*If customers want to talk to directors they get to talk to directors*" (Operations Director, Haven Power).

For more insights into resilience at Drax, refer to the full case study in Appendix A

Enabling 'Resources and Assets'

Developing resilient *resources and assets* requires the organisation to have a clear understanding of its operational risk appetite and the need to limit dependencies. The attitude of the board to risk is also a key issue when *resources and assets* are deployed to implement strategy. One of the most important components is that the organisation has built flexibility into how *resources and assets* are selected and deployed. Finally, resilient organisations undertake scenario testing to prepare for the expected and to ensure that they can cope with the unexpected. Managers need to consider how each of the enablers of resilience, *people and culture*; *business structure*; *strategy, tactics and operations*; and *leadership and governance* can be enhanced to create flexible and diversified *resources and assets*.

People and culture

In the face of high business risks, the case study organisations tend to keep their financial risks low. However, their drive to continuously exceed customer expectations ensures that this risk attitude does not translate into an inward-looking perspective geared towards maintaining the status quo. Resilience and risk management are more about mindsets and behaviours, rather than tools and spreadsheets. It requires employees and teams to become not only aware of the risks themselves, but also of how risks are related to particular resources or assets.

This requires strong cultural values and the ability to adapt quickly when necessary. These organisations understand the need to repeatedly realign their resources – and not just when major issues arise. The case study organisations use their *risk radar* to detect issues and constantly look for the resource implications. Through regular conversations, simulations, learning from others (in their own and different business sectors) and investing in exploratory projects, they proactively review their options, so that they can manoeuvre quickly and move forward without becoming unstable. These same considerations apply when the case studies are seeking to deploy resources to take advantage of an opportunity.

For example, since Zurich Insurance has all its lines of business in the insurance industry, it does not take risks beyond its core competences and always has *"sufficient funds to honour all the past promises"* (Chief Actuary General Insurance, Zurich) – an essential way to gain customer trust and investor confidence: *"Our resilience is part of the customer value proposition"* (CFO General Insurance, Zurich Insurance). As one manager said: *"We can't get away from the fact that resilience comes from strong financial management and having, through that, a very robust and strong balance sheet that sits behind the business and you only get to a strong balance sheet if you've got the right financial processes, mechanisms and governance structures"* (CEO General Insurance, Zurich Insurance).

With such upfront risk avoidance and mitigation measures in place, continuously reviewed and improved, the challenge for many of the case study organisations is to proactively avoid and minimise the impact of disruptions on their customer value creation and delivery process. To an extent, this is about protecting normal operations and ensuring these are restored quickly after incidents and crises. The existence of flexible and diversified *resources and assets* will facilitate this rapid recovery, enable the organisation to learn from the experience and improve allocation of resources.

However, the focus is also on anticipating change, exploring the future and adapting the business before competitors, regulators or new technologies force this adaptation. *Resources and assets* need to be allocated in a manner that is compatible with the purpose and goals of the organisation. Having a clear and compelling shared purpose and values supports the identification of signals and events that could support or impact the organisation's goals, supports the framing of choices and avoids getting overwhelmed by data analysis.

Business structure

The case study organisations have structures and systems to deal with risks and disruptions. For example, Virgin Atlantic has had to deal with a range of security, terrorist and weather-related incidents and is therefore prepared to deal with the consequences: *" ... what we do have a contingency plan for is airspace closure, for whatever reason. Further, we have a two-tier approach. We have an Amber Team that deals with very specific events and a Red Crisis Team that deals with major aircraft accidents. We have never had to activate our Red Team as such, but we do activate the Amber Team for a lot of events. When they are activated, we will go through a set of procedures in terms of accounting for staff, finding out where our aircraft are, making sure people are safe and secure, determining what we are going to say to passengers and the media, and what we need to do to get operations back to normal"* (Manager Resilience and Business Continuity, Virgin Atlantic).

The role of the IHG Risk Management team is to inculcate appropriate systems and practices in the business. This involves conveying the broad nature of risk, which it views as being about *"physical safety, commercial success and emotional trust"* (SVP Head of Global Risk Management, IHG). The team has created a comprehensive set of electronic tools, checklists and training materials that can be accessed by all corporate employees and at every hotel. More than 100 different training materials have been prepared, including risk management policies and procedures, checklists, templates, posters, videos, e-learning and access to face-to-face training, which underpin the risk management framework. Investing in risk training plays a vital role in embedding IHG's risk management capability throughout its business. Such an approach is intended to extend beyond operational concerns to protection of the brands and reputation of an organisation.

At TTP, where there are various development projects being run in parallel, the senior management team monitors the overall risk exposure. This is supported by delegation (or empowerment), with the project leaders responsible for identifying and dealing with project risks, but in addition the organisation encourages *rapid response*; project and team leaders are expected to recognise and fix problems quickly. As the TTP Chairman commented: "*A simple definition of risk supposes that the magnitude of potential loss and the probability of that loss occurring can be forecast with some confidence. We believe that speed of response to the unexpected is more important than the predictions of a soothsayer.*"

To avoid upfront overexposure to known risks, resilient organisations try to limit their dependency on few or single points of success: singular types of customers, products, markets, geographies, investors and suppliers. To spread these risks and drive growth, the sample organisations invest in diversification, aligned with their purpose, where possible. For example, Zurich Insurance's diversified portfolio of businesses within the insurance industry and its global spread is a key aspect of resilience, reducing its dependence on any particular sector and financial exposure to unpredictable changes in macro-economic conditions. Equally, the organisation's extensive long-term partnerships or alliances with banks in many countries, as well as affinity groups acting as distributors, give it access to large customer bases without additional fixed costs. Like all insurers, major risks are spread across a number of organisations and also with reinsurers.

Strategy, tactics and operations

Trying to compete in the same way, year-on-year is likely to be a recipe for failure. A senior manager summed up the view held by all the case study organisations when he stated, "*If you do business in the same way as you did three years ago, you're probably doing it wrong*" (SVP Head of Global Risk Management, IHG). Risk professionals need to support their organisation in planning how to respond to changing business environments and emerging risks. To avoid or mitigate the risk of losing customers to more nimble rivals and to seize opportunities to attract new customers, organisations need to generate new, better, or more value-adding offerings to remain resilient.

At the same time, political, economic, socio-cultural, technological, environmental, legal[1] and other drivers of change constantly evolve, often at different rates in different parts of the world. This means that organisations must be able to deliver consistently on their promises under a wide range of challenging conditions and adapt their operations constantly to stay in business. In addition, they need to have the capacity to absorb the hits of sudden and unexpected disruptive events. The ability to deliver customer satisfaction in these challenging circumstances underpins an organisation's reputation, which is its most valuable asset.

For the case study organisations, this means that risk management and achieving resilience are tightly integrated with *strategy, tactics and operations*. This starts with clearly defining their purpose and values. By doing so, these organisations also indicate what they are not about. For example, Drax does not deal with certain types of customer: "*In the SME world there are certain industries*

1 Generic business drivers are often identified using the acronym PESTEL for political, economic, socio-cultural, technological, environmental, and legal factors.

that we just won't contract with that typically either have a risk of administration, or typically change hands a lot ... [and] *because debt problems arise"* (Operations Director, Haven Power).

This sharp strategic focus is a first step in avoiding and mitigating certain risks up front as it sets the operational parameters within which these organisations do business. For example, AIG has set a clear risk appetite for all areas of the business. There are clear boundaries within which the senior management team can manage the organisation, so that it makes a return commensurate with the targets set by the board whilst ensuring the ongoing stability of the business and its continued growth and success. The operational risk appetite is a reflection of the attitude of the board and the board needs to ensure that procedures for setting risk appetite are appropriate.

The sample organisations use a range of approaches to identify probable future scenarios and then safely test new ideas to understand the upside and downside. This is driven by an investment philosophy that recognises that taking business risks is necessary to remain relevant and successful in a constantly changing world, but doing so in a way that any losses can be afforded.

It is about understanding opportunities and risks better before more significant investments are made in support of the organisation's customer-centric purpose. At Drax, the approach is: *"We operate in fairly volatile commodity markets and, therefore, if you have got high business risk, you have to have low financial risk. You have to find the right balance between business and financial risk. We run a very conservative balance sheet that ensures we can ride out any downsides in our performance"* (Head of Risk and Corporate Finance, Drax).

A tool used by a number of case study organisations is scenario modelling. In simple form, it is about asking "*what if?"* questions to understand the business impact of specific changes in key factors using data patterns at hand. For example, in the case of Jaguar Land Rover, these questions could be: "*Assume we lose 10 per cent of volume, what are we going to do?"* or "*Assume an emerging market changes its fuel duty overnight, making our products less competitive, what are we going to do?"* This same "*What if?*" question is also used by many to start creative discussions and explore new opportunities for value creation. Although perhaps simple, these questions can create rich cross-functional discussions that enable the early recognition of changing contexts, opportunities and agile responses.

In keeping with other organisations in the same sector, scenario modelling is ingrained in the business model of AIG and Zurich Insurance and takes the form of stochastic computer analysis. This approach enables the rapid and cost-effective analysis of thousands of potential outcomes from various investment scenarios and identification of attractive options. Subsequent discussions around the latter similarly lead to a better understanding of risks and ways to address these. Zurich Insurance also provides a version of this tool, called the 'Zurich Risk Room', as an iPad app.

Leadership and governance

Although discussions and scenario modelling are useful tools for understanding probabilities, often the only way to reduce risks and gain certainty is by seeking to influence future developments, or to 'create the future'. For example, at Jaguar Land Rover, future technology landscapes are explored by trying to predict the technology roadmaps of competitors based on information from industry conferences and journals and then investing the limited Jaguar Land Rover research and development resources in those gaps where the greatest difference can be made.

Through this approach, Jaguar Land Rover has become an industry leader in building all aluminium vehicles. This capability enables the organisation to reduce the weight of future models and, therefore, emissions and fuel consumption, in line with customer expectations, as well as meeting its own high ethical standards and those of the parent organisation – Tata Motors. Examples of this type that demonstrate how consideration of risks enables the organisation to seize opportunities are present in many of the case study organisations.

Decisions about, for example, the risk appetite and the degree of flexibility come from the top at the case study organisations. It is important to instil trust, create a sense of inclusion and make people feel happy and motivated to deliver a great customer service. This is why leaders at the organisations often devote time and energy to meet employees, talk with suppliers, investors and other stakeholders and solicit feedback from customers. These processes ultimately help to protect the reputation of the organisation.

Not only do the leaders take the time to meet with employees, but they also bring different functions and subject matter experts together to explore and address strategic, tactical and operational issues. They invest in the training and development of their people and then empower them to do what they believe is best. They ask challenging questions and expect the same from others. They encourage change and innovation and are tolerant of (honest) failure. Otherwise, it would prevent the development of new ideas and the communication of critical risk information, so threatening long-term survival. This activity is supported by regular performance and risk reviews to ensure the organisation stays on track, as well as independent audits of the quality of practices.

Summary of actions to achieve the ‘Resources and Assets’ principle

Research at the case study organisations resulted in the identification of a wide range of resilience practices under each of the four components of the *resources and assets* principle, as follows:

Actions

Risk Appetite

- risk appetite positions established for operational risks
- risk assessments recorded in a dynamic risk register(s)
- risk committee operates as a ‘risk working group’

Limit Dependencies

- structured empowerment of staff and others
- cross-function (perhaps informal) structure
- evaluation of the extent of the assets/value at risk

Build Flexibility

- review of deployment of *resources and assets* at risk
- structured procedure to consider resource and resilience implications
- risk assessment procedures that incorporate resilience considerations

Scenario Planning

- top management and NEDs trained in risk management
- structured challenges to existing resilience processes
- forum to discuss resilience presumptions in the business model

If risk information is not being supplied to the board because of a 'glass ceiling', risk blindness will prevent the board fulfilling its risk governance responsibilities.

Section 4: Resilience Principle No 3: 'Relationships and Networks'

Section 4: Resilience Principle No 3: ‘Relationships and Networks’

Overview of the ‘Relationships and Networks’ principle

Resilient organisations realise that suppliers, contractors, business partners and customers represent a network of relationships aimed towards a common purpose. An organisation can build strong internal and external relationships by engendering trust and a desire to collaborate. It will then be in a position that, when an issue arises, disruption hits or an opportunity arises, all stakeholders will quickly and openly communicate with each other to find a way to respond appropriately, rapidly and effectively, including responding to the social media developments, as appropriate. Ultimately, the external reputation of an organisation is built on the way that relationships are managed within its business networks. Central to this network of relationships is the customer, whose needs are at the heart of the rationale behind organisational resilience.

Introduction to ‘Relationships and Networks’

No organisation can be effective at managing risk in isolation. As well as strong internal working relationships, leading organisations also build strong and extensive external *relationships and networks*. This is created by engendering trust, a desire to collaborate and a willingness to share information, even if it is bad news. In this way problems can be detected early and, when an incident occurs or an opportunity arises, stakeholders communicate with each other so that the response can be rapid. Risk professionals in resilient organisations manage risk beyond their organisational boundaries and throughout their networks, including suppliers, contractors, business partners and customers.

Understanding ‘Relationships and Networks’

Resilient organisations value and build strong *relationships and networks* and there are four components associated with this principle:

1. **Shared Purpose and Values:** When employees share a common purpose and values, trust emerges and helps to build strong relationships across organisational boundaries. The development of shared purpose and values has to be led by the board. Virgin Atlantic has a clearly defined and well-communicated set of organisation values, typified by the slogan “*fly in the face of ordinary*”. It is also important to build external relationships; the airline recognises that contractors and other business partners are responsible for some customer-facing aspects of service delivery and so it is important for them to share Virgin Atlantic’s desire to offer exceptional service, always.

2. **No-Blame Culture:** Strong relationships are nurtured when a no-blame culture[1] is clearly present, although accountability is maintained. Resilient organisations are able to achieve a balance whereby suppliers, contractors and other business partners accept appropriate accountability, but do not withhold bad news in order to avoid blame and anticipated adverse consequences. Whistle-blowing information is viewed as supportive, although the organisation will seek to avoid the need for staff to engage in whistle-blowing. At IHG apportioning blame is avoided since, as the CEO has stated: “*It is not about assigning blame for somebody, it is about solving the problem and learning from it.”*

3. **Open Communication:** The research suggests that the development of strong relationships is often allied with flatter organisational forms, increased cross-functional collaboration and self-organising teams with no silos. It is not enough for the whole of an organisation to be on the lookout for emerging risks: information about risks must be quickly and efficiently communicated within the organisational structure, so that appropriate action can be initiated. There should be no ‘glass ceiling’ or ‘glass walls’ to halt or slow the flow of risk information. For this, the sharing of real-time information is crucial, as is keeping the organisation sensitive to emerging risks to avoid board risk blindness.

1 The no-blame culture in the case study organisations was highly advanced, going further than the way in which the term is commonly used. For example, employees proactively discussed their mistakes, to generate learning.

4. **Customer Focus:** The research confirmed the importance of the customer experience is recognised by the case study organisations. An explicit shift to a more customer-centric approach is a strong development with top management sampling the 'customer experience' either directly, or by taking part in project reviews. At Zurich Insurance, the importance of resilience to customers is confirmed: *"Our resilience is part of the* [customer] *value proposition"* (CFO General Insurance, Zurich Insurance). The desire to deliver an outstanding customer experience and the proactive collection of customer views by customer satisfaction surveys demonstrate the customer focus.

The boxed extract below from The Technology Partnership (TTP) case study illustrates the importance of *relationships and networks* for a resilient organisation, delivered by strong leadership engagement. The benefits of achieving a shared purpose, no-blame culture, a flat but co-operative structure and focus on the customer experience are all well illustrated in this case study. This extract demonstrates that when *relationships and networks* are valued and recognised as central to the success of an organisation, greater resilience can be achieved.

Case study: The Technology Partnership – challenging questions

TTP employees have a high degree of crossover in expertise and interests, so collaboration and co-operation are possible, and strongly encouraged: "*Although most people at TTP are specialists in their own right, we are unusual in the way we operate across the boundaries of disciplines to share ideas and solve problems. The result is a unique capability to look at technical issues from a broad perspective*". A key aspect of balancing the peaks and troughs in demand that are inevitable with a responsive business is that each group is willing to help other parts of the business. This "*reinforces the idea that it is a team enterprise. We're all in it together*" (Chairman). Co-operation at the project level helps and it is seen as "*one of the most powerful things. People will join resources from the other groups and they make a personal bond*" (Managing Director).

After-work social groups, sports teams and working on community issues all help foster a sense of shared purpose including "*the fact that they eat in the same restaurant, that sort of social mixing*" (Managing Director). Working together and face-to-face informal communication is strongly encouraged at TTP: "*Often you get a new joiner who says: 'Why don't we have a database where I can look up, you know, an electro-engineer with Digital Signal Processing experience?' And the answer is because if you do that, then you miss out an awful lot. Just go and ask somebody … You'll find the person you want and you'll find a whole pile of other stuff too. You learn all sorts about what's going on*" (Managing Director).

The company also takes active steps to avoid a 'culture of blame', which would undermine the emphasis on teams. There is "*very little blame internally … the people who stay awake all night worrying, they will beat themselves up, they do not need to have somebody else telling them that they have done a bad job*" (Project Leader). The board also promotes a constructive approach to risk taking: "*We are aware that people make mistakes … One of the tasks of the more senior guys is to manage the consequences of a junior making mistakes. If they are not allowed to make little mistakes, they will not learn and sooner or later the mistakes will be big ones*" (Chairman).

The lack of a blame culture also means that mistakes can be identified and dealt with early on, rather than being ignored: "*We are communicating to the client … we have realised something and it was unforeseen … if it is something where we have made a mistake, we will flag that*" (Project Leader).

Although everything is done to avoid a blame culture, this does not mean that criticism is frowned upon. Critical and tough questions are expected in group meetings, and people understand "*it is ok to ask questions, provided you're polite*" (Chairman). It is also common to ask others for advice which "*is largely quid pro quo because you will do the same for them and usually you try and ask the people that you think have a good level of experience and have experienced problems in the past. So they know the kinds of things that you should be looking for*" (Project Leader).

For more insights into resilience at TTP, refer to the full case study in Appendix A

Enabling 'Relationships and Networks'

Resilient *relationships and networks* are based on shared purpose and values, as well as the existence of a no-blame culture. The presence of good communication within a flat organisational structure will help avoid the risk information 'glass ceiling' and 'glass walls'. Leadership that is fully engaged with the achievement of increased resilience is necessary to deliver a customer-focused experience. Managers need to consider how each of the business enablers of resilience, *people and culture*; *business structure*; *strategy, tactics and operations*; and *leadership and governance* can be utilised in creating effective *relationships and networks*.

People and culture

A common purpose emerges when individuals have a clear understanding of how their roles and responsibilities relate to those of others and contribute to the achievement of the organisation's key goals. It facilitates co-operation between stakeholders with different knowledge, expertise and perspectives, which is crucial for information sharing and for generating situational awareness. As the organisations investigated show, when a common purpose exists, risk management and internal audit are perceived as integral parts of the business that support the achievement of the goals of the organisation.

When a common purpose is missing, functional or divisional silos can emerge and undermine a collaborative and customer-oriented perspective. This is referred to in this report as 'glass walls' and results in unco-ordinated management of risks, reduced resilience and board risk blindness. Silo mentality ultimately affects product and service delivery and consequently customer perceptions, with the resulting damage to brand and reputation. The importance of the relationship with customers cannot be over-emphasised, especially as social media can spread bad news almost instantaneously.

Virgin Atlantic has a very clear purpose and delivering it requires employees in all areas of the business to have 'innovation', 'caring for others' and 'peace of mind' as their core values. To ensure people understand and live the Virgin Atlantic brand in the same way, everyone joining the organisation, from early career starters all the way up to new board members, goes through a two-day 'Virgin Induction Programme' (VIP). During this programme, "*we talk about our brand, our values, the history of Virgin Atlantic, where it comes from, where the business is today and where it is going*" (Chief Operating Officer, Virgin Atlantic). Following this initial introduction, senior managers take people through each of the Virgin values in more detail. The purpose of these sessions is not only to help people understand what the values mean on a personal level, but also to understand how their roles relate to those of others throughout the business. This includes understanding the impact their actions could have on operational performance and reputation. Virgin Atlantic has also found that relationships with contractors are crucial, as contractors' actions have strong impacts on customer service levels and the perception of the brand. To establish the highest level of co-operation with its contractors, business partners then become an integrated part of the achievement of increased resilience. "*When you share the same values and work in partnership with your service providers, the approach to resolving a service delivery issue is much more collaborative because it is also to their benefit to rectify the situation quickly*" (General Manager Corporate Safety and Security, Virgin Atlantic).

Strong relationships are nurtured when there is a no-blame culture. IHG focuses on solving issues, not on apportioning blame. At the same time, the organisation ensures appropriate accountability and constantly critiques itself. For example, the board goes beyond minimum corporate governance requirements and *"reviews itself annually, a third party comes in and does their research with each of us and we get feedback in terms of our ability to speak up and whether or not we're talking about the right things, have the right views"* (Regional President the Americas and IHG Board Member). Levels of individual knowledge are also continuously assessed and an introductory training course about risk management is standard practice for all non-executive directors who join the IHG board.

Creating a no-blame culture is essential if employees are to take responsibility for managing risks and be open about mistakes. An example of the degree of openness that Virgin Atlantic has achieved is shown in a taxiing accident. In May 2011, a Virgin Atlantic aeroplane landed at Tobago and whilst it was taxiing to the terminal, the pilot saw a large hole in the taxi-way. Fortunately, he could steer to avoid the hole. Two weeks later, however, the undercarriage of another Virgin Atlantic jet got stuck in the same hole and there was severe disruption, including moving the passengers to the terminal and having the aircraft extracted and repaired.

Interestingly, when the pilot of the aircraft that had avoided the hole heard of the problem, he realised that he had made a mistake by not reporting the damaged taxi-way. Soon afterwards, he wrote an article in the organisation's magazine openly admitting his mistake in not reporting the problem and about the need for everyone to be vigilant, open, learn, and adapt processes and behaviours. It is a reflection of the Virgin Atlantic culture that the pilot could be open about the shortcomings in his actions and that he wanted others to benefit and learn from his experience[2].

The no-blame culture is driven from the top. "*We engender very much a forward-looking, proactive and open culture where, when we are talking about risk, safety and security, it is not about blaming someone. It is always about learning and what we can do to prevent the event happening again. It is always about the event first, not the individual"* (Chief Operating Officer, Virgin Atlantic). Similarly at Zurich Insurance, *"it's got to start at the top of the organisation, with the language showing that we are more interested in how we learn and move forward than it is about actually holding an individual accountable"* (CEO UK General Insurance, Zurich).

All the case study organisations have gone about building strong external relationships. The managers at ODA developed a real sense of commitment and purpose internally and then took the time to extend this through to their suppliers, contractors and other business partners. Many organisations deliver some of their direct customer-facing services through suppliers as only when strong and seamless relationships exist will the customer receive the service that matches their expectations of that brand. *Relationships and networks* are fundamentally important to reputation and the delivery of the strategy of the organisation.

2 This example was presented by Virgin Atlantic at the workshop held at Cranfield School of Management on 11 July 2013.

Business structure

In general, the case studies indicate that the development of strong internal and external *relationships and networks* can be enhanced by flatter organisations, more cross-functional collaboration and self-organising teams. These structures allow faster and more open communication and improve risk management co-operation, as an IHG manager commented: *"I believe in the flat structure, everyone can come and see everybody. I don't believe in hierarchies, as they get in the way"* (GM Holiday Inn, IHG). One of the findings of the research is that flatter organisations facilitate better communication and those with complex organisational structures need to introduce specific procedures to avoid the risk information 'glass ceiling' that results in board risk blindness.

Another organisation that changed its structure is Jaguar Land Rover. Designing, developing, engineering, manufacturing, marketing and selling luxury vehicles are specialist activities, traditionally organised by function. However, at Jaguar Land Rover, activities are strongly integrated across functions and management levels. One reason is that the end product, a luxury vehicle, is technically complicated. Design choices in one area can have negative consequences in others and so these inter-dependencies need to be understood. This requires the frequent coming together of functions and management levels to make decisions to ensure the end product functions as designed and complies with various standards, as well as meeting customer expectations in a competitive market.

Taking a new vehicle to market costs hundreds of millions of pounds and can take several years. If late-stage design changes are required, the challenge is to manage the cost, schedule and product quality to minimise disruption to other development projects and production schedules. Jaguar Land Rover deals with these challenges by having structures in place that facilitate cross-functional decision-making and rapid communication up and across the organisation, as well as a portfolio approach to risk management and resilience.

Haven Power is customer-focused and prides itself on the speed with which it develops new products and its openness to customers: *"We're very much customer centric, focus on the customer,* [and] *if customers want to talk to directors they get to talk to directors"* (Operations Director, Haven Power). Some of the case study organisations have customer loyalty schemes as part of delivering a customer-orientated approach. These schemes demonstrate the importance of the customer and the desire to increase customer loyalty to the brand. Customer satisfaction surveys are also undertaken by some of the case studies and/or the information obtained from third-party surveys is used to enhance customer service.

Strategy, tactics and operations

At the operational level, the organisations studied have taken steps to ensure that organisational values and behaviours are consistent across their businesses. Jaguar Land Rover has done this by introducing a high-performance behavioural framework. This aligns individual performance objectives via functional and corporate scorecards to the vision of the organisation. Individuals are measured and rewarded based on both the achievement of objectives and on exhibiting the right behaviours to achieve them.

This ensures that short-term gains are not achieved to the detriment of longer-term business success. The purpose of the framework is to support individuals becoming responsible business owners, by providing a clear and common understanding of the Jaguar Land Rover vision. This guides how people and functions within the organisation relate to one another and the behavioural boundaries within which they are free to act, innovate and improvise. This engenders a strong sense of empowerment, the desire to continually do better and the flexibility of mind to deal with uncertainty.

In the case of IHG, the vast majority of employees are not directly employed by the company. Therefore, IHG relies on franchisees and other business partners to hire the right people, train them and adhere to the 'Winning Ways' guidance. This is a set of guiding principles that encapsulate a risk-aware culture. IHG comments that guidelines and training are essential, but to manage risk effectively *"you've got to have the right culture, otherwise you're never going to embed anything. Nobody's going to do the training, nobody's going to put it on their personal agenda and talk about it, the networks aren't going to happen, the network is where your culture lives"* (SVP Head of Global Risk Management, IHG).

This approach at IHG influences the behaviour of managers. For example, one hotel manager moved her office to the reception area where most of the interaction between guests and staff takes place because *"you get to know the staff and all the guests and really get connected rather than get sucked into your computer"* (GM Holiday Inn, IHG). This demonstrates the desire to deliver the IHG goal to create 'Great Hotels Guests Love'.

The case studies provide many other examples of customer focus, based on the recognition that their customers do not settle for second best and resilient organisations need to meet customer expectations in a competitive market. Virgin Atlantic recognises the importance of a brand proposition that is inspiring both to staff and customers. This has led to a passion throughout Virgin Atlantic to focus more strongly on the customer than the competition and a desire to be extraordinary at everything the company does.

Leadership and governance

Leaders at the case study organisations have moved to build trust, respect and shared values in internal and external *relationships and networks*. This means ensuring that people feel happy, safe and unburdened by bureaucracy and politics at work. As the Managing Director of AIG commented: "*You are in charge of the safety and security of your people, and only when you are comfortable with that can you start doing your business as a manager*" (Managing Director, UK, AIG). Employees and especially the front-line staff probably know and understand the risks the organisation faces far better than anyone at the top and (when trusted and empowered) can provide the organisation with the wisdom and judgement required to solve problems.

Leaders at every level take time to understand the operational aspects of the business. For example, in a Holiday Inn, a manager talked about constantly leading through example in the front line (including clearing tables and cleaning). This is an illustration of the fact that engaged leadership plays a significant role in the development of *relationships and networks*. It ensures the delivery of all of the components of the resilience principle, especially shared purpose, open communication and customer focus.

Leaders at Jaguar Land Rover also value the importance of walking the shop floor, since it allows them to understand the situation from the perspective of those who have to deal with practical challenges on a daily basis. It also gives them a good opportunity to directly update people on developments in other parts of the organisation. Another important aspect of relationships is the interaction with customers and the case study organisations recognise the benefits of obtaining customer feedback as part of the governance process. The flatter structure in place in many of the case study organisations results in a more open culture and better communication. For example, at Jaguar Land Rover, every executive has an open-door policy and managers throughout the organisation have direct access to them. This facilitates discussions at the bi-annual meeting of the executive committee and the top 150 leaders. All present are aware of existing and new risks, the effectiveness of current controls, as well as actions for improvement and the structured risk management activities in place.

When the senior leaders of Virgin Atlantic visit business locations, it is not always just about maintaining an understanding of operations, it is also about engaging with people on how the organisation is performing and keeping the brand alive. As the COO commented: "*Clearly, we can't personally touch the whole business, but we do have open business briefings every quarter with the executive team. We will record that and put it on the intranet, so that everyone can access it. We also do monthly 'meet and greet sessions' where we go into the business for a couple of hours, so that people can come and ask questions"* (Chief Operating Officer, Virgin Atlantic).

Summary of actions to achieve the ‘Relationships and Networks’ principle

Research at the case study organisations resulted in the identification of a wide range of resilience practices under each of the four components of the *relationships and networks* principle, as follows:

Actions

Shared Purpose and Values

- specific risk communication plan
- involve suppliers and contractors in resilience planning
- ensure that resilience is an expectation of suppliers

No-Blame Culture

- embrace a no-blame supportive culture
- encourage the reporting of near-miss incidents
- procedures for the investigation of adverse developments

Open Communication

- avoid the risk information ‘glass ceiling’ and ‘glass walls’
- establish an ‘open door’ culture
- share risk management concerns openly

Customer Focus

- encourage management to experience the product
- discuss customer satisfaction surveys with top management
- facilitate a brand/reputation risk assessment workshop

Section 5: Resilience Principle No 4: 'Rapid Response'

Section 5: Resilience Principle No 4: 'Rapid Response'

Overview of the 'Rapid Response' principle

Resilient organisations need to have the capability, resources and relationships to be able to respond rapidly and appropriately not only to what is clearly an emergency, but also to react to small changes that could ultimately develop into a disaster. The benefits of *rapid response* also extend to the ability to seize opportunities – the upside of risk. This capability is based on empowered teams, practised processes and flexible resources. The organisation will then be able to respond based on the rehearsal of responses to anticipated scenarios, so that an effective response to the potentially more serious or significant unexpected developments becomes possible. Resilient organisations recognise that *rapid response* to an adverse development needs to achieve more than recovery of operations; it has to include media response and, in particular, actions to protect reputation. An appropriate and effective response to a crisis can serve to enhance the reputation of an organisation.

Introduction to 'Rapid Response'

Another characteristic of resilience observed in the case study organisations was the ability to respond rapidly and appropriately. They are able to deal swiftly when unexpected problems and incidents occur, thereby ensuring that these do not escalate into crises and are able to restore the organisation to normal (perhaps a new state of normality) as quickly as possible. The *risk radar* capability ensures that issues are identified early, when a measured response can prevent serious problems arising or a business opportunity being missed. However, if a serious problem does emerge, resilient organisations use emergency response teams. Such teams take control of the situation, so that senior leaders do not have to manage the operational aspects of the crisis, the media and the rest of the business in parallel. Resilient organisations recognise that a professional response to the media is essential at each and every stage of an incident[1].

Understanding 'Rapid Response'

Resilient organisations have the capability to ensure decisive and *rapid response* and there are four components associated with this principle:

1. **Decisive and Appropriate Actions:** case study organisations recognise that acting quickly can often prevent issues developing into problems and can prevent crises. Therefore, ignoring an issue or deeming it to be unimportant is not an option for such organisations. AIG recognises that repeated small issues can mark the beginning of a trend, or that the total risk posed by multiple, concurrent issues can be significant. Also, the ability to recognise the early indications of an emerging opportunity and respond accordingly is a positive benefit of resilience.

2. **Identified Teams and Processes:** processes are perceived by resilient organisations as providing a useful platform for a response, but it is recognised that tailoring the response to the unique situation is best undertaken by skilled and knowledgeable employees. These teams are cross-functional and empowered to decide what type of response is appropriate. Virgin Atlantic has designated crisis teams trained to deal with the operational issues related to a crisis, so that top management is not overwhelmed by having to deal with normal operations and the emerging crisis at the same time.

3. **Empowered Responses:** to be able to respond, organisations should not be overburdened by the pressures of running their normal business. Therefore, ensuring that there is enough flexible capacity[2] in the organisation to provide a response is essential, but often overlooked. TTP works on challenging research and development projects and always maintains spare capacity, so that it can successfully respond to the emerging and unpredicted problems that inevitably arise. Allowing employees a degree of empowerment when responding to customers can often solve a problem before it becomes serious.

4. **Rehearsed Reaction Plans:** although the exact situations that will arise can seldom be predicted, organisations can still practise their responses. At IHG, **"***the organisation is well prepared and has built up in advance the capabilities it needs. Security awareness training is a cornerstone, as is our ability*

1 The '*Roads to Ruin*' report showed that following an incident, all communications quickly enter the public domain and both internal and external communications will be scrutinised by the media.

2 Spare, flexible capacity within an organisation is referred to as 'organisational slack' in the literature

to respond. Then, when an incident occurs, we can control the crisis rather than the crisis taking control of us" (VP Global Security Risk Management, IHG). Similarly at Drax, risk scenarios are identified and responses are routinely rehearsed. If an incident happens, procedures define who has the role of 'Incident Manager' and Drax selects "*people who can recognise risk and apportion the correct risk to an incident, they can look beyond the obvious, they can see it may be minor but this could escalate, they're good at risk assessment*" (Generation Manager, Drax).

The boxed extract below from the Virgin Atlantic case study illustrates the importance of developing appropriate, rapid and decisive responses to adverse developments. Scenario planning and, in particular, the arrangements for identified teams to take control in the event of a crisis are well illustrated. This extract demonstrates that when *rapid response* plans and teams are established in advance, the organisation is much better placed to respond appropriately and prevent the incident becoming a crisis.

Case study: Virgin Atlantic – rapid response teams

A feature of Virgin Atlantic's flat structure is that Operations and Crisis Management roles are separated to respond faster and more effectively to major unexpected events. In this structure, emergency response or duty commanders are not executives or even necessarily operational people: *"The Head of Legal has been a duty commander for a good number of years. We look for the kind of person who has a passion and would like to get involved. It is open to people across the company: generally, if you want to do something, you will do a good job. Also, they have to be able to hold meetings, co-ordinate responses across all aspects of the company, structure communications and think on their feet"* (Director of Operations, Safety and Security).

The logic behind this separation of roles is that when an emergency happens, it does not mean that senior leaders are overwhelmed by having to manage every aspect at once. They can step back, keep an eye on the bigger picture, act as a sounding board for the duty commander and manage key external stakeholders on their behalf if needed. Further, it means that when the airline operations department declares an emergency, an experienced and well-prepared response team can take the incident away from them and manage it separately in the Crisis Centre. The event's influence on normal operations is thereby minimised.

Airlines encounter many unexpected events during operations, yet Virgin's emergency response team is engaged infrequently. The reason is that many unexpected events, such as flight diversions for weather or medical reasons, occur so often that they are considered business as usual and are dealt with through standard operating procedures. Even when an aircraft declares an emergency, for example, due to problems with an aircraft's undercarriage, most times the operations department can deal with it. In those instances, the duty commander will be alerted and will be on standby, but generally response teams will only step in when an event:

- can attract significant media attention
- can lead to a large number of enquiries by passengers and staff
- impacts multiple routes
- has direct safety and security implications.

Even when events meet these criteria, many will be business as usual and can be dealt with through standard contingency plans. In the past, airlines have had to deal with a range of security, terrorist, and weather-related incidents and are therefore prepared to deal with the consequences. For instance, although Virgin Atlantic does not have specific plans for tsunamis, earthquakes, hurricanes, volcanic ash, industrial action or terrorist events such as 9/11, " *… what we do have a contingency plan for airspace closure, for whatever reason. Further, we have a two-tier approach. We have an Amber Team that deals with very specific events and a Red Crisis Team that deals with major aircraft accidents. We have never had to activate our Red Team as such, but we do activate the Amber Team for a lot of events. When they are activated, we will go through a set of procedures in terms of accounting for staff, finding out where our aircraft are, making sure people are safe and secure, determining what we are going to say to passengers and the media, and what we need to do to get operations back to normal*" (Manager Resilience and Business Continuity).

For more insights into resilience at Virgin Atlantic, refer to the full case study in Appendix A

Enabling 'Rapid Response'

Achieving rapid and decisive response to changing, challenging and/or adverse circumstances is a key feature of resilient organisations. Organisations need to ensure that identified teams and processes are in place. Rehearsal of potential scenarios is required together with empowered teams to take charge when adverse circumstances arise. Managers need to consider how each of the enablers of resilience, *people and culture; business structure; strategy, tactics and operations*; and *leadership and governance* can be utilised to ensure rapid, decisive and appropriate responses when the unexpected occurs. The achievement of the rapid response principle will also ensure that the organisation can take advantage of unexpected opportunities.

People and culture

Under stable and expected or predictable conditions, risks can be managed by means of structures, standard operating procedures, trained operatives and continuous improvement. Resilient organisations know this and so they make use of clearly defined processes. However, to be able to respond when business conditions become more volatile, resilient organisations also have the people with the right skills, empowerment and motivation to deal with unexpected developments. As the case study organisations illustrate, it requires people with a depth and breadth of experience, who are comfortable with uncertainty and ambiguity, and are able to draw on and integrate diverse perspectives and resources. This tends to lead to the formation of flat, self-organising, multi-disciplinary project teams, supported by a leadership style that gives people high levels of autonomy within their roles and does not stifle creativity and innovation.

In service-oriented businesses such as IHG and Virgin Atlantic, employees are empowered to provide an appropriate customer service. The needs of individual guests and passengers vary and are ever-evolving and operating conditions vary from day-to-day. Service delivery therefore cannot be mechanistic and scripted. Employees follow processes, but they also have to be flexible to specific situations and still provide excellent customer service. This capability is also highly relevant in addressing risks. Processes are essential, but the people must have the skills and empowerment to respond when a situation arises that does not exactly match the responses in the pre-prepared process.

IHG has the awareness to recognise incidents, a strong communication network to report these and also a clear process by which to respond. When a crisis occurs, *"we have codified and embedded process management, we go straight into that crisis response mode following the process that we have already previously laid out, we have a crisis management team as well at both a global and regional level so that the process all kicks into place if something comes up"* (SVP Head of Global Internal Audit, IHG).

Crisis teams are carefully selected because *"you must have a rounded team, with the right crisis owner that has the authority to make necessary decisions and include the right risk managers, the right communications people and then you supplement it with specialists"* (SVP Head of Global Risk Management, IHG). Critically, these specialist teams include people who *"are trained to deal with newspapers and reporters, they are dedicated crisis spokespeople"* (VP Global Security Risk Management, IHG). Therefore, senior managers are not put in the position of having to respond to a crisis, the press and other stakeholders at the same time. Crisis teams need to make decisions fast because *"the whole thing about emergencies and crises is you've got to think to a certain extent on your feet, based on what you know to be correct"* (VP Global Security Risk Management, IHG). The case study organisations recognise that this structured approach has become more important with the increasing presence and influence of 'social media'.

Organisational culture needs to support flexibility and empowerment. AIG develops its capability to respond rapidly by conducting trials in markets that are perceived as risky. Drax not only uses scenarios to hone its *risk radar* but it also practises the types of response necessary. So there are strong links in the way resilient organisations build a capability to spot risk (*risk radar*) and their ability to respond (*rapid response*).

Rapid response means that an organisation is neither caught unaware, nor slow in reacting to a situation that has not been predicted or practised. Teams that are responsible and practised at dealing with operational risks are common in resilient organisations, but so are approaches for dealing with strategic and business risk. Rapidly changing circumstances can also impact strategy, making it necessary to establish response processes that will ensure rapid changes to strategy and/or tactics, as necessary. These *rapid response* situations may relate to seizing a strategic opportunity, responding to the need to modify tactics or responding to an operational crisis.

Business structure

Structures need to support the capability to respond rapidly. One aspect of this is that understanding and responding to risk is, by its nature, a cross-functional task. At AIG, there was previously a silo mentality: *"There was minimal corporate infrastructure and so the ability to look horizontally across the business was weak"* (Chief Risk Officer and Head of Strategy for the Property Casualty Business, AIG). Senior managers now take a more horizontal view and the risk management function looks across the business more than it did in the past.

Within Drax, there is a reliance on a functional structure and expertise, but at the same time, *"we always aim to do things cross-functionally so the teams that are assembled are drawn from the various functions within the business … the production side and the finance, procurement, fuel purchasing, logistics so there's a team assembled that is truly cross-functional"* (Engineering and Safety Manager, Drax). Working in parallel with the functional structure is a strong system of risk management committees in every area of the three businesses and regular risk management meetings.

Another example of internal liaison in Drax is *"meetings where we look at major tasks that we're going to perform and we get key people together, we've got a technical risk steering committee"* (Generation Manager, Drax). It is seen as essential that different functions come together to assess different types of risk. In addition, *rapid response* needs to be co-ordinated with external organisations such as the fire brigade. This demonstrates that a *rapid response* capability also depends on another principle of resilience, *relationships and networks*. There was also evidence that the *business structure* enabler within several case study organisations recognises the importance of *rapid response* specifically designed to protect the reputation of the organisation.

The Olympic Delivery Agency (ODA) produced a strategic risk register for central government, comprising around 200 headline risks, from problems with abnormal weather to major terrorist attacks. The sheer range and level of these risks presented a major challenge and not everything could be predicted: *"Could the Olympic Park be 100 per cent resilient to all these 200 risks? No, it couldn't possibly be. But could you plan for some of them? Yes, you could"* (Chief Risk Officer, ODA). Critically, the ODA worked with government to develop planned responses to identified risks, knowing that this would also make the whole Olympic programme more able to respond to any unexpected issues that might arise.

Strategy, tactics and operations

It is important to note that no organisation can predict every possible problem. It is important to have the flexibility to respond as effectively to an unexpected situation as one that has been foreseen. This means having enough resource and management capacity to respond whilst still managing the day-to-day business. Under comparatively stable conditions, risks can be identified and predicted, and so an effective response can be planned in advance. As business conditions become more volatile, a more flexible response capability becomes essential.

Many organisations do not fully appreciate the risks that are associated with corporate strategies and major programmes. This can lead to a focus on operational risks, so that the risks associated with business strategy are overlooked. Operational incidents can have significant strategic implications, especially if that incident or set of circumstances has wider brand or reputational implications. This has become more obvious as the impact of social media has increased. Resilient organisations recognise that responding to adverse circumstances is not just about operational recovery or continuity – protection of reputation should be paramount.

At Virgin Atlantic, all the people involved in both operational and strategic decision-making go through a common risk management training programme, so that everyone works with one concept of risk: *"We have made the commitment to use risk management in the decisions we make. So, rather than waiting for bad events to happen and learning from them, we try to think what could happen in a particular context, for example, when we consider flying to new destinations and what it is that we can do to ensure a safe and secure operation for our crew and passengers in that context. We want it to be uneventful and almost boring, because that means everything is working for us"* (General Manager Corporate Safety and Security, Virgin Atlantic).

To ensure that hotels, guests, people and assets are safe and the reputation of its brands is protected, IHG provides hotel owners, staff, contractors and business partners with a systematic framework to follow, with related processes and checklists for many situations. *"When you're managing a risk, go through a process. Although this framework is shown in the context of managing safety risks, the risk management activities apply to all risk types and these steps form the basis of many risk-based programmes at IHG"* (SVP Head of Global Risk Management, IHG).

The range and scale of risks is broad; from 'Guest Safety' to 'Crisis and Incident'. For example, when *"Tahir Square* [the Arab Spring in Egypt] *broke out, we were in the centre of the storm, so we immediately went into our crisis* *management mode. We had all of our plans, we were relatively well prepared. We started implementing a series of actions which felt intuitive. What I found interesting was that we found ourselves teaching the neighbouring international hotels our methods and our practices"* (Regional President of EMEA, IHG).

Leadership and governance

A number of the case study organisations faced major risks that could suddenly and unexpectedly emerge. For example, natural disasters, terrorist attacks or major accidents can take place with little warning and can severely disrupt normal business operations. To deal effectively with these challenges and to minimise reputational and financial damage, a number of sample organisations have separate structures that are normally dormant but can be quickly mobilised in case of emergencies or crises. These emergency response or crisis teams are typically task-focused, comprising specialists from across relevant functions.

Good communication is crucial in both recognising and responding to risks and AIG has a governance forum that is responsible for reviewing the effectiveness of risk-related communication. Non-executive directors are involved in bringing an external perspective on the effectiveness of communication on risk. This governance system ensures that AIG is *"compliant from a regulatory stand point, that we're satisfied that we have the resilient controls in place to handle risks that face us in our business and we're governing, we're managing, we're testing resilience"* (Executive Director, Commercial Lines Division of AIG UK).

While each major unexpected event is unique, industries such as power generation, insurance, hotels and airlines have dealt in the past with a range of serious accidents, and security and weather-related incidents. Hence, many of these situations are in a sense routine or business as usual events and this enables emergency response and crisis teams to rely on well-rehearsed contingency plans and adapt these to the particular situation[3]. During the handling of these events, response teams will have direct lines of communication with executive levels, but typically operate independently.

When an emergency or crisis happens, response teams can take the incident away from top management and deal with it separately, thereby minimising the impact of the event on normal operations. *"The commander who is running those situations is very competent. He knows where his decision matrix is and what his level of empowerment is and he just gets on with it"* (Chief Operating Officer, Virgin Atlantic).

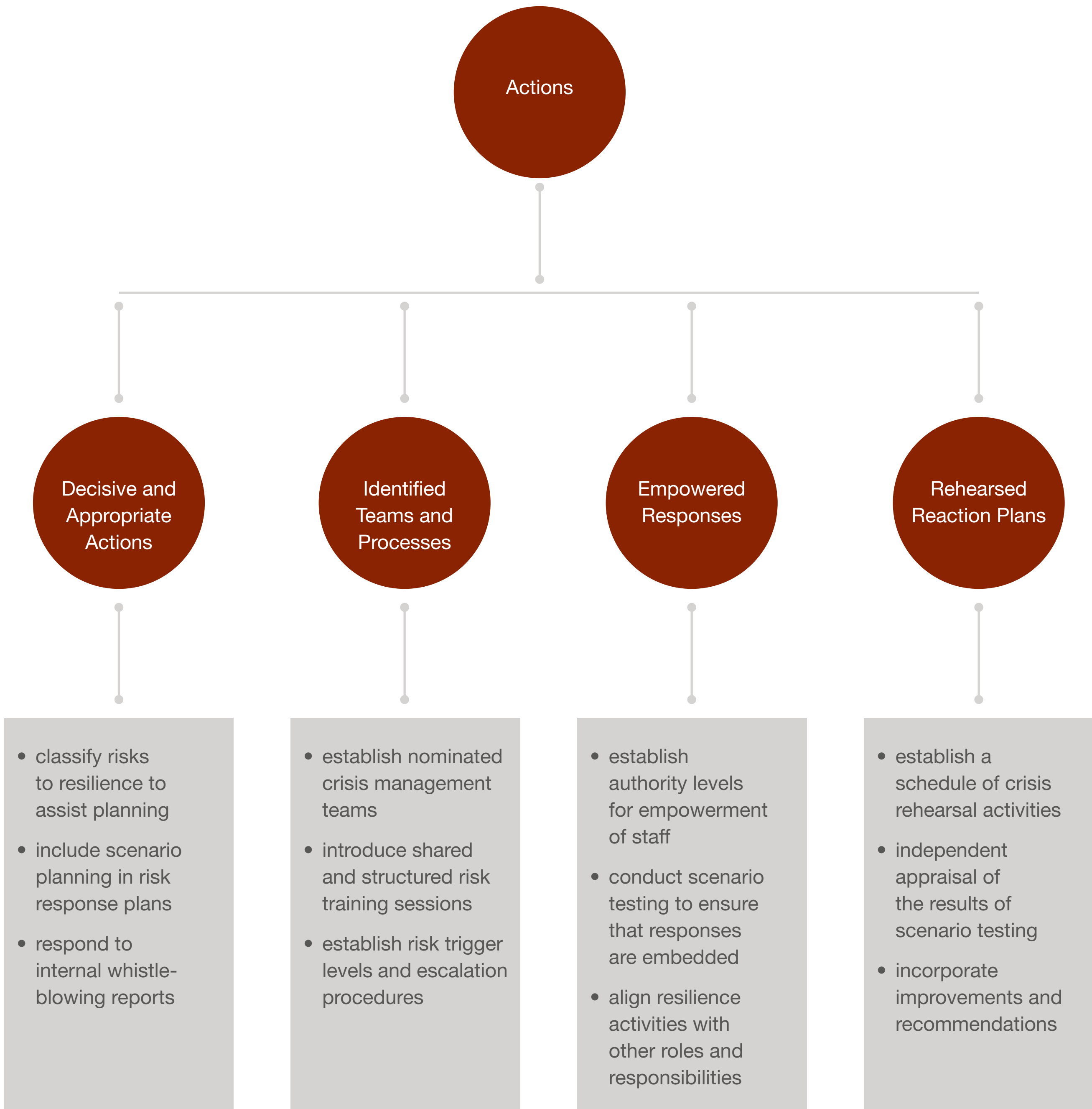
With major accidents and natural disasters typically triggering claims, insurers such as Zurich Insurance similarly have emergency response teams. Instead of being geared to protect their own operation from disruption, these teams, which can be forward deployed, are focused on getting their customers' businesses back to normal as quickly as possible. Insurers essentially sell trust and delivering a good claims experience is crucial to maintaining client relationships and developing loyalty.

As is often the case within IHG, employees are proud that they have advanced ways of dealing with risk, but there is no complacency: *"I think we recognise that crisis management is not something that's static, it is something that we need to constantly improve and you never do it completely right"* (VP Global Security Risk Management, IHG). It is recognised that *"crisis management is about leadership and it is about values and behaviours"* (SVP Head of Global Risk Management, IHG).

3 However, in less resilient organisations, the learning from a previous crisis or incident is lost when employees move positions.

Summary of actions to achieve the 'Rapid Response' principle

Research at the case study organisations resulted in the identification of a wide range of resilience practices under each of the four components of the *rapid response* principle, as follows:



“For me, in terms of resilience it comes back to strong financial management, risk management and governance, ultimately supported by highly capable individuals; you need the right mix of skills and capabilities...”

Section 6: Resilience Principle No 5: ‘Review and Adapt’

Section 6: Resilience Principle No 5: ‘Review and Adapt’

Overview of the ‘Review and Adapt’ principle

***Review and adapt* is the resilience principle that indicates that an organisation is willing to learn from adverse events, circumstances or near-misses and adapt processes and structures accordingly. Learning from experience is a core value of the resilient organisation and can equally apply to learning from success to achieve greater success next time. To support the achievement of this principle, resilient organisations have a strong desire to achieve a constant improvement in performance. Every opportunity, adverse event and near-miss incident is reported and analysed, so that the organisation can decide what actions should be taken to learn and benefit from the experience. This approach is not limited to operational risks and resilient organisations seek to review changes that indicate that strategy and/or tactics should be adapted to achieve greater success.**

Introduction to ‘Review and Adapt’

Learning is a crucial part of resilience and it was found that the case study organisations have a strong focus on reviewing every risk-related incident, including not only serious issues but also relatively minor ones. The aim is to identify where current approaches to risk management and resilience can be enhanced to make them more robust when dealing with predicted events and suitably flexible to deal with the unexpected, including unexpected business opportunities. Every incident is therefore treated as representing the chance to learn and improve. Resilient organisations take the time to review incidents and adapt the approach, risk attitude and processes to improve the future handling of incidents, as well as enhance strategy and tactics.

Understanding ‘Review and Adapt’

Resilient organisations *review and adapt* to changes and adverse events and there are four components associated with this principle:

1. **Structured Learning:** the philosophy of resilient organisations is that risk management and resilience can always be improved. The emphasis on learning means that employees are trained in risk management and processes are regularly enhanced, going beyond simply achieving compliance. For example, IHG has a comprehensive training programme for all employees, with e-learning modules defined for many job functions and translated into several languages. Resilient organisations place considerable emphasis on learning and continuous improvement, so that they become core values[1].

2. **Near-Miss Reporting:** every event or issue that is identified by the *risk radar* of the organisation is reported and reviewed. Drax takes photographs of safety near-misses and uses these to communicate the types of issues that employees and contractors must be aware of. Although AIG works in a completely different sector, it also places strong emphasis on reporting situations where no financial losses occurred, but where valuable learning can be extracted from the near-miss. Resilient organisations will constantly be looking for ‘weak signals’ that circumstances are changing and should be reviewed to decide if behaviours should be adapted.

3. **Independent Reviewing:** the case study organisations value independent reviews of performance. For example, scenario planning is a key method for driving learning and panels of experts independently review scenarios and the actions that teams recommend for dealing with them. Non-executive directors are also involved in reviewing all aspects of risk management and resilience in most of the case study organisations. For example, IHG *“reviews itself annually, a third party comes in and does their research with each of us”* (Regional President the Americas and IHG Board Member).

1 Resilient companies find ways to capture and disseminate learning, so that the ability to deal with risk is not totally dependent on the experience of a few key people.

4. **Desire to Improve:** the case study organisations undertake various activities to learn from adverse events and circumstances. Once lessons have been drawn from incidents and near-misses, resilient organisations make changes to their *strategy, tactics and operations*. They have a desire to constantly improve performance and make changes to organisational structures, if appropriate. The case study organisations have procedures in place to ensure that the lessons learned from adverse developments are incorporated into future plans. The lessons learned from an incident are often an agenda item at board meetings.

The boxed extract below from the Zurich Insurance case study demonstrates that the organisation proactively seeks to ensure that the *review and adapt* principle is fully implemented. The Zurich way of learning from mistakes is transparent and supportive for staff. A learning culture[2] has been established and this improves the level of resilience. When the *review and adapt* principle is embedded, the culture of an organisation is enhanced and greater resilience is achieved. The most important intended outcome is that the organisation makes better risk decisions in the future.

Case study: Zurich Insurance – make better risk decisions

To address the challenges faced in the industry, Zurich has found that structure and processes such as risk identification and development of contingency plans are not enough: "*As a global organisation it is also about how you actually disseminate governance structures, performance management structures, risk management structures that permeate the entire organisation with consistency. So I think another facet of resilience is an industrialised and standardised set of processes, that operate consistently, but you can have all the best processes in the world but if you haven't got the right capability in terms of people then again you will be blindsided by issues that you've not foreseen or perceived*" (CEO UK General Insurance).

The emphasis is on people taking responsibility and being accountable, but not being punished for making mistakes, provided they are open and honest and learn from them: "*The culture we are trying to instil in the company is that it is okay to make mistakes if they happen within the framework that the company has set. Then it is all about how you deal with them*" (CFO General Insurance). The push for openness is so strong that "*good news travels fast but bad news travels faster, but whereas some companies have a culture of punishing bad news – we almost encourage it*" (CEO Global Life).

The company culture is based on a set of values called 'Zurich Basics', covering integrity, teamwork, striving for excellence, being focused on the customer and sustainability, which they believe drives sustainable performance and also should underpin behaviours. For example: "*Making money would not be an excuse for poor business practice: it is one test of the moral and commercial ethics of this business*" (Chief Actuary General Insurance). The support for these values is strong and consistent and "*if people don't believe in the basics, then they need to find somewhere else not to believe in them!*" (CEO Global Life).

A key part of the culture is also the focus on customers. Zurich provides tools, such as 'Zurich Risk Room', which can be downloaded onto an iPad, to help customers understand and consider certain types of risk. This means that "*our resilience is not only because we have a broad portfolio of risk but also because we help our customers become more resilient*" (Head of Sales, Distribution and Marketing Global Corporate, General Insurance).

Zurich considers itself a 'thought leader' in risk management and this is a differentiator with some customers. "*We consider what sort of knowledge do we have that we can share with our customers from an enterprise risk perspective that can make them a better risk and that makes them less likely to suffer loss or if they do suffer loss to recover much easier … that allows customers to make better risk decisions*" (Head of Sales, Distribution and Marketing Global Corporate, General Insurance). "*Because we sell trust, we usually get a better response and more loyalty from people, who have had a claims experience – it is actually the best advertisement, but it is expensive!*" (CFO General Insurance).

For more insights into resilience at Zurich Insurance, refer to the full case study in Appendix A

2 In many ways the ubiquitous terms *learning culture,* and *learning organisation* do not do justice to the approaches of the case study organisations. In both their no-blame and learning organisational culture, the case study organisations go further than what is commonly understood.

Enabling 'Review and Adapt'

Organisations need to review adverse events and near-misses that occur, learn from the experience and adapt the organisational processes and structure accordingly. A culture of structured learning is required based on independent review of what has occurred or is emerging and a strong desire to constantly improve organisational performance. This same approach is applied to the lessons that can be learned from pursuing business opportunities. Managers need to consider how each of the enablers of resilience, *people and culture*; *business structure*; *strategy, tactics and operations*; and *leadership and governance* can be enhanced to include structured *review and adapt* activities.

People and culture

At the case study organisations, learning is an absolute priority, so that it often becomes one of the core values of the organisation. At IHG, under the heading 'Aim Higher', the desired behaviours include: *"We put our hearts into learning new things"* and *"We always look for ways to improve"*[3]. Thus learning is an integral part of the culture and extensive training programmes for all types of risk management also ensure learning: "[We have] *developed numerous risk management training products available to our hotels and directed at both leadership roles and front-line staff"* (SVP Head of Global Risk Management, IHG).

Several of the case study organisations (such as Jaguar Land Rover, Zurich Insurance and AIG) have experienced difficult times. However, these organisations have learned from these circumstances and adapted their approaches, not just to risk management and resilience, but also to how they conduct their business. For example, Jaguar Land Rover today draws on the lessons learned when the organisation suffered from poor financial performance. Now its risk professionals and subject matter experts collect extensive data on market trends and ask questions to understand the business impacts of changes in market conditions. This also serves to enhance customer satisfaction and reinforce the importance of the *relationships and networks* principle.

A typical question at Jaguar Land Rover is: *"Assume we lose 10 per cent of volume, what are we going to do?"* Such questions and previous experience drive the organisation's response. For example, it has reallocated vehicles manufactured for one market to another one where they could be sold faster. There is a strong emphasis on identifying and learning from market trigger points, which are reported on a monthly basis to the executive committee. This learning and flexibility is embedded within all aspects of the processes of the organisation.

The goal of the Olympic Delivery Agency (ODA) was the construction of venues and infrastructure for the 2012 Summer Olympic and Paralympic Games. As the organisation was created with a limited and relatively short lifespan, it might be thought that there would not be much learning possible in such a timeframe. However, from the beginning, ODA focused on learning. This started with the analysis of the successes and problems encountered at previous Games (including Sydney, Athens and Beijing).

Once the construction programme started in the UK for the Olympic Games 2012, there was a keen focus on capturing learning from the most advanced projects. For example: *"The Stadium project began, say, on 'Day one' and the Aquatics Centre project kicked in at 'Day one hundred and one', so we were learning how to do things in the Stadium, which we would then reproduce within the other projects"* (Chief Risk Officer, ODA). This approach to learning from experience also meant that *"we recorded opportunities alongside risks, certainly at a project level and a programme level … mainly opportunities to save money or to save time"* (Chief Risk Officer, ODA)[4].

At Drax, constantly learning how to run the plant more safely and efficiently is viewed as essential: *"We've got to have the ability to learn, we need to be asking, enquiring, learning from others, there is generally someone at Drax who has performed this task or a similar task before: what issues have they had? Learn from them"* (Generation Manager, Drax). It is recognised that *"the second trait of all successful safety organisations is that you look for broader learning, which is what we try to do every week with the 'Safety Pack' … we're looking at any incidents that have happened across the site and we're looking for broader learning"* (Engineering and Safety Manager, Drax).

In addition to learning from within the organisation, Drax constantly looks outside: *"We do work with the universities* [and] … *our guys have spent a lot of time going over to various places …* [for example]*, Scandinavia, where they've got a very good history of working with biomass … learning, and engineers talking to each other and sharing ideas"* (Head of Risk and Corporate Finance, Drax).

A key issue at the power station is that much cleaning, maintenance and construction work is carried out by

3 The IHG case study in Appendix A includes a full definition of behaviours.

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4 This is another example of how resilience enables organisations to better deal with both the negative side of risk and the positive side (seizing opportunities).

contractors. The challenge is to have external suppliers adopt the same attitude towards safety because: *"I think at the moment we have probably got something like 2,000 contractors on site"* (Engineering and Safety Manager, Drax). As contractors are from other organisations, they need to be managed carefully: *"Our staff have the ability to learn because it is fed to them all the time. You haven't time to give some of the contractors the ability to learn, they're only here short term* [so] … *you've got to be much firmer and you've got to be able to get that message round … We take a very firm stance: if contractors break the rules … they're 'off site'* [immediately and] *the word gets quite quickly round the contracting fraternity"* (Generation Manager, Drax).

Business structure

Structures need to be adapted in the face of new learning, although organisational configurations tend to be taken for granted and often remain unchanged. The case study organisations on the other hand have not fallen victim to such malaise and have adapted their structures to ensure enhanced risk management and resilience capabilities. This demonstrates that implementation of the *review and adapt* resilience principle has a strong influence in achieving success and delivering goals.

The annual report of Drax summarises its view of structure saying that *"over time, all facets of the business are reviewed to ensure appropriate systems of control are in place and are working efficiently or, where they are not, deficiencies are rectified by timely and appropriate action"*[5]. The management of Zurich Insurance knows that a learning culture needs to be driven from the top. "*It has got to start at the top of the organisation, with supportive language that shows we are more interested in how we learn and move forward than holding an individual accountable"* (CEO, UK General Insurance, Zurich).

Although open communication is a component of the *relationships and networks* principle, it is also vitally important for other principles. Risk information is communicated through the *business structure* and is vital if the organisation is to learn from experience. All the case study organisations have taken steps to improve communication. For example at AIG, there is a recognition that poor communication leads to operational risk: *"Poor communication is probably one of the worst situations because it generally adds a lot of risk (operational risk) because poor communication is generating a situation where there is a lack of understanding from the staff, all over the organisation, of what the organisation wants to achieve. If there is a lack of clarity across strategies you have a recipe for failure"* (Managing Director, AIG UK).

At IHG, the organisational structure has been changed to match the challenges of protecting the reputation of the organisation and its many brands and hotels, which are mainly managed by franchisees. To achieve this, the organisation created a new function in 2011 called 'Business Reputation and Responsibility' (BRR), which brings together Risk Management, Internal Audit, Legal and Company Secretariat and Corporate Responsibility, with the same collective mission. Having risk management so closely linked to other departments has played an important role in raising the profile of risk issues within the whole organisation[6].

Working within BRR, the risk management department comprises subject matter experts in areas such as safety, security, fraud, business continuity, risk training, corporate risk management and risk financing. This creates a critical mass of expertise that helps to deliver the collective BRR mission *"to champion and protect the trusted reputation of IHG and its brands"* (SVP Head of Global Risk Management, IHG). These structural changes demonstrate the importance of reputation and also acknowledge that reputation is closely linked to the customer experience.

5 Drax Group plc, *Annual Report and Accounts 2012,* p33.

6 As reported by IHG at the workshop held at Cranfield School of Management on 11 July 2013.

Strategy, tactics and operations

Whilst many organisations concentrate on putting measures in place to mitigate risks that they have already experienced, they tend to ignore those that came close to causing a problem. The case study organisations, by contrast, recognise the important learning that can come out of considering such types of events. AIG identifies, reports and reviews situations where a risk (and related loss) was narrowly averted. The near-misses are reported up to the board and are investigated to ensure that the organisation learns from these situations. Similarly, AIG aims to learn from the situation where several different small risks can accumulate into something significant. This relates to becoming aware of and responding to the 'weak signals' that can indicate that a significant adverse change is about to occur.

At Drax, identifying potential risks and communicating them is actually incentivised: *"We award vouchers for people who put in near-misses … it is about the accolade of receiving the voucher, it gets publicised with people talking about it"* (Generation Manager, Drax). Safety 'near-misses' are photographed and the story of how they occurred is documented. The benefits of visualisation are obvious – *"because people can relate to pictures"* (Generation Team Section Head, Drax). The real value of near-miss reporting is that it also has a predictive angle: *"We have got safety statistics and we look at near-misses, they are allocated to plant areas, we look at the safety triangle, if you're getting lots of near-misses then it is likely that you're going to have a hit"* (Generation Manager, Drax).

Over the past two decades, organisations have become more customer-centric, with greater market orientation. The case study organisations are no strangers to this change. This shift has brought with it a revised approach to risk, risk management and resilience, based on market intelligence and measurement of customer satisfaction. It also demonstrates the link between the *risk radar, relationships and networks* and the *review and adapt* principles.

Zurich Insurance now gathers new types of data and consequently takes a less mechanistic and more holistic approach to understanding risk and resilience. This includes using behavioural data as a way of defining customer segments, rather than relying on 'cruder' risk assessment techniques such as credit scoring. This broader approach provides information that can be used to refine strategy, brand management and reputation. Information also becomes available to enable the organisation to develop more successful tactics to implement the selected strategy.

Leadership and governance

In the '*Roads to Ruin*' report, it was found that organisations that experienced problems had a risk information 'glass ceiling' hindering the flow of risk information to the board, resulting in board risk blindness. The case study organisations in the '*Roads to Resilience*' research appear to have learned from the deficiencies of others and dealt with this problem. At Zurich Insurance, this problem is avoided by a number of approaches. The philosophy of 'management by walking about', for example, is an integral part of the way resilience is built into the day-to-day behaviours across the organisation: *"It's an opportunity to connect the top to the bottom of the organisation – it's about having a real rapport and connectivity with the people that ultimately make up the business"* (CEO, UK General Insurance, Zurich Insurance).

AIG's experience from the 2008 crisis had a profound effect on the way it manages its business and particularly on the leadership needed in the management of risk. One of the lessons learned is that the board and executive teams view managing the risks to which the organisation is exposed as one of their most important tasks. The organisation's CEO, Bob Benmosche, introduced a monthly risk committee meeting, chaired by himself, that brings together the business unit heads, the head of actuarial, head of audit and head of risk management to discuss the main risks *"We lay out an agenda of all the things we think are the topical risks, the risks of the month and then we go through and say what do we need to do to deal with them"* (CEO, AIG).

The case study organisations have also reviewed and adapted their risk management structure to ensure that these are contemporary and up to the job. For example, AIG has reviewed the controls it has to deal with risks and ensures these are fit for purpose. "*We are trying to do this at various levels, we are constantly reviewing the controls we have at business level and provide a regular governance approach within the executive level. We are always trying to improve our control indicators to see clearly that the controls we have implemented are working and within a timescale and that allow us to make key decisions if required*" (Managing Director, AIG UK).

Summary of actions to achieve the 'Review and Adapt' principle

Research at the case study organisations resulted in the identification of a wide range of resilience practices under each of the four components of the ***review and adapt*** **principle, as follows:**

Actions

Structured Learning

- arrange peer group reviews of adverse events
- make arrangements for the communication of risk information
- develop a standard report format for risk information

Near-Miss Reporting

- incorporate lessons from near-miss incidents into risk training
- report resilience activities to internal and external stakeholders
- utilise the internal and external resilience networks

Independent Reviewing

- review of contractor and supplier risk performance
- undertake independent reviews to validate lessons learned
- control risk self-assessment procedure to obtain assurance

Desire to Improve

- include risk performance as part of supplier and contractor reviews
- focus on learning from adverse circumstances
- establish a format for risk / adverse event reporting

Complex challenges and risks relate, for example, to the unpredictable, uncontrollable, and irreversible actions and intentions of competitors and regulators, particularly in emerging markets.

Section 7: Implications for risk professionals

Section 7: Implications for risk professionals

Overview of the implications for risk professionals

This section provides commentary for risk professionals on the importance of each of the resilience principles and how they are related. These are the set of five principles identified in the research that facilitate increased resilience. The principles are inter-dependent, with *risk radar* being the overarching principle that helps deliver the proactive 'prevent, protect and prepare' outcomes, as well as the reactive 'response, recover and review' outcomes. Risk radar interacts with the proactive principles of *resources and assets and relationships and networks*. Successful resilience also requires achievement of the reactive principles of *rapid response* and *review and adapt*. Examples of the many resilience practices discovered in the research are included in this section to help risk professionals design the actions and priorities that will deliver enhanced resilience in their own organisations. The table of resilience practices can be used to benchmark the adequacy of the existing arrangements.

Introduction to implications for risk professionals

Previous sections of this report describe each of the principles that ensure the achievement of increased organisational resilience, with examples from the case study organisations. This section provides a consolidated view of the implications of the research, written from the perspective of risk professionals. It analyses how the five principles can be achieved and describes the relationship between them. To support risk professionals on their road to resilience, this section also gives examples of the practices observed in the case study organisations that enable them to achieve the five principles of resilience. Finally, it summarises the advice of the risk managers at the case study organisations that emerged from a resilience workshop held at Cranfield School of Management on 11 July 2013.

Based on the results described in Sections 2 to 6, the components of each resilience principle are shown in Table 7.1. It is important to note that the research identified that each of the principles needs to be present, albeit to differing degrees, in order to achieve resilience. As the principles support each other and are inter-dependent, resilience cannot be achieved if only one or two of the principles are in place.

Resilience includes, but goes beyond, seeking to avoid adverse events and ensuring rapid restoration of normal activities after a crisis. It can also facilitate innovation and enhance business performance, thereby helping the organisation seize opportunities. In addition to identifying the five principles, the research developed the following definition of resilience:

"Resilient organisations are discerning about risks they take; identify the importance of emerging trends; manage the impact and consequences (both beneficial and detrimental); cope with unexpected adverse events; rapidly bounce back stronger from a crisis; constantly adapt to change; and embed the lessons learned into their business enablers"

Nature of 'Resilience'

There are five principles that need to be achieved for an organisation to increase its resilience. These can be summarised by the five Rs, in that resilient organisations:

1. have exceptional *risk radar*
2. have *resources and assets* that are flexible and diversified
3. value and build strong *relationships and networks*
4. have the capability to ensure decisive and *rapid response*
5. *review and adapt* to changes and adverse events

Table 7.1
The five principles of resilience and their components

Risk Radar	
• high involvement • constant vigilance	• avoid complacency • challenging questioning
Resources and Assets	
• risk appetite • limit dependencies	• build flexibility • scenario planning
Relationships and Networks	
• shared purpose and values • no-blame culture	• open communication • customer focus
Rapid Response	
• decisive and appropriate actions • identified teams and processes	• empowered responses • rehearsed reaction plans
Review and Adapt	
• structured learning • near-miss reporting	• independent reviewing • desire to improve

Developing the principles of resilience

The boxed extract below from the Jaguar Land Rover case study illustrates the importance of combining the principles of resilience into a consolidated approach. *Risk radar*, *resources and assets*, *relationships and networks*, *rapid response* and *review and adapt* are all part of ensuring that Jaguar Land Rover has a resilient business model that proactively analyses key risk indicators to achieve continuous improvement in performance.

Leading organisations have exceptional *risk radar* and this is central to their resilience, but it is also crucially linked to the other principles. *Risk radar* is overarching in that it influences the nature of the *resources and assets* and the *relationships and networks*. Also, in the event of a crisis, the *resources and assets* and the *relationships and networks* need to be aligned so that the organisation has the *rapid response* capability and subsequently *review and adapt* in order to learn and innovate.

Case study: Jaguar Land Rover – identify key risk indicators

Complex challenges and risks relate, for example, to the unpredictable, uncontrollable and irreversible actions and intentions of competitors and regulators, particularly in emerging markets such as Brazil and China, volatility in currencies and commodity prices, global economic conditions and the ability of Jaguar Land Rover's suppliers to operate effectively under these circumstances. Here the company cannot rely solely on expertise, process and analysis to provide the right answer, as causes and effects may be initially unknown and irreversible after the fact. Instead it requires a combination of probing the future, sensing the direction of developments, and understanding what is and is not possible in order to quickly and confidently make decisions.

To paraphrase a quote by Ratan Tata, Chairman of Tata Group (1991-2012), it is not about "taking right decisions, but about taking decisions and then making them right". At this level, Jaguar Land Rover's strategy and enterprise risk management are an integrated exercise in which the company's Executive Committee Members are actively involved, including:

- informally on a continual basis
- formally on a monthly basis in a Business Performance Review meeting, and
- twice yearly with the Board/Audit Committee in formal Enterprise Risk Management meetings.

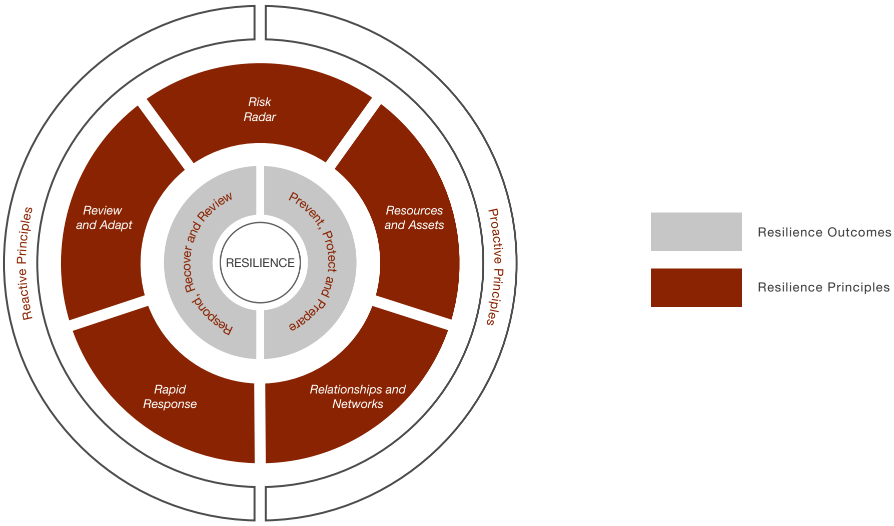
To be able to timely identify and understand the trends and developments that could indicate the future direction of sales volumes and cost bases in all global markets in which Jaguar Land Rover has a presence, and consequently the implications for funding and cash flows, corporate risk managers worked with subject matter experts across the business to identify the key indicating factors. Today, this analysis includes key economic, financial, product and legislative indicators as well as others.

Data for pattern analysis is obtained from a number of the company's databases, insights from 60 to 150 of Jaguar Land Rover's top leaders working in the key risk areas, studies by professional services companies and other external sources. Drawing on the lessons learned during the difficult times, these risk managers and subject matter experts use the data gathered to ask "*what if?*" questions to understand the business impact of specific changes in key indicators.

For example: "*Assume we lose 10 percent of volume, what are we going to do?*" or "*Assume an emerging market changes its fuel duty overnight, making our products less competitive, what are we going to do?*" Although these questions formed the genesis for today's scenario planning exercises and gave Jaguar Land Rover the ability to, for example, swiftly reallocate vehicles produced for one market to others where they could be sold faster, they also gave insight into the limits, or trigger points, beyond which mitigating actions are required by the Executive Committee.

For more insights into resilience at Jaguar Land Rover, refer to the full case study in Appendix A

Figure 7.1
Relationship between the resilience principles



Resilient organisations utilise their *resources and assets* and their *relationships and networks* to proactively manage risk by implementing risk management activities that help them prepare for anticipated adverse events and circumstances. *Risk radar* is also important in developing *rapid response*, as well as facilitating *review and adapt* capabilities. The *rapid response* and the *review and adapt* principles represent how an organisation will cope with unexpected adverse developments. These latter principles form the central components of successfully responding to a crisis, whilst ensuring that normal operations continue.

Actions to achieve increased resilience

Figure 7.1 demonstrates that *risk radar* is the means by which organisations anticipate the events and circumstances that could arise. The organisation then needs to take proactive actions in order to prevent or avoid adverse events, protect assets and resources from the events that do occur and prepare for the consequences. This 'prevent, protect and prepare' set of activities would usually be undertaken as part of a proactive initiative to improve standards of risk control. For most organisations, these risks will normally be identified, analysed, evaluated and recorded in the risk register.

A comprehensive approach to resilience requires actions to increase both the ability of the organisation to manage expected risks and the ability to deal with unexpected adverse developments. These resilience practices are designed to ensure that the organisation can respond to adverse circumstances, recover from any negative consequences and then review the lessons that have been learned. The 'respond, recover and review' activities are often incorporated into crisis management or contingency plans.

Increased resilience benefits an organisation in terms of efficient and effective *strategy, tactics and operations* and it also helps protect and enhance the reputation of the organisation. An organisation needs to apply the information obtained through its *risk radar* to undertake the following:

- anticipate the impact of the expected and predictable adverse events, circumstances, developments and trends by providing:
    - » *resources and assets* that are flexible and diverse
    - » *relationships and networks* that proactively manage risk
- deploy *resources and assets* and *relationships and networks* to respond to unexpected adverse developments by undertaking:
    - » *rapid response* and decisive actions in the event of a crisis
    - » *review and learn* from the crisis and enhance future performance

Practices to achieve each principle

To achieve resilience, organisations need to introduce appropriate practices and Table 7.2 provides examples from the case study organisations. In the case study organisations, these activities were planned and co-ordinated by senior risk professionals with a variety of job titles, including 'Risk Manager' and 'Chief Risk Officer' or CRO. Although a risk department may exist in the case study organisations, the approach taken by the risk professionals is to embed the principles of resilience throughout the organisation, rather than managing risk and achieving resilience as a separate, specialist function.

Table 7.2 can be used as a very practical tool by risk professionals. It provides a checklist of the actions that embed the resilience principles throughout their organisation. For example, to achieve *risk radar*, Table 7.2 shows that high involvement is essential and that the case study organisations routinely have project and team liaison meetings to discuss resilience and build the topic of resilience into training courses. They have liaison meetings with partners and contractors to ensure that 'weak signals' (indicators of emerging issues) are identified. Not every one of these actions is relevant to every organisation, but Table 7.2 comprehensively lists examples found within the case study organisations. It provides a structured approach to the achievement of each of the five resilience principles. Obviously, the specific practices to be implemented will depend on the size, nature and complexity of the organisation.

Table 7.2
Resilience practices to achieve each principle

Principle	Examples of Resilience Practices
Risk Radar	**High involvement** • routine project and other team liaison meetings to discuss resilience and draw on the knowledge and experience of operators • build on the culture related to existing skills, such as health and safety, by including resilience into training courses • business partners, contractor and supplier liaison meetings to identify 'weak signals' that indicate changes in circumstances **Constant vigilance** • market and social media intelligence networks to obtain information on lead and follow indicators relevant to the success of the organisation • monitor events that have damaged the reputation of a similar or rival organisation to raise level of risk awareness • investigate the financial security of suppliers and monitor customer buying patterns to identify 'weak signals' that changes are occurring **Avoid complacency** • learn from the experience and mistakes of other organisations and their resilience practices to develop enhanced resilience practices • routine informal review meetings with senior management to explore emerging risks and the business implications • review of supply chain and delivery chain risks that are critical, embedded and fundamentally important parts of the *business structure* **Challenging questioning** • top management and non-executive directors trained in risk management, so that they can ask challenging questions • structured challenges encouraged to ensure importance and dynamic nature of resilience is fully tested and analysed • forum established to discuss and challenge the presumptions on which the business model of the organisation is based

Resources and Assets

Risk appetite

- risk appetite positions established for operational risks to enhance awareness of risk and to empower decision-makers to plan accordingly
- risk assessments carried out and results recorded in a dynamic risk register(s), including analysis of risks at strategic, tactical and operational level
- risk committee that operates as a 'risk working group' to develop a co-ordinated response to changing or emerging risks

Limit dependencies

- structured empowerment of staff and others with semi-autonomous teams that are aware and supportive of the activities of other teams
- develop a cross-function (perhaps informal) structure to build and maintain a network of support and co-operation
- process in place to evaluate the extent of the assets / value at risk, both physically and by third-party contract

Build flexibility

- review of *resources and assets* at risk to identify accumulations of risk in a specific location or related to a specific activity
- structured procedure to consider resource and resilience implications when strategic, tactical and operational decisions are made
- establish risk assessment procedures to incorporate resilience considerations into board-level decisions on resource allocation

Scenario planning

- identify foreseeable scenarios that could disrupt the organisation and test the controls and responses currently in place
- undertake rehearsals of established crisis response plans to ensure that the plan remains up-to-date and effective
- ensure that the impact of social media is included in crisis plans, so that potential for reputational damage is recognised

Relationships and Networks

Shared purpose and values

- specifically plan for communication of the purpose and values of the organisation and details of risk management expectations
- involve suppliers and contractors in resilience planning by formal and informal meetings and the open sharing of information
- ensure that resilience is an expectation of suppliers and (as appropriate) assist customers in their resilience activities

No-blame culture

- embrace a no-blame supportive culture and consider the possible removal of penalty clauses from supplier contracts
- encourage the reporting of near-miss incidents and adverse changes in circumstances by all stakeholders
- establish procedures for the investigation of adverse developments that are open and fair and encourage participation by all relevant parties

Open communication

- specifically plan communication arrangements that will ensure the absence of a risk information 'glass ceiling' and 'glass walls'
- establish an 'open door' culture to ensure effective communication with suppliers and others to explore any problems in advance of a crisis
- share concerns openly with a strong focus on risk communication, including formation of multi-discipline cross-function risk groups

Customer focus

- encourage board members and top management to experience the products / services from the customer point of view
- involve top management in discussions about the customer experience based on satisfaction surveys and other customer feedback
- facilitate a brand / reputation risk assessment workshop to identify the risk to reputation and how brands can be protected and enhanced

Rapid Response	**Decisive and appropriate actions** • classify risks to resilience, so that appropriate risk monitoring and/or risk escalation / trigger procedures can be established • include near-miss, scenario planning, accumulated risks and behavioural aspects in risk response plans • receive, investigate and respond to whistle-blowing reports to develop a willingness to report these circumstances **Identified processes and teams** • establish nominated crisis management teams that are separate from normal management and have defined roles and responsibilities • introduce shared and structured training sessions to enhance plans and demonstrate that resilience is about culture, not rules or process • ensure that trigger levels and escalation procedures are established for emergency teams to eliminate ambiguity in activation of the crisis plans **Empowered responses** • establish authority levels for empowerment of staff, suppliers and contractors to deal with adverse circumstances and developments • conduct scenario testing to ensure that responses are embedded and crisis team(s) with the necessary authority levels are identified prior to the crisis • align resilience activities with other roles and responsibilities to ensure normal activities can continue during a crisis or disruption **Rehearsed reaction plans** • establish a schedule of crisis rehearsal activities involving different parties according to the scenario being tested • arrange for independent appraisal of the results of the scenario testing exercises, with written reports, if necessary • evaluate the scenario testing appraisal reports and incorporate improvements and recommendations, as appropriate

Review and Adapt	**Structured learning** • arrange peer group reviews of adverse events or developments to discuss and agree actions to improve the resilience of the organisation • ensure effective arrangements for the communication of risk information throughout the *business structure* to share learning • develop a standard report format for risk and resilience information that will ensure the necessary level of impact and engagement **Near-miss reporting** • incorporate the lessons from near-miss incidents into risk training and use the experience of others to develop realistic disaster scenarios • report resilience activities to internal and external stakeholders with recognition of the potential for damage to reputation from failed resilience • utilise the internal and external resilience networks to communicate information to ensure enhancement of future performance **Independent reviewing** • establish arrangements for review of contractor and supplier performance after an adverse event to ensure that lessons are learned • undertake an independent review by internal audit and/or external agency following scenario testing to validate lessons learned • consider the scope for a control risk self-assessment procedure to obtain assurance and seek information from incidents **Desire to improve** • include risk performance as part of supplier and contractor reviews to ensure that lessons are learned from experience, including near-misses • focus on learning from adverse circumstances, including agreement on how enhancements will be incorporated into *strategy, tactics and operations* • establish a format for risk / adverse event reporting, so that the importance of organisational resilience is understood by all stakeholders

Advice for risk professionals on achieving resilience

The risk professionals interviewed in the research spent significant time and effort guiding their organisations towards increased resilience. Based on their own experiences[1], these risk professionals had detailed advice for others embarking on the road to resilience. Their views covered three areas:

1. Potential barriers to resilience: risk professionals said that they were involved with *"creating the environment in the organisation that brings about a fundamental challenge to the way risk is addressed and managed";* and *"establishing that ownership of risks is clear – the business* [should be the risk owner], *not the risk manager".* The question that risk professionals said they needed to ask themselves was: *"How do you mobilise your entire workforce / supply chain / contract network to manage risk?"* It was recognised by risk professionals that this cultural change needed to be driven from the top. Additionally, they perceived that part of the road to resilience required risk managers to overcome *" … their natural instinct to … apply too much logic and analysis"*

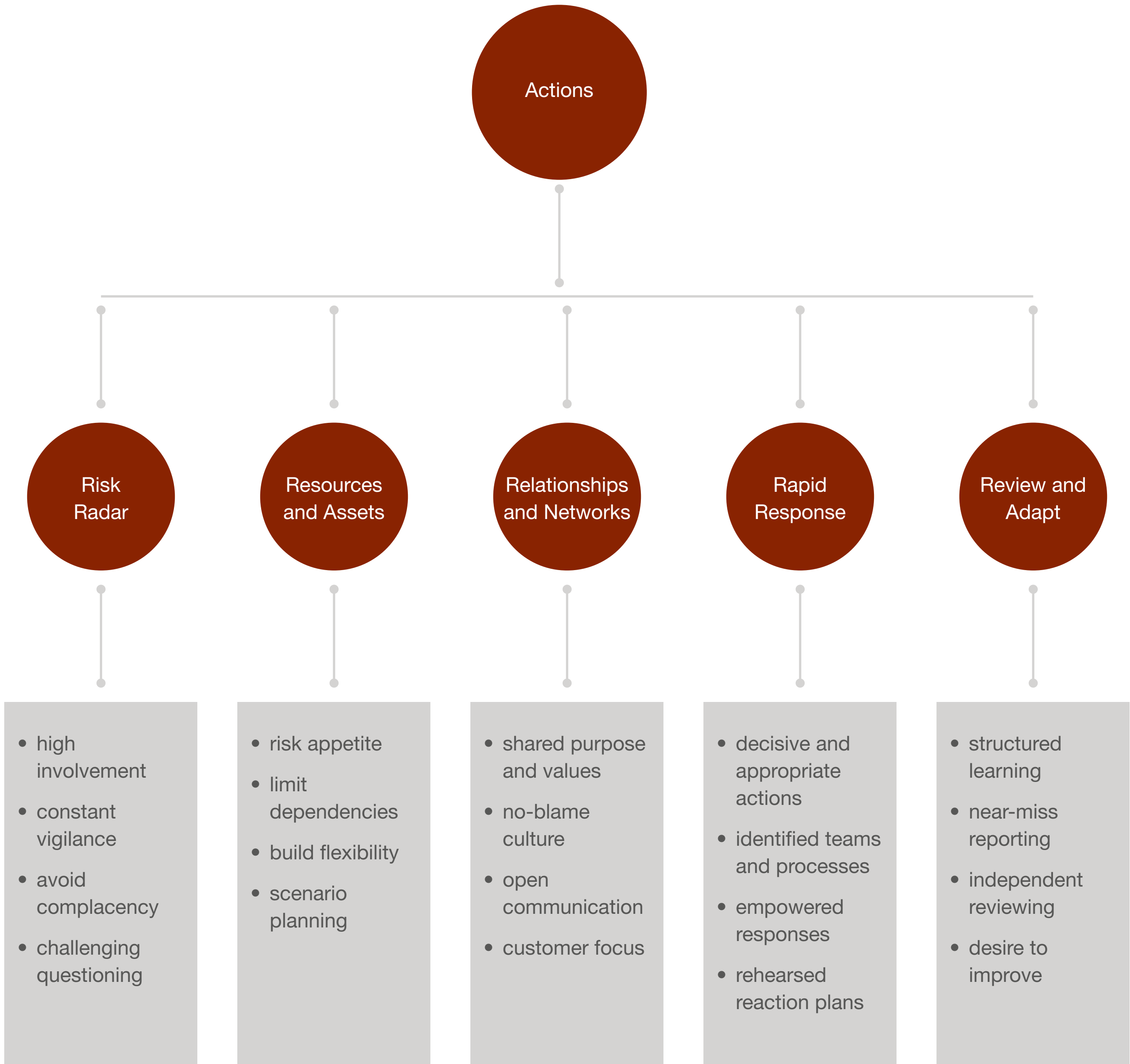
2. Implication for risk professionals: it was perceived that the risk manager's role is changing significantly. Risk managers must embed the right thinking throughout their organisations, by communicating, educating and making risk and resilience issues more visible. One risk manager summarised this as follows: *"The risk manager must become a valued senior provider to the business".* At the same time, risk managers should not hide behind rules and regulations. Instead, they should adapt their language and style to the audience. The advice was: *"Get out from your office and engage with the workforce in their environment and remember they know more about their risks than you do, they may just not be able to articulate it".*

3. The role of tools and techniques: traditionally, risk management has had a strong focus on tools and techniques. Interestingly, risk professionals at the case study organisations did not view the application of tools and techniques as a central part of increasing resilience. Instead, they said: *"Resilience is more about culture, behaviour, mindset and insights"; "Talking to people is indispensable";* and *"Awareness of tools and techniques is good – imposition is bad".* It was also recognised that communication is critical because *"Tools help to simplify, but are only there to articulate meaning to key decision-makers".*

1 The ideas and quotes presented here are based on the discussions at the workshop held at Cranfield School of Management on 11 July 2013. Further details of the outcomes of this workshop are given in Appendix B.

Summary of implications for risk professionals

Overall, risk professionals need to plan how they will lead the drive towards greater resilience. They need to obtain a board mandate to develop and implement an action plan to achieve the five principles of resilience. This plan should define the benefits of enhancing the business enablers to increase efficiency and effectiveness. Research at the case study organisations resulted in the identification of a wide range of resilience practices under each of the five principles to deliver the components of each principle, as follows:



If risk information is not being supplied to the board because of a ‘glass ceiling’, risk blindness will prevent the board fulfilling its risk governance responsibilities.

Section 8: Implications for Board Members

Section 8: Implications for Board Members

Overview of the implications for board members

Board members need sufficient and timely risk information to determine whether appropriate resilience is being achieved. If risk information is not being supplied to the board because of a 'glass ceiling', risk blindness will prevent the board fulfilling its risk governance responsibilities. Business enablers are present in every organisation and they help define the business model and culture. Increased resilience is achieved when the business enablers are enhanced by taking specific actions identified in this report, with board members proactively driving this change in behaviour and culture. This section includes an extensive checklist of questions the board and senior executives should ask to gain assurance that the required level of resilience has been achieved. The resilience matrix from the research illustrates how (often separate) risk management and crisis management activities need to be co-ordinated to create a resilient organisation that is prepared for and protected from the expected, as well as being able to cope with and learn from the unexpected.

Introduction to implications for board members

This section considers resilience from the point of view of the board and senior executives of an organisation and it describes the benefits of increased resilience. Resilience brings significant business benefits that were identified by the case studies (see Appendix A). In particular, resilient companies have highly developed early warning systems (termed *risk radar* in this report) that help them prevent issues developing into problems and crises. Resilient organisations recognise that repeated small issues can mark the beginning of a trend that may be detrimental (or beneficial). So a significant benefit of resilience is the ability to recognise the early indications of an emerging threat or opportunity and respond rapidly. Another key benefit is that developing responses to expected problems helps identify actions that should be taken when the unexpected occurs.

The research identified other considerable benefits. For example, the case study organisations apply risk management thinking to tactics and strategy, as well as their operations. Analysing both the upside and downside of their chosen business strategy increases their awareness of business risk. The scope of resilience practices spans three times horizons of risks, from long-term strategic to medium-term tactical to short-term operational risks. Strategic or long-term risks are related to the brands, business model and reputation across key stakeholders. Tactical risks are medium-term and can impact the delivery of strategy, commercial targets and plans for change. Finally, short-term operational risks can affect the safety and security of physical assets, people, systems and processes.

The aim of resilience is to help an organisation protect its brand and enhance its reputation. The case study organisations also showed that highly focused customer-centric behaviour is a key part of resilience. Resilience helps them to deliver consistently on their promises, even under a wide range of challenging conditions and adapt their operations constantly to stay successful. The ability to achieve high levels of customer satisfaction, even in challenging circumstances, enhances the most valuable asset of an organisation – its reputation. Although the advantages of resilience are clear, lessons from the research show that achieving it is not simple. In particular, it requires board members to provide a mandate to their risk professionals to facilitate the many enhancements required to achieve resilience.

Table 8.1
The business enablers and associated resilience action points

People and Culture	
• increase risk awareness	• avoid board risk blindness
Business Structure	
• develop risk architecture	• plan crisis management
Strategy, Tactics and Operations	
• determine risk attitude	• undertake risk assessment
Leadership and Governance	
• establish resilience agenda	• ensure risk governance

Understanding the business enablers

The research identified five principles of resilience: exceptional *risk radar*; *resources and assets* that are flexible and diversified; strong *relationships and networks*; capability to ensure decisive and *rapid response*; and the ability to *review and adapt* following adverse events. The principles are explained in detail in Section 7, but they do not exist in isolation or emerge without the full support of the board by way of an explicit board mandate. They are built on four critical features or characteristics of an organisation, which this report calls the business enablers:

- *People and Culture*
- *Business Structure*
- *Strategy, Tactics and Operations*
- *Leadership and Governance*

These four business enablers can be thought of as the key 'levers' that board members can use to build resilience and where they need to provide leadership. It should be stressed that the attitude of the board to resilience and the leadership it provides are pivotal to increasing resilience. This conclusion was also reached by another recent Airmic report, which stated that *"it is for the top management of the company, including the board and executive committee, to establish the risk agenda"*[1].

The business enablers are, of course, inter related and mutually supportive. The *people and culture* enabler underpins the activities to be undertaken and the processes to be managed[2]. It supports the *business structure* enabler, which also defines the means of communication and ensures that resilient organisations do not have a risk information 'glass ceiling' leading to board risk blindness.

The *people and culture* enabler operates through the *business structure* to deliver the *strategy, tactics and operations* for the organisation. Finally, *leadership and governance* is the ultimate business enabler that protects all aspects of the organisation, including reputation. It ensures efficiency and effectiveness of the *strategy, tactics and operations*, the *business structure* and the *people and culture* of the organisation.

Effective business enablers provide the foundation for a resilient organisation. These enablers are present to some extent in all organisations, but it is the actions that organisations take to enhance them that achieves increased resilience. Table 8.1 lists the enablers and the main actions that the research showed board members can take to enhance them.

1 Risk Reporting: Review of risk reporting by selected FTSE350 companies and commentary on the relevance and benefits of detailed risk disclosure, *Airmic Technical Report 2013*, p36.

2 As recognised by one IHG manager, saying that organisational culture is essential is a cliché; however, it is the responsibility of the board to drive the change in culture from risk being managed by a department, to risk management being embedded throughout the organisation.

In order to achieve an integrated approach to resilience, an organisation needs to empower all stakeholders to engage with the risk management and resilience agenda. For example, the boxed extract from the AIG case study set out below provides an insight into how open disclosure of risk information benefits strategy. AIG demonstrates that an open and supportive culture enhances resilience and ensures that management of risk is recognised as a shared responsibility.

Case study: AIG – open disclosure benefits strategy

The company has an open and supportive culture where employees are urged to "*put your hand up*" to ask for help. *"for a young person coming in, (I was one of those 15 years ago) I was told if you've made a mistake, you've come across something, put your hand up, ask for help, ask questions*" (Executive Director, Commercial Lines Division).

It is acceptable behaviour for employees to ask questions of those above them; they are strongly encouraged to ask difficult questions and to raise concerns about possible problems. There is an acceptance at the senior levels in the organisation that asking difficult or embarrassing questions is beneficial (rather than just tolerating issues out of politeness): " *… the more questions you have, the more you can learn and the less gaps you have, so even if they think they are embarrassing it is absolutely correct to put them on the table*" (Managing Director, UK). The open discursive culture provides an environment "*where people can challenge others, where people can challenge themselves, they can challenge our management, they expect to be challenged by their management and then they can report openly on what's going on because they realise that open disclosure is generating a benefit to the overall strategy and to the whole company*" (Managing Director, UK).

The culture of the organisation is people centred: "*Each time I see someone who has just been appointed a new manager, each time I'm talking to someone who is probably going to be appointed as a manager, I ask them the same question: 'What do you think is your biggest responsibility?'. Invariably the person will say making sure that I'm going to deliver whatever is going to be the budget for next year. And I say: 'Business is key but your primary responsibility is that you are now in charge of your people … you're in charge of the safety and security of your people and only when you are comfortable with that can you start doing your business as a manager'.*" (Managing Director, UK). This attitude and the open supportive culture help to explain why the employees are engaged, they feel they are a valued part of the organisation.

Risk management is considered to be everybody's job, it is everybody's obligation rather than the responsibility of the risk management function: " *… everybody is managing all the risks all the time … risk is everybody's business and we just push that every time we can, it is everybody throughout the organisation who is involved*" (Chief Risk Officer).

For more insights into resilience at AIG, refer to the full case study in Appendix A

Matrix to illustrate resilience

Figure 8.1 illustrates the nature of organisational resilience. It plots increasing standards of control on the horizontal axis against increasing ability to respond to the unexpected on the vertical axis. It shows that an organisation with good standards of control will be ready for expected adverse events, challenges or situations and is described as 'Risk Compliant'. An organisation that has a high ability to cope with unexpected adverse events will have a successful set of crisis management arrangements in place and is described as 'Risk Responsive'.

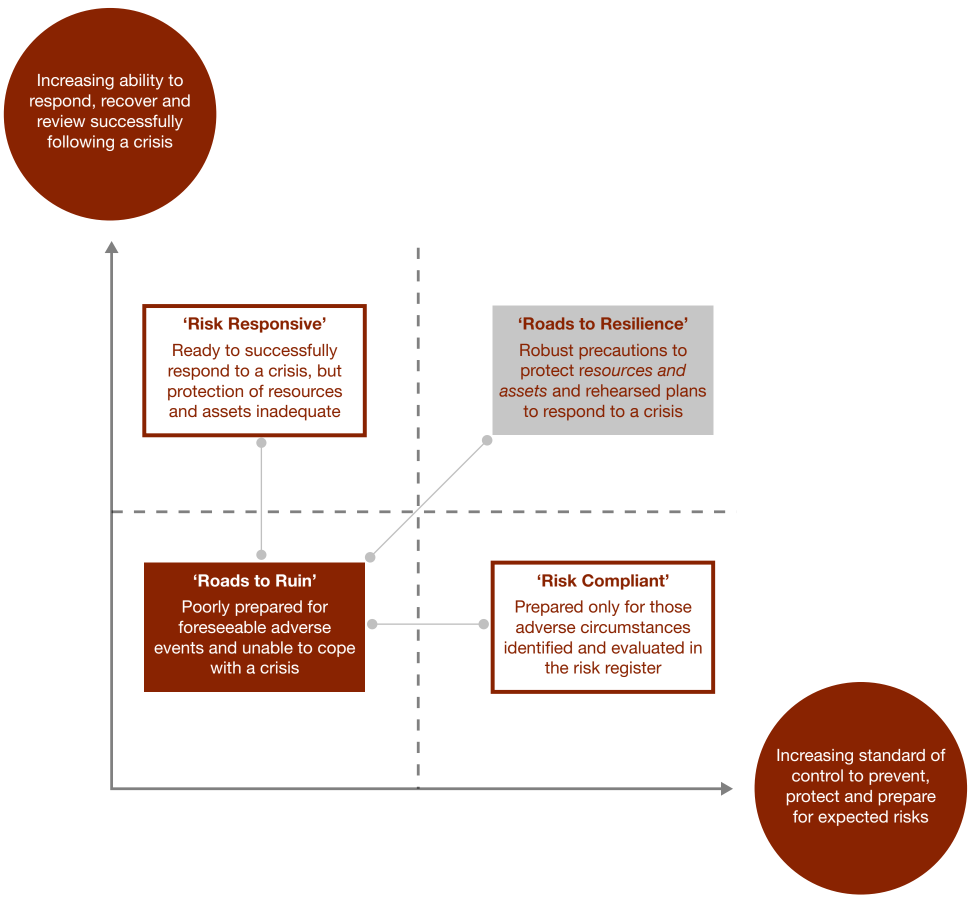
Organisations with inadequate standards of risk control and an inability to cope with unexpected adverse events are on the '*Roads to Ruin'*, as identified in the 2011 research published by Airmic. Organisations may be 'Risk Compliant', but they are only prepared for the expected risks listed in the risk register. In these circumstances, the risk register can provide a source of false security. Conversely, organisations that believe they have well-developed crisis management plans may be insufficiently proactive in the management of risks.

Being able to 'respond, recover and review' is not sufficient on its own. The 'Risk Responsive' approach ignores the advantages of the 'prevent, protect, prepare' activities that are designed to reduce the likelihood and consequences of adverse events.

Figure 8.1 indicates that when the organisation has combined risk control with risk response, it is following the '*Roads to Resilience'* approach and is prepared for the expected, as well as being able to cope with the unexpected. Such an organisation will ultimately benefit from the challenges encountered and come back stronger when faced by adverse circumstances. Table 8.6 summarises the resilience outcomes in terms of the benefits that result. These benefits arise from enhancement of the four business enablers and are aligned with the achievement of the five resilience principles.

...the risk register can provide a source of false security...

Figure 8.1
The resilience matrix



Actions to enhance each business enabler

For top management (both the board and the senior executives), it is essential to decide on the actions required to enhance each business enabler. Each of the business enablers has two groups of actions that increase organisational resilience. Enhancement of the business enablers to achieve increased resilience, delivers benefits such as increased trust and improved reputation and the elimination of the risk information 'glass ceiling' and 'glass walls' that cause board risk blindness. The two groups of action points for each of the four business enablers are set out in Tables 8.2 to 8.5.

1. **People and Culture**

   The intention is to establish a learning *people and culture* based on trust and respect that (1) has a high level of risk awareness to identify trends and thereby correctly analyse, evaluate and respond to risks; and (2) avoids board risk blindness caused by the 'glass ceiling' (and 'glass walls') reported in the Airmic '*Roads to Ruin'*, resulting in excellent risk reporting and a no-blame culture, whilst ensuring that stakeholders are committed to a shared common purpose and values.

   Resilience action points

   - increase risk awareness: establish market intelligence networks to obtain information, including relevant lead and follow indicators and identify innovative approaches to achieving resilience by learning from the experience of others

   - avoid board risk blindness: encourage the sharing of risk information, embrace a no-blame culture and consider removing penalty clauses from supplier contracts, whilst retaining accountability and involvement in resilience planning

Table 8.2

People and culture resilience checklist for the board

'People and Culture' resilience checklist

Board members should ask "*to what extent are the board and senior executives sufficiently aware and/or provided with necessary information and assurance regarding … "*

Increase risk awareness

1. The means of staying abreast of risks in the external operating environment and frequency of updating the information

2. The mechanisms for maintaining constant risk vigilance and detecting 'weak signals' and trends in the business environment

3. The factors that underpin the reputation of the organisation, stakeholder expectations and potential sources of reputational damage

4. The means for reporting concerns about risks and how these are received / welcomed and actioned by management

5. The nature and extent of the inherent risks and the presumptions in the business model for the organisation

6. The tone set by the senior executives with respect to risk and resilience and the steps taken to avoid complacency

Avoid board risk blindness

1. The arrangements for risk communication and reporting to the board to ensure that a 'glass ceiling' for risk information is avoided

2. The extent of challenge and debate in respect of risk-weighted decision-making for *strategy, tactics and operations*

3. The incidents, including near-miss events and how these are analysed at senior level to ensure a culture of continuous learning

4. The no-blame culture within the organisation and willingness by staff and business partners to admit mistakes

5. The use of risk-based objectives as part of the personnel evaluation and development leading to structured learning

6. The formal and informal channels of communication for risk information, including whistle-blowing

2. **Business Structure**

The intention is to establish an inclusive and open *business structure* with (1) an established means of communicating on risk management issues by way of a robust risk architecture, including defined resilience roles and responsibilities; and (2) well-developed and validated crisis response plans that have been fully tested and rehearsed as appropriate.

Resilience action points

- develop risk architecture: establish a risk architecture, including representatives from the supply chain, contractors and business partners to evaluate risk exposures and develop co-ordinated responses to changing or emerging risks

- plan crisis management: nominate crisis management team(s) separate from normal management to be activated at pre-determined trigger point(s) for different types of risks that could cause disruption and/or damage to reputation

Table 8.3

Business structure resilience checklist for the board

'Business Structure' resilience checklist

Board members should ask *"to what extent are the board and senior executives sufficiently aware and/or provided with necessary information and assurance regarding … "*

Develop risk architecture

1. The risk architecture to overcome the risks associated with organisational complexity in relation to resilience

2. The terms of reference, membership and activities of the risk committee and the quality of the reports received and issued

3. The risk management roles and responsibilities of the senior executives in the organisation and how they are monitored

4. Communication to staff, suppliers and others on risk management to clearly define risk responsibilities

5. The nature, extent and effectiveness of risk and resilience training for staff, contractors and suppliers

6. The level of empowerment and delegation of risk decision-making responsibilities to stakeholders

Plan crisis management

1. The nature and extent of the identified crisis situations and scenarios that might become realities

2. The plans and processes in place to handle unexpected disasters and whether the organisation can withstand the consequences

3. Leadership roles in a crisis, for managing the crisis and for maintaining normal operations

4. The level of authority that has been granted in advance to individuals who will be required to manage a crisis

5. Arrangements to deal with adverse publicity, including social media in the event of a crisis

6. The planning and rehearsal exercises that have been undertaken to test crisis communication and other protocols

3. **Strategy, Tactics and Operations**

The intention is to establish a risk-based, well-informed and integrated approach to *strategy, tactics and operations* based on (1) clear understanding of the risk attitude of the board and senior executives with risk appetite guidance for managers; and (2) suitable and sufficient risk assessment activities throughout the development and implementation of the *strategy, tactics and operations* of the organisation.

Resilience action points

- determine risk attitude: establish the risk attitude of the board and develop risk appetite positions for each of the main types of risk to support decision-makers and ensure that decisions are linked to risk exposures, so that threats to resilience are seen as a risk to the reputation of the organisation

- undertake risk assessment: develop a dynamic approach to risk assessment, so that the risk register becomes more than a list of risks, acts as a resilience action plan and provides clear understanding of the actions to be taken in the event of emerging risks and/or adverse circumstances arising

Table 8.4

Strategy, tactics and operations resilience checklist for the board

'Strategy, Tactics and Operations' resilience checklist

Board members should ask *"to what extent are the board and senior executives sufficiently aware and/or provided with necessary information and assurance regarding … … "*

Determine risk attitude

1. The attitude of the organisation to risk and seizing the opportunities that taking risks can deliver

2. The information required by the board to discuss topics and concerns related to risk and resilience

3. The attitude of the organisation to high-risk activities, including whether there is a means of sharing this with the board

4. The mechanisms by which the board would stop or veto high-risk strategic, tactical and/or operational activities

5. The links between risk and the strategy, so that the board can identify the 'risks it is willing to take'

6. Information on the emerging risks and changes that have occurred in the previous 12 months

Undertake risk assessment

1. The extent to which risk assessments are undertaken for all aspects of the *strategy, tactics and operations* of the organisation

2. The procedures in place for undertaking risk assessment in the organisation and how these are co-ordinated

3. Whether risk assessment procedures include consideration of the risks inherent within the business model

4. Whether annual budgets and capital expenditure projects are assessed on approval and are subject to post-implementation reviews

5. The key dependencies and whether there is any over reliance on specific suppliers or partners

6. The trigger points at which developing risks are escalated, including procedures for escalation to the board

4. **Leadership and Governance**

The intention is to ensure *leadership and governance* arrangements based on (1) an established, proactive, relevant and dynamic resilience agenda for the organisation; and (2) adequate risk governance protocols, procedures and reports, including arrangements for responding to whistle-blowing and the reporting of near-miss incidents.

Resilience action points

- establish resilience agenda: establish a resilience agenda supported by a board mandate that requires internal and external training for all stakeholders, including top management and non-executive directors to ensure understanding of the dynamic nature of organisational resilience

- ensure risk governance: create an appropriate and proportionate version of the ‘three lines of defence’ governance model with supportive relationships throughout, including proactive arrangements for receiving risk information, including near-miss and internal whistle-blowing reports, as sources of assurance

Table 8.5

Leadership and governance resilience checklist for the board

'Leadership and Governance' resilience checklist

Board members should ask "*to what extent are the board and senior executives sufficiently aware and/or provided with necessary information and assurance regarding …* "

Establish resilience agenda

1. The level of risk and resilience expertise that the organisation has directly available on the board and to the board
2. The resilience strategy for the organisation and the board mandate to achieve the five principles of resilience
3. The extent to which the board approves the resilience responsibilities and accountabilities of executives
4. The time, seniority, expertise, knowledge, skill and experience of senior staff member(s) leading the resilience function
5. The resilience and risk management implications and requirements of incentive schemes for the organisation
6. The activities in place to ensure that the risks to the reputation of the organisation are safeguarded
7. The relationship between the risk / resilience considerations and the 'going concern' audit requirements

Ensure risk governance

1. The basis on which risk management fits into the governance structure and the nature and extent of risk governance and risk reporting
2. The sources of assurance available to the board and details of the principal risks and critical controls for the organisation
3. The critical controls are operating as designed and that risks are managed in line with risk attitude and risk appetite
4. The nature, extent and frequency of the reports prepared for the board to provide assurance, including changes since the previous report
5. The delegation arrangements in place to any board sub committee and whether they are operating as intended
6. Regulatory, compliance and reputational risks and how they are included within risk governance arrangements
7. The arrangements and protocols for review of the operation and effectiveness of the board itself

Challenges for boards on achieving resilience

The risk professionals at the case study organisations have guided and supported their own board members and senior executives along their chosen road to resilience. These risk professionals also identified what they regarded as the key points for board members and senior managers[3]. They discussed the role of the risk professional in achieving organisational resilience and the need for them to advise board members on the potential impact and consequences of failure to manage risk. It was agreed that there is a need for risk management activities to become transparent and for the board and senior executives to recognise the importance of culture.

The risk professionals suggested the following three main implications for boards:

- Potential impact of risk: the need to recognise the potential impacts of risk on the business and brand and this was articulated as *"understand the strategic and brand / reputational implications of operational failures"*
- Recognise the cultural issues: the need for the board to recognise the cultural issues: "*Recognise it is more about culture than process"* and *"Recognising the need to create / maintain a culture – embedded in all staff rather than … an enforcement function"*; and
- Need for communication: the need to communicate and make risk management, crisis management and resilience transparent: *"Risk management must be used as an integral part of the management of the business and not a tick-box exercise"*

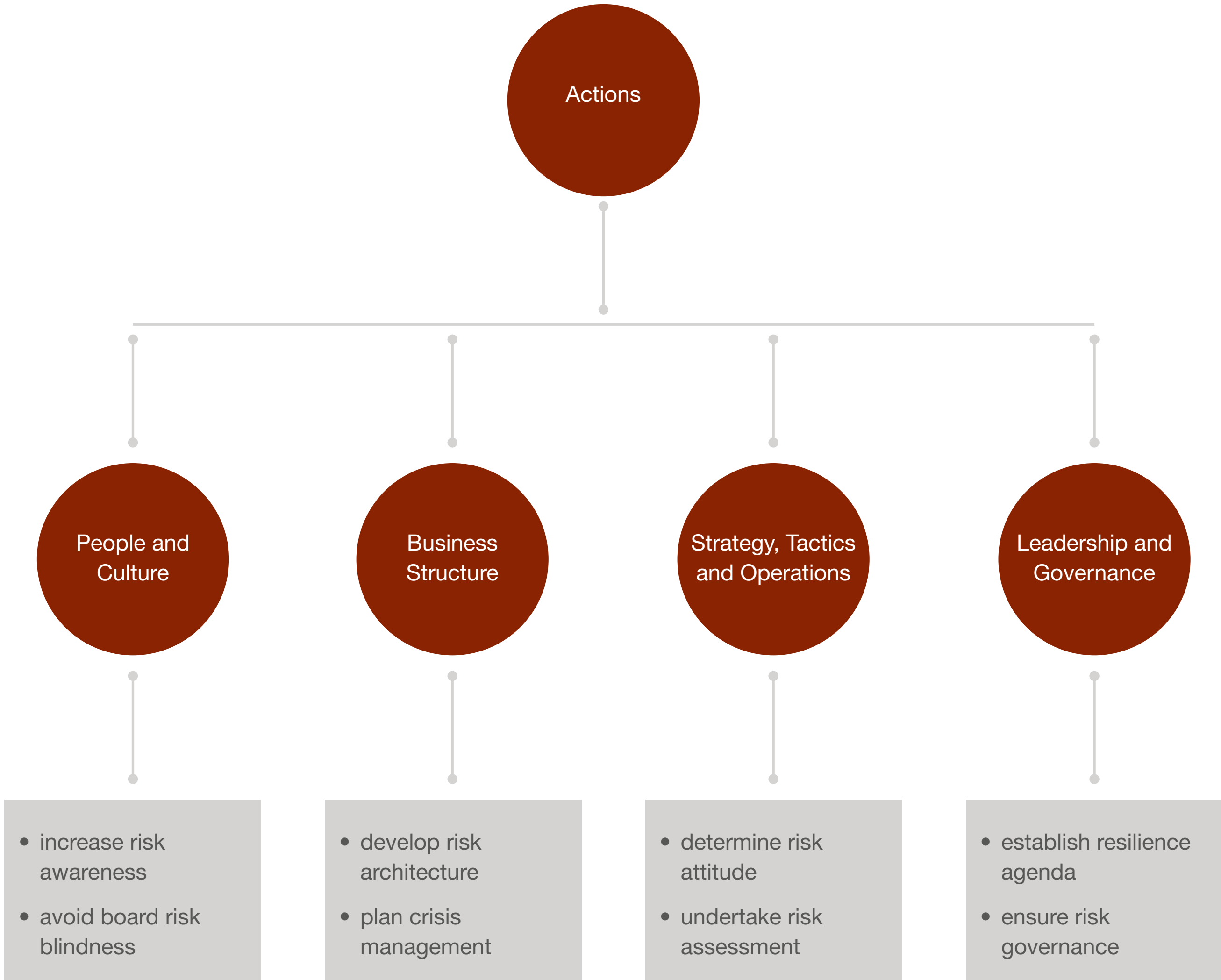
Table 8.6
Organisational resilience and associated outcomes

Prevent, Protect and Prepare	
• controls in place for the expected risks, as described in the risk register • robust risk awareness to assist with design and implementation of strategy	• optimal utilisation of *resources and assets* to take advantage of opportunities • supportive *relationships and networks* to build successful brands and reputation
Respond, Recover and Review	
• ability to respond to a crisis, cope with the unexpected and learn lessons • knowledge of emerging risks to help develop and test crisis management plans	• crisis plans to respond successfully to adversity and achieve enhanced profile • identified lessons and amended business model to gain competitive advantage

3 The ideas and quotes presented here are based on the discussions at the workshop held at Cranfield School of Management on 11 July 2013. Further details of the outcomes of this workshop are given in Appendix B.

Summary of implications for board members

Overall, the requirement for organisations to be resilient has never been greater. Boards need to provide a clear mandate for risk professionals to implement the five principles of resilience. Members of boards need to ensure the necessary enhancements to business enablers take place. Research at the case study organisations identified a wide range of resilience actions to enhance the business enablers, summarised as follows:



“Risk management must be used as an integral part of the management of the business and not a tick-box exercise”

Appendix A: Case Studies

Case study: AIG

Introduction

American International Group (AIG) is a multinational insurance company, serving commercial, institutional and individual customers in more than 130 countries[1]. AIG history dates back to the beginning of the 20th Century starting in Shanghai, China; after the end of the Second World War, it saw dramatic growth as it expanded in the US and other markets such as Asia, Europe, Latin America and the Middle East. The company very quickly grew to be the world's largest insurance group and, by 2008, it was the 18th largest company in the world. However, this growth came to an end in 2008 as the company suffered a liquidity crisis and it was rescued by the US Treasury by the provision of a lending facility of $182.5 billion. The reversal of fortunes led to the company contracting and there were several changes in the boardroom as directors and senior managers departed. Mid 2009 saw the appointment of a new CEO, Bob Benmosche. Under his strategic leadership, the company has come out of the crisis with revenues of $65.7 billion in 2012, and the final shares owned by the US Treasury were sold in late 2012, resulting in a profit of $23 billion to the US Government and Tax Payer and closing off the lending facility.

People and culture

The company has an open and supportive culture where employees are urged to "*put your hand-up*" to ask for help. "*For a young person coming in, (I was one of those 15 years ago) I was told if you've made a mistake, you've come across something, put your hand up, ask for help, ask questions*" (Executive Director, Commercial Lines Division).

It is acceptable behaviour for employees to ask questions of those above them; they are strongly encouraged to ask difficult questions and to raise concerns about possible problems. There is an acceptance at the senior levels in the organisation that asking difficult or embarrassing questions is beneficial (rather than just tolerating issues out of politeness): " *… the more questions you have, the more you can learn and the less gaps you have, so even if they think they are embarrassing it is absolutely correct to put them on the table*" (Managing Director, UK). The open discursive culture provides an environment "*where people can challenge others, where people can challenge themselves, they can challenge our management, they expect to be challenged by their management and then they can report openly on what's going on because they realise that open disclosure is generating a benefit to the overall strategy and to the whole company*" (Managing Director, UK).

The culture of the organisation is people centred – "*Each time I see someone who has just been appointed a new manager, each time I'm talking to someone who is probably going to be appointed as a manager, I ask them the same question: 'What do you think is your biggest responsibility?'. Invariably the person will say making sure that I'm going to deliver whatever is going to be the budget for next year. And I say: 'Business is Key but your primary responsibility is that you are now in charge of your people … you're in charge of the safety and security of your people and only when you are comfortable with that can you start doing your business as a manager'.*" (Managing Director, UK). This attitude and the open supportive culture help to explain why the employees are engaged, they feel they are a valued part of the organisation.

1 Based on: ***http://www.aig.com/investors_3171_437776.html***

Risk management is considered to be everybody's job, it is everybody's obligation rather than the responsibility of the risk management function: " *… everybody is managing all the risks all the time … risk is everybody's business and we just push that every time we can, it is everybody throughout the organisation who is involved*" (Chief Risk Officer).

Business structure

The company has in the past couple of years moved away from a silo approach, (with each area having its own approach to what risk was acceptable). In the lead up to the problems of 2008, this approach would have been beneficial because big profits in some areas would offset the lower returns in others and also provide protection against the various shocks (large insurance claims by customers) the organisation would experience from time to time. The silo mentality meant that "*there was minimal corporate infrastructure and so the ability to look horizontally across the business was weak*" (Chief Risk Officer and Head of Strategy for the Property Casualty Business). Senior managers now take a more horizontal view and the risk management function looks more across the business than it did in the past.

The company has a functional structure, with the corporate headquarters in New York and headquarters for the EMEA region in London. The firm also operates a matrix structure at a management level. It employs in the region of 63,000 people across the world. AIG see their success as coming through taking a risk – they transfer risk from their clients for a premium. Their experience from the 2008 crisis has had a profound effect on the way they manage their business and particularly on the role of the management of risk. At the Board and Executive team levels, they see one of their tasks as managing the risks the organisation exposes itself to. The company CEO, Bob Benmosche, introduced a monthly risk committee meeting, chaired by himself, which brings together the business unit heads, the head of actuarial, head of audit and head of risk management to discuss the main risks "*we lay out an agenda of all the things we think are the topical risks, the risks of the month, and then we go through and say what do we need to do to deal with them*" (CEO, AIG).

The company has improved its communication, there is a recognition that poor communication leads to operational risk, "*poor communication is probably one of the worst situations because it generally adds a lot of risk (operational risk) because poor communication is generating a situation where there is a lack of understanding from the staff all over the organisation about what the company wants to achieve, if there is a lack of clarity across strategies you have a recipe for failure*" (Managing Director, UK).

Strategy, tactics and operations

The company has set a clear risk appetite (the parameters within which they will do business) for all the areas of the organisation. The risk appetite is proposed by technical functions and then challenged, validated and approved by the board of directors. This gives the parameters within which the executive management can operate the company, such that it makes a return commensurate with the objectives set by the board. This could be seen as restrictive, however, the intention is to ensure the on-going stability of the business and its continued success "*we have a risk appetite we wish to operate in that could be viewed by underwriters as restricting but that's*

***not the case. Our objective is always to enable us to do business but to consider the parameters we operate in*" (Managing Director, UK)**

When they enter new markets they will tend to "*Complete a controlled test or Pilot*", they will learn about the market, understand better the risks and only once they feel they have a good understanding, will they expand their activities.

When it comes to risk management, the company operates the standard three lines of defence. The three levels are: business operation level (day to day business controls, detailed analysis of risks, mitigation of risk etc.), risk management and compliance (risk management function, maintaining the implementation of effective risk management practices, providing oversight over business processes and their associated risks) and internal audit and corporate control. The company has a risk register which is used regularly, and which is managed by the Risk Management function.

In addition to this approach the company has introduced several new techniques to support the 3 lines to improve the organisation's resilience:

Vulnerability identification (VID) process

A vulnerability identification survey is sent out by the risk management team to thousands of people throughout the organisation, for example, it would be sent to individuals in the underwriting team, the tax team and the legal team. The survey questionnaire asks questions around vulnerabilities in the organisation, and it gives employees the opportunity to step back and reflect what could go wrong and communicate this back to the organisation. The questionnaire data is taken by the risk management team, who then categorise the information into the various types of risks, filter them to reduce duplication and then feed this to the senior managers across the business. The feedback is customised to the business area " *… in the winter of last year I would receive this back with a list of seven or eight items and they seem to fit in your part of the organisation. So then I would ask; number 1) what's your reaction to them? 2) What are you doing about them? and 3) what do you think we should do about them? I think what's powerful about that for the organisation is it doesn't limit our assessment of risk to the ERM [Executive Risk Management] function*" (President and Chief Executive Officer, AIG EMEA Region).

Near-miss reporting

The company has introduced a specific process to identify, report and discuss situations where a risk (and loss) did not occur, but it was close (a near-miss). This could be for a number of reasons, such as the operating procedures did not identify an important factor. The near-misses are reported up to the board and are investigated to ensure they do not occur again.

Accumulation of risks

When the company looks at risk it does not just consider individual cases in isolation, it also considers the accumulation of risk. The company recognises that it is important to look at the accumulation of numerous insurance policies "*it really is critical to do an effective job of aggregation of your risks across the organisation*" (President and Chief Executive Officer, AIG EMEA Region), "*because some very, very small elements accumulating could lead to a big exposure for us*" (Managing Director, UK). For example, the accumulation of various insurance policies in a geographical area which is prone to flooding would need to be examined to check that the accumulated policies do not lead to the company being over-exposed.

Scenario planning is undertaken

Scenario planning helps an organisation to deal with futures that are uncertain, largely immeasurable and beyond their ability to control. Rather than focusing on optimising the expected through traditional, deterministic risk management, Scenario Planning creates a mind-set focused on the unexpected. In order to break free from the constraints of 'everyday' linear thinking, AIG applies a Scenario Planning approach to 'man-made catastrophes': "*A relatively infrequent event or phenomenon that produces unusually large aggregate losses, where the cause is man-made (e.g. terrorism, explosion, systemic financial losses, latent disease, pandemic etc.)*" (Head of Aggregation, AIG).

For such 'uncertain catastrophes, traditional, actuarial modelling techniques are inappropriate since historical loss data is often unavailable or insufficient; hence Realistic Disaster Scenarios (RDS) are developed:

1. 100+ RDSs have been identified and quantified across the business using interviews, questionnaires and workshops

2. 15 higher level Threats have been agreed and modelled

3. Presentation decks were developed for each line of business containing rationale and calibration

4. Expert panels have reviewed and validated the outputs

The application of Scenario Planning at AIG does not aim to increase accuracy of a single future, to focus on a single interpretation of a possible reality and to develop programmes to deal with it, which may lead to an illusion of control and thus Risk Blindness. Instead, the benefit of RDSs is the preparation for extreme aggregated catastrophic failures, with the emphasis on preparing for these multiple futures.

Leadership and governance

At AIG there is no glass ceiling hindering the flow of information to the top of the organisation; the culture encourages employees to raise issues with senior management. Communication is an important issue for the senior management and they question " *… the people about how we communicate and how we can improve the communication"* (Managing Director, UK). It is considered to be such an important issue that the company has set up a governance forum in the UK to look at this topic *" … to ensure that our communication is effective, our communication is well understood, our communication fits what our staff at different levels expect to get and our communication is diverse because there is not one communication which is going to be effective*" (Managing Director, UK).

There are checks taking place at the senior levels of the company to ensure that the top teams are working harmoniously; these range from staff assessment to peer review. For example, the Chairman of the Audit Committee of AIG came to London and spent time talking to the independent non-executive directors and also the management team to make sure that " *… their view was that this was a properly functioning relationship between the management team and the non-executive directors*" (President and Chief Executive Officer, AIG EMEA Region).

As part of their governance system, the company has put in place various committees to ensure " *… that we're compliant from a regulatory standpoint, that we're satisfied that we have the resilient controls in place to handle risks that face us in our business and we're governing, we're managing, we're testing resilience*" (Executive Director, Commercial Lines Division of AIG UK).

The company also reviews the control it has to deal with risks and ensures they are fit for purpose, "*We are trying to do this at various levels, we are constantly reviewing the controls we have at business level and provide a regular governance approach within the Executive level. We are always trying to improve our control indicators to see clearly that the controls we have implemented are working and within a timescale and that allow us to make key decisions if required.*" (Managing Director, UK).

Summary

The organisation's experience from the 2008 financial crisis (and the leadership of the CEO, Bob Benmosche) has had an effect on the way the company manages its business and also the approach to risk by the management team. This is a large organisation and in such an environment, risk management may become procedural with a focus on routines, paper or computer based procedures and also meeting regulatory standards. The normal approaches to risk management are useful, but they have a tendency to focus on the common known risks. The company uses the standard lines of defence but it supports these with other techniques, such as scenario planning. The AIG approach is more proactive, ensuring that they have early warning of problems, and also to be able to plan for those risks (not the common known ones), that would not be captured using the standard approach.

The company has an open culture, where risk management is everybody's responsibility, and employees are encouraged to raise concerns with higher organisational levels.

Case study: Drax Group

Introduction

The Drax Group is a business based around a traditionally coal-fired power station – the largest, cleanest and most efficient in the UK. However, Drax is currently transforming itself into a predominantly biomass-fuelled generator through burning sustainable biomass in place of coal. This transformation will see the UK's single largest source of carbon dioxide emissions become one of the largest renewable generators in Europe with the aim of providing low carbon, low cost and reliable renewable power well into the future.

In addition to selling to the wholesale market, Drax moved into B2B retail through the acquisition of Haven Power[1] in March 2009 and retail sales have grown significantly in the intervening years. Now, to reduce its carbon footprint, Drax is moving into biomass. Biomass is a term that covers many different types of organic, plant-based materials, which can be combusted to generate energy, in a sustainable way. It is generally known as the fourth main energy source, after oil, coal and gas. So the Drax Group manages three very different but interrelated businesses, each with different risks and challenges.

Key events

The first stage of the Drax Power Station was built by the Central Electricity Generating Board (CEGB) in 1974 (three generation units) and the second stage added another three generating units in 1986[2]. Each coal-fired generation unit has a nameplate capacity of 660MW, meaning that the Drax Power Station has a total capacity of almost 4,000MW. To put this in perspective, the power station typically supplies seven to eight per cent of the UK's electricity requirements. In the mid-1990s, new technologies such as flue gas desulphurisation (FGD) were commissioned to help reduce emissions, namely sulphur dioxide, and make Drax as clean as possible.

The energy sector changed significantly in 1989 when the UK Government passed an act to privatise the industry. As part of that privatisation, Drax Power Station became part of National Power, one of three generating companies that were created. In 1999, National Power was obliged to divest some of its generating capacity and Drax Power Station was sold to an American company, which operated it from 1999-2003. At the time the whole sector was under intense pressure, with electricity prices hitting an all-time low in 2002-3, due to over-capacity, new electricity trading arrangements and increasing competition. Consequently, the offtake agreement with a major electricity supplier faltered which meant that Drax was not paid for the power it generated and so it was unable to service its debt and went into a series of standstill agreements with its lenders. As a result, Drax went through a restructuring and in 2003 the lenders took over its ownership. In December 2005, Drax underwent further refinancing and Drax Group plc was listed on the London Stock Exchange. Drax Group today employs over 1,100 staff and had an annual turnover of £1,779 million in 2012.

The two newer businesses to the Group are Haven Power and Drax Biomass International. Haven Power, launched in 2006 and acquired by Drax in 2009, serves a specific niche: providing electricity initially to small and medium-sized businesses (SMEs) because previously, "*nobody differentiated the SME*

1 See: ***http://www.havenpower.com/about-us***

2 See: ***http://www.draxpower.com/aboutus/history***

market … [other companies] treated the SME market like domestic customers which they're not, or they treated them like these big industrial and commercial customers which they're not, [as] they don't have procurement departments and accounts payable" (Operations Director, Haven Power) and then since 2010 to larger Industrial and Commercial (IandC) businesses as well. This business has grown rapidly to over £450 million revenue and it now employs over 350 staff.

Drax Biomass International is the wholly-owned US subsidiary that has been created to develop and operate manufacturing facilities for producing sustainable biomass pellets, which can be burnt in traditionally coal-fired boilers to displace coal.. The Drax Biomass International business is developing two wood pellet plants and a port facility in the South East US.

The Drax Group can be said to: "*own one big power station … and I think that the strategic value of the power station makes a very big difference … we make sure the plant runs well and obviously we have to trade and sell the power … and in the future the biomass*" (Head of Risk and Corporate Finance).

Business challenges

The Drax Power Station is a highly-complex plant, traditionally the generating units have processed and burnt coal, but they can also be modified to burn biomass. The age, size and complexity of the plant pose a challenge. However, the safety and production record of Drax Power is exemplary: in 2011, the lost time injury rate and total recordable injury rate were 0.08 and 0.10 respectively. This was achieved despite significant construction work that took place at the station during that year and the number of man-hours worked – some three million. The safety record of Drax Power Station compares very favourably with other companies in the energy sector and international benchmarks and Drax, "*are on the leading edge*" (Generation Manager). In addition to the challenge of safety, Drax needs to cope with being,"*at the mercy of what happens to power prices, to coal prices, to carbon prices and increasingly those are determined by international factors*" (Head of Risk and Corporate Finance).

The challenges for Haven Power include growing the business, having a strong customer-focus, and dealing with risks. For example, "*in the SME world there are certain industries that we just won't contract with that typically either have a risk of administration, or typically change hands a lot … [and] because debt problems arise*" (Operations Director, Haven Power).

Two challenges for Drax Biomass International are building a secure and sufficient supply of biomass. This means that employees have, "*to go out and locate the project site, secure the permits around building a manufacturing facility, [and] understand logistics to transport the pellets*" (SVP Corporate Development). In doing this, "*physical, currency, [and] country risks are monitored, we're constantly striving to get biomass from different countries … [and] the company is very aware of those risks*" (Head of Biomass Development). In addition, Drax is dependent on government: "*We are making this big transformation to biomass; this is underpinned by UK Government support … [because] biomass is a lot more expensive than coal … that is a risk: What happens if the financial crisis worsens? [Will the government support be secure?]*" (Head of Biomass Development).

People and culture

The culture at Drax Power Station is built around safety, because operating the complex plant brings with it inherent risks. The power station's culture needs to build on the experience of individuals and teams; avoid complacency; make continuous improvements; create a desire to learn; and embed this thinking not only with all employees but also with contractors. A manager described this as, "*I think the safety culture is primarily what we aim for, it has got to be built on a continuous improvement ethos and, to develop that culture, every individual working within the business has to be open to challenge*" (Engineering and Safety Manager).

Day-to-day running of the plant requires a breadth of experience at the employee and team-level: "*in the job it is the experience that you gain and you learn that only through experience. [What is crucial is] 'knowing' the plant that you're dealing with … The best unit controllers are controllers who have learnt the job from the ground level*" (Unit Shift Controller).

Running the plant requires numerous processes and, to avoid complacency, Drax uses the concepts developed by Professor James Reason[3]. He is a risk management expert who says that organisations should never feel at ease. His thinking is widely applied at Drax Power Station to maintain a "*'chronic unease', so complacency must not set in*" (Generation Manager). One manager explained how he individually perceived this feeling as, "*every day you come to work, you come to work believing that this could be the day you get injured and it is your job to work with the teams, with your supervisor to identify what could injure you and prevent it*" (Engineering and Safety Manager).

Constantly learning how to run the plant more safely and efficiently is viewed as essential: "*we've got to have the ability to learn, we need to be asking, enquiring, learning from others, there is generally someone at Drax who has performed this task or a similar task before: What issues have they had? Learn from them.*" (Generation Manager). It is recognised that, "*the second trait of all successful safety organisations is that you look for broader learning, which is what we try to do every week with the 'Safety Pack' … we're looking at all the incidents that have happened across the site and we're looking for broader learning*" (Engineering and Safety Manager). In addition to looking for learning from within the organisation, Drax constantly looks outside: "*we do work with the universities [and] … our guys have spent a lot of time going over to various places … [For example], Scandinavia, where they've got a very good history of working with biomass … learning, and engineers talking to each other, and sharing ideas*" (Head of Risk and Corporate Finance).

A key issue at the power station is that much cleaning, maintenance and construction work is carried out by contractors. Here, the challenge is to have external suppliers adopt the same attitude towards safety because: "*I think at the moment we have probably got something like 2000 contractors on site*" (Engineering and Safety Manager). As contractors are from other organisations, they need to be managed carefully: "*our staff have the ability to learn because it is fed to them all the time. You haven't time to give some of the contractors the ability to learn, they're only here short term* [so] … *you've got to be much firmer and you've got to be able to get that message round … We take a very firm stance: if contractors break the rules … they're 'off-site'* [immediately and] *the word gets quite quickly round the contracting fraternity*" (Generation Manager).

3 See, for example, *Reason's book Managing the Risks of Organizational Accidents, 1997*.

At Haven Power and Drax Biomass International there are different risks but both organisations also have strong cultures. Haven Power is customer-focused and prides itself on the speed with which it develops new products and its openness to customers: "*we're very much customer centric, focus on the customer, [and] if customers want to talk to directors they get to talk to directors*" (Operations Director, Haven Power). As it will be operating pellet manufacturing plants, Drax Biomass has a focus on safety, similar to Drax Power Station, but also a strong focus on recognising business risks: "*the biggest risk we face is this regulatory risk … you would hope the government would stick to its deal … but clearly a leap in [another] technology … would have a negative effect*" (Head of Biomass Development).

Business structure

Within the Group as a whole, there is a reliance on a functional structure and expertise but, at the same time, "*we always aim to do things cross-functionally so the teams that are assembled are drawn from the various functions within the business … the production side and the finance, procurement, fuel purchasing, logistics so there's a team assembled that is truly cross functional across*" (Engineering and Safety Manager).

An example of how the functional expertise is utilised is "*the engineering function … [is] responsible for the long-term integrity of the assets … establishing the best means of maintaining the capability of the plant and enhancing it, improving efficiency, reliability and the availability of the plant … we provide the sort of higher technical level support for operations and maintenance*" (Engineering and Safety Manager).

Working in parallel to the functional structure is a strong system of risk management committees in every area of the three businesses and regular risk management meetings. For example, in Drax Power Station there are, "*meetings where we look at major tasks that we're going to perform and we get key people together, we've got a technical risk steering committee*" (Generation Manager). Different functions come together to assess different types of risk and there is, "*a very, very effective communication process around safety in terms of if we have an incident on site, everyone on site receives a weekly briefing on safety*" (Engineering and Safety Manager).

In Haven Power the risk assessment has a different focus. For example, "*the risk management committee [looks at] the quoting process … [because potential customers] get a credit score … [and] we use a system called 'Risk Audit Plus' and that gives us a view of the overall score of our portfolio*" (Operations Director, Haven Power).

Each risk register is "*managed by each of the relevant business risk committees but they're drawn together into a group risk register … there's oversight of that by the audit committee …* " (Director of Corporate Affairs, Drax). Across the Drax Group, there is "*a group risk management committee which … sits above the individual business risk committees*" (Director of Corporate Affairs). The idea behind this is to monitor key issues across the Group and spread ideas. Overall, the tight risk management structure is well understood and "*people recognise the value that that governance process adds, so we have a strong structure and there's a real cross-functional strength … so we have truly cross-functional reviews on risks*" (Engineering and Safety Manager).

Strategy, tactics and operations

Strategic risks

It might be thought that the Drax Group would only have a safety focus, but the organisation also views the achievement of strategy as something that needs to be risk-managed. For example, because the Group's strategy is dependent on many outside factors: "*we have a relatively conservative approach to risk management … [as] we operate in fairly volatile commodity markets and therefore if you've got high business risk you have to have low financial risk. You have to find the right balance between … business risk and financial risk … [so] we run a very conservative balance sheet, which ensures that any downsides in our performance we can ride out*" (Head of Risk and Corporate Finance). Dealing with the uncertainties in the energy sector means that the Drax Group perceives the need to have a "*very tightly defined strategy and … [focused on where] we've built up expertise and capabilities*" (Head of Risk and Corporate Finance).

In addition to the conservative approach to risk, "*You will find different approaches to different types of risks. For example … the production risk register [is there] … to drive risk down … it [Drax] is very intolerant to risk in that area and hence the controls are very specific but if you contrast that to some of the investment decisions, for example, that we'll take [assessments of business risk]*" (Director of Corporate Affairs, Drax). All projects are also assessed: "*Every project has a risk ranking in terms of the benefit that that project would bring to the business and projects fall away as part of the assessment process, so quite often we won't complete all of the projects that have initially been proposed in a specific year because we have to make resource allocation decisions based on risk*" (Engineering and Safety Manager).

Across the Drax Group, risk is perceived to have a 'downside' and an 'upside'. Consequently, "*risk isn't just the risk of something bad happening, it is the risk of missing an opportunity for something good to happen. Taking the example of investment in biomass, had we taken a very risk-averse position and said we're not prepared to invest at all until there's regulatory certainty, then we'd still be sitting here today waiting. Being prepared to take some limited investment risk enabled us to move more quickly as the regulatory landscape developed.*" (Director of Corporate Affairs, Drax).

Operational risks

At the operational level, there are many ways in which risk is managed; from the rules in the power station, to the dealings with contractors. Many employees mention similar things about these rules and their application. For example: "*we have a set of golden rules at Drax for safety and one of them is that you must stop unsafe work … the other thing that we talk about in terms of our culture is, we talk about controlled anxiety [from the ideas of Professor James Reason] … we've used his teachings and learning quite a lot*" (Engineering and Safety Manager). In addition to clear safety rules and a level of organisational awareness to prevent complacency, Drax has recognised that " *… behavioural safety management is an area that we believe is important … we've done a lot of work in that area … so it is a full spectrum of health and safety advice … on how to control hazards effectively and comply with the law*" (Engineering and Safety Manager). Part of the value of understanding behavioural factors, is that Drax know that, "*when people are carrying out a 'High Risk' task or a 'Medium Risk' task they are a lot safer than when they carry out a 'Low Risk' task because …*

they're very careful … On the other side stepping off a kerb, twisting your ankle [people are less careful]" (Generation Team Section Head).

Key risk scenarios are identified and plans for dealing with them identified. For example, "*The fire brigade have a predetermined call out of three pumps and a turntable ladder and that's been worked out previously*" (Generation Team Section Head). If an incident happens, procedures define who has the role of 'Incident Manager'. Here again behavioural insights help and so for this role Drax select, "*people who can recognise risk and apportion the correct risk to an incident, they can look beyond the obvious, they can see it may be minor but this could escalate, they're good at risk assessment*" (Generation Manager). Similarly, incident managers must be able to take the initiative in difficult situations.

Risk management processes

Throughout Drax there are many processes, tools and techniques used to manage risk and two will be described in more detail:

- tools, near-misses, visualisation and scenarios
- working with contractors

Practice 1: Tools, Near-misses, Visualisation and Scenarios.

Formal risk assessment tools are widely applied at Drax: "*We have a very, detailed risk assessment matrix where we identify the risk, the risk owner, we try to weight the issue in terms of probability and impact, we then look at ways to mitigate the named risk*" (SVP Corporate Development). The process achieves a consistency of approach across functions and departments, thus stimulating learning: "*Every Thursday we have … a safety brief … [where] experience [gets] passed on...*" (Generation Team Section Head).

At Drax, hundreds of different risks are analysed and documented, different in type and form: "*The types of risks we look at range from retaining key people, not securing a proper permit, lack of the security around the internet … we are looking at risk across every element of the business*" (SVP Corporate Development). Identifying potential risks and communicating them is incentivised at Drax: "*we award vouchers for people who put in near misses … it is about the accolade of receiving the voucher, it gets publicised with people talking about it*" (Generation Manager). Safety 'near misses', are photographed and the story of how they occurred is documented. The benefits of visualisation are obvious: "*Because people can relate to pictures*" (Generation Team Section Head). The real value of near miss reporting is that it also has a predictive angle: "*We have got safety statistics and we look at near misses, they are allocated to plant areas, we look at the safety triangle, if you're getting lots of near misses then it is likely that you're going to have a hit.*" (Generation Manager).

In addition to using photographs and near miss reporting to raise risk awareness, Drax use Scenario Planning extensively. "*We've got an on site fire team … that are trained for scenarios, [and] the external fire brigade come here and do training at Drax because we've got a good training facility.*" (Generation Manager).

Despite the processes and formalism, the Drax organisation is also realistic and recognises that processes on their own are not sufficient: "*A risk assessment is not the words on a piece of paper, a risk assessment is the thinking … it is appreciating the risks*" (Generation Team Section Head).

Practice 2: Working with Contractors

As mentioned earlier, the large number of contractors that are often on site requires specific risk management: "*The other arm to safety culture is when people employ contractors on site then we've got* [an assessment] *document … Have they been on site before? Are they a regular on site? Are they permanently on site? And depending on what they're doing, are they cleaning the offices, or are they actually carrying out a complex lift? So depending upon the risk then these people will be audited … And it is similar to an SOS audit* ['Spotlight on Safety Audit']" (Generation Team Section Head). To spread the safety message, Drax runs a safety conference: "*we had 130 contract managers and supervisors at an annual event. We took them through our statistics, the issues we had last year, we talked about safety triangles, we talked about how first line supervision is pivotal to providing safety this next year*" (Generation Manager).

Leadership and governance

Right from the top of the Drax Group there is a fundamental focus on risk management and "*often our president will sit in our meetings, we meet as a group formally to review risk management in a deep dive way at least once a quarter*" (SVP Corporate Development, Drax Biomass). This is recognised at all levels of the organisation and a shift supervisor said, "*I would say safety is highest on priority as regards management … so they would definitely take that into consideration first and foremost*" (Unit Shift Controller).

Managers show a strong association with the assets: "*I say we very much protect the Plant and the performance of the Plant is very, very important to us. So our management team have a very good reputation: we're seen as people that run a very safe and high performance operation so the Plant its availability is very, very high, our ability to execute Capex projects on time and to budget I think is perceived by the market to be very, very good and I think some of that comes with your own one big asset so you're going to look after it, if you're running a portfolio maybe you're not going to protect all your assets as carefully but because we have one asset we have to look after*" (Head of Risk and Corporate Finance). This is recognised and respected by employees at other levels. For example, one employee said, "*I think the leadership we have is important, I think first and foremost the guy at the top of the [Drax Production Director] organisation … has a wealth of experience of operating plants, he's petrochemical background and he's spent the last almost eight or nine years at Drax … so continuity of leadership is important and the style of leadership is important*" (Engineering and Safety Manager).

Across the Group, the hierarchy is present in terms of reporting lines but is restrictive. Managers perceive their role in a particular way. One said: "*what helps in my position is … I've got an understanding of what happens … I'm not a person who makes use of the hierarchy; I break down barriers rather than forming barriers. Not many people will look at me as a boss … the guys respect the job that I'm doing and they're happy to talk to me, we've all got a job to do and it is good to have good communications*" (Generation Manager). Another point is that, "*all the senior management team work in a small open plan office so we don't have our own offices … you can overhear conversations … and it really helps collaboration*" (Engineering and Safety Manager). Access to management is also deliberately made easy: "*if customers want to talk to directors they get to talk to directors*" (Operations Director, Haven Power).

In terms of rewards for managers' performance, "*you're looking for people to take a long term view in the business not how do we do something this year that gives me a bonus and I don't really care about what the future impacts might be, so I think longer term financial rewards I think yes that does drive you to get enterprise, managing enterprise risks*" (Head of Risk and Corporate Finance).

Summary

The three businesses in the Drax Group are all related to the generation and sale of electricity. The power station itself is viewed as a strategic asset, which must be operated to extremely high levels of safety and with constant improvements in efficiency and the sustainability of the plant. Due to this, much of the culture of the organisation is built on the awareness that being safe requires a level of controlled anxiety and stringent reporting of near misses, to avoid any manifestation of complacency. This is matched by a clear structure for risk recognition and reporting. Additionally, as Drax is dependent on the regular use of contractors, the company ensures that a culture of safety becomes part of contractors' thinking. It is interesting that, with such a strong safety focus, the Drax Group also takes a strategic view of the value of risk management. Business plans are also viewed from both a risk and opportunity perspective. Senior management at Drax are highly-experienced in their industry and this, together with their focus on safety and risk, is very positively viewed throughout the organisation.

Case study: InterContinental Hotels Group (IHG)

Introduction

InterContinental Hotels Group (IHG) is a global hotel company with a vision of running 'Great Hotels Guests Love'[1]. It operates seven well-known brands: InterContinental, Crowne Plaza, Hotel Indigo, Holiday Inn, Holiday Inn Express, Staybridge Suites, Candlewood Suites, and launched two new brands in 2012, EVEN™ Hotels, and HUALUXE™ Hotels and Resorts, in China. IHG has over 674,000 rooms in over 4,600 hotels in nearly 100 countries, providing 157 million guest nights per year.

The IHG business model is relatively resilient from a property risk perspective as it franchises and manages the majority of its hotels under long term contract with its business partners owning the 'bricks and mortar'. From the 4,600 hotels that carry IHG brands, only nine of these are directly owned by IHG; 650 are managed; and the majority, 3,949 are franchised. "*We recognise that our business has evolved from an asset-heavy, owner and operator of hotels, to an asset-light, branded business that is highly reliant on reputation. We know that reputation takes a lifetime to build but can be lost in a moment, so we mustn't be complacent. We build trust with a broad range of stakeholders and continue to make improvements in the resilience of the business*" (SVP Head of Global Risk Management).

Key events[2]

The roots of IHG go back as far as 1777, when William Bass founded a brewery in Burton-on-Trent but it was not until 1988 that Bass fully embraced the hotel business, when it purchased Holiday Inns International. In the 1990s Bass launched the new hotel brands Holiday Inn Express, Crowne Plaza, and Staybridge Suites by Holiday Inn. The InterContinental company was acquired by Bass in 1998, adding an 'upscale brand' to its portfolio of hotels leading to important synergies.

From 2000, there was an important change in strategic direction: from a focus on breweries and public houses, to becoming an international hospitality provider. This led to the sale of Bass Brewers and the company changing its name to Six Continents PLC in 2002. Six Continents PLC saw the benefit of a stand-alone hotel business separate from its pubs and restaurants division which led to a demerger of Six-Continents to form the InterContinental Hotels Group PLC (IHG) on 15th April 2003 which is listed on both the UK and the US stock markets. As a stand-alone business the Board and senior leadership of IHG embarked on an 'asset-light' strategy in the years following 2003, disposing of 191 owned hotels for a total of $6.2 billion and returned over $7 billion to shareholders excluding ordinary dividends. In the last ten years, IHG has grown significantly, following its strategy of brand franchising. It currently has over one thousand new hotels in the pipeline, the majority of which will be franchised. This means that IHG are meticulous at determining "*how the brands are each uniquely defined and working on a daily basis with our owners to help them understand what this means, because the best brands are those that are delivered consistently*" (Regional President, the Americas and IHG Board Member). The brand focus within IHG is encapsulated in the expression 'BrandHearted', which means "*that Brands become our primary asset class, more so than even IHG's operating system, contracts, and hotel assets*"[3].

1 Based on ***http://www.ihgplc.com/index.asp?pageid=16***
2 Based on ***http://www.ihgplc.com/index.asp?pageid=326***
3 From IHG internal presentation material.

Business challenges[4]

Like many businesses, industries and economies, IHG's business has evolved up the value chain from a commodity business to one that is differentiated through brands and experiences. At the different stages of maturity the business challenges vary from physical safety and wellbeing of assets to commercial resilience and success to building emotional connections, trust and love with stakeholders. For IHG, the business challenges span all three areas and they all can impact on reputation.

The scale of IHG operations and the corresponding requirements for risk management is immense: "*On any one night we can have half a million guests. That is the equivalent to managing the risks for a small city. With so many hotels and guests, inevitably incidents will occur. That means that risk and crisis management is part of our business*" (SVP Head of Global Risk Management). IHG has designed a comprehensive system to recognise and mitigate all types of risks with strong awareness at the executive level, where the weekly incident and risk report is discussed and key learning extracted from each.

Another key challenge is delivering consistency in each of the nine brands. "*The brands are defined centrally but we need the owners to continually invest in the hotels and it's the people on the front-line that make the brands come to life. The challenge is delivering consistent experiences in our hotels, with a highly varied estate and limited control of hotel staff*" (SVP Head of Global Risk Management). "*As IHG does not have operational control of franchisees, it achieves quality and consistency through promoting a core purpose of Great Hotels Guests Love and a culture to reflect our Winning Ways. This is in addition to leveraging its legal contracts, managing compliance towards its Brand Standards including Brand Safety Standards, and providing central support, training, and online tools available to all hotels.*" (Director of Corporate Risk Management)

People and culture

Culture is often mentioned as a prerequisite for a successful business: "*from our perspective, the success of a business is based around its culture. I know it's very easy to say and it can be a bit clichéd*" (General Counsel and Company Secretary). IHG is careful to go beyond the cliché and the way culture is achieved is carefully defined. The appropriate business culture, "*means that people are prepared to put themselves on the line, are high performing in whatever they do, significantly enjoy what they're doing, they're good at it and then they're living it. People are happy to collaborate and therefore there's an element of openness, which enables the organisation to be effective*" (General Counsel and Company Secretary).

Working across many boundaries, IHG needs to establish standard approaches to risk management but it has recognised that, "*the standard itself gets you to compliance. To really manage the risk, you've got to have the culture*" (SVP Head of Global Risk Management). Therefore, a four-stage maturity model is used within IHG to assess whether risk management in hotels, functional areas and the different regions has progressed from 'reactive' (Stage 1) through 'compliant' (Stage 2), to embedding the knowledge to create commitment (Stage 3), to finally "*making risk management a core value and second nature*" (Stage 4)[5].

4 See 2012 Annual Report: ***http://www.ihg.com/hotels/gb/en/global/support/about_ihg***

5 From IHG internal presentation material.

With the huge volume of guests, each with their own individual expectations; "*in a hotel you're working with the unexpected on a daily basis, people actually like to work in hotels because every day, every hour is different from the next*" (VP Operations, Central Europe and Germany). Therefore, flexible and skilled employees are essential (and the vast majority of these employees do not directly work for IHG). To create the right level of employees, IHG relies on hiring the right people, training, and on the 'Winning Ways' – a set of guiding principles that encapsulate a risk aware culture (see Exhibit IHG-1). Guidelines and training are essential but to manage risk effectively, "*you've got to have the right culture, otherwise you're never going to embed anything. Nobody's going to do the training, nobody's going to put it on their personal agenda and talk about it, the networks aren't going to happen, the network is where your culture lives*" (SVP Head of Global Risk Management). The 'Winning Ways' were developed from a series of workshops with staff members around the world and, because it summarised the ideas and words used by its people, these have been quickly accepted and internalised throughout IHG.

Under the heading 'Aim higher', the guiding principles include 'We put our hearts into learning new things' and 'We always look for ways to improve'. Thus learning is an integral part of the culture and IHG has, "*developed numerous risk management training products available to our hotels and directed at both leadership roles and front – line staff*" (SVP Head of Global Risk Management).

Exhibit IHG-1:

Definition of Behaviours – 'Winning Ways' (developed by IHG employees)

Do the right thing

We always do what we believe is right and have the courage and conviction to put it into practice, even when it might be easier not to. We are honest and straightforward and see our decisions through.

- we keep our promises and we don't let people down
- we seek out the facts and trust our judgement
- we take responsibility and take decisions even when they're difficult

Show we care

We want to be the company that understands people's needs better than anyone else in our industry. This means being sensitive to others, noticing the things that matter and taking responsibility for getting things right.

- we treat people as individuals
- we look and listen for the little things that make a difference
- we use our experience to find new ways to deliver great service

Work better together

When we work together we are stronger. We're at our best when we collaborate to form a powerful, winning team. We listen to each other and combine our expertise to create a strong, focused and trusted group of people.

- we work hard to develop excellent working relationships
- we think about what we do and how it might affect others
- we trust and support each other

Aim higher

We aim to be acknowledged leaders in our industry, so we have built a team of talented people who have a real will to win. We strive for success and value individuals who are always looking for a better way to do things.

- we put our hearts into learning new things
- we challenge ourselves and encourage those around us
- we always look for ways to improve

Celebrate difference

We believe that it's the knowledge of our people that really brings our brands to life. While other companies may want to impose a rigid, uniform view of the world, we do not.
Our global strength comes from celebrating local differences whilst understanding that some things should be kept the same.

- we welcome different perspectives and listen to everyone's ideas
- we are respectful of all cultures and look to learn from others
- we play an active role in the communities in which we operate

Business structure

The company has invested a lot of time and effort in defining a structure that ensures that risk management is embedded throughout the organisation: "*IHG recognises the importance of having in place an effective system of internal controls and risk management to achieve our Vision of becoming one of the great companies in the world. Our Board and Committees work together with senior management to identify, assess, prioritise and mitigate risks*"[6]. IHG aims to raise risk awareness at the Board, the Executive Committee, throughout the leadership teams in the Regions and Functions, in every hotel and with all employees. Day-to-day, the various processes for dealing with risk are applied across three levels: for analysing strategic risks (long-term business plans in the different IHG regions and functions); tactical risks (key initiatives and projects); and operational risks (impacting the operations of the IHG central system and across the owned, managed, and franchised hotels)[7].

At IHG the understanding of risk is intricately linked to reputation: "*The purpose of risk management is to champion and protect the trusted reputation of IHG and its brands*" (SVP Head of Global Risk Management). To achieve this, the company created a new function in 2011 called 'Business Reputation and Responsibility' (BRR), which brings together: Risk Management; Internal Audit; Legal and Company Secretariat; and Corporate Responsibility.

The Risk Management department is comprised of subject matter experts in areas such as Safety, Security, Fraud, Business Continuity Management, Risk Training, Corporate Risk Management, and Risk Financing. The team provides risk management leadership and seeks to embed capability through developing 'tools to do the job' (e-learning, checklists and guidelines), support, and oversight. The ambition is "*to foster a culture that is well-informed, curious, alert, responsive, consistent and accountable so that risk management becomes instinctive*"[8] and where everyone perceives their role as being both an IHG brand champion and a protector of IHG's reputation.

Risk Governance is established through the Risks Working Group, "*which looks at the major risks facing the organisation, it's a cross-functional group and we meet four times a year to produce the Major Risk Review that gets discussed and agreed at the Board*" (SVP Head of Global Risk Management). The Risk Working Group is chaired by the General Counsel and Company Secretary and includes the Global Heads of Strategy, Project Management Office, Risk Management and Internal Audit.

Information on risks is constantly collected, communicated and assessed. "*The risk process combines bottom-up risk information from the Regions and Functions, is synthesised and prioritised with a global and strategic view at the Risk Working Group and the output is used to drive discussions at the Executive Committee, Audit Committee and Board*" (SVP Head of Global Internal Audit). At the operational level, when hotels are audited they are expected to have a defined risk profile, including the different things about their particular hotel, to have policies and standards, training plans, checklists and the like. It is through having risks identified and plans to deal with situations already in place that IHG had developed an ability to deal with unexpected situations. Training and informal discussion groups are used and "*crisis management scenario planning sharpens the whole culture*" (SVP Head of Global Risk Management).

6 From 2012 Annual Report, p38. See ***http://www.ihgplc.com/index.asp?pageid=326***

7 From 2012 Annual Report, pp42-44. See ***http://www.ihgplc.com/index.asp?pageid=326***

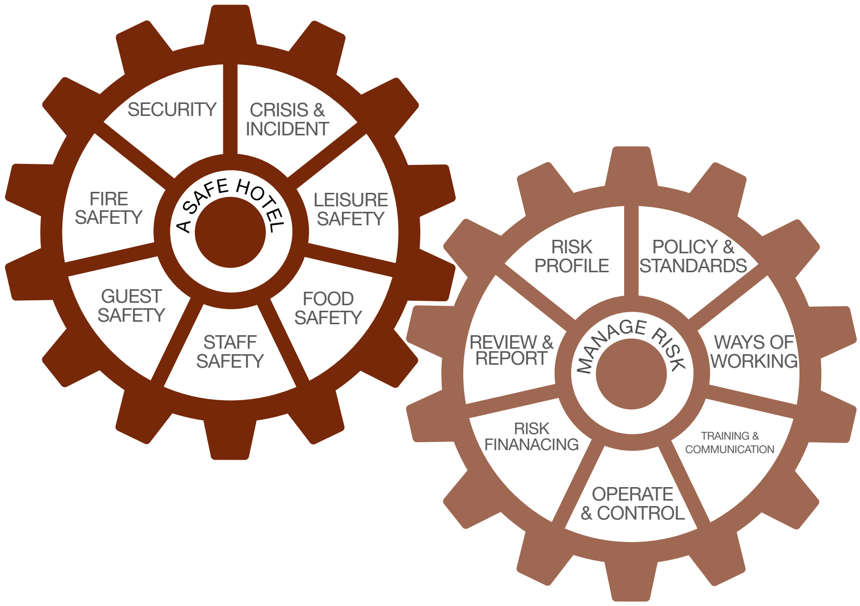
8 From 2012 Annual Report, p38. See ***http://www.ihgplc.com/index.asp?pageid=326***

IHG has found risk awareness, a structure and culture that allows information to pass quickly through the line results in effective risk, issue and crisis management "*I believe in the flat structure, everyone can come and see everybody. I don't believe in hierarchies, as they get in the way*" (GM Holiday Inn).

Strategy, Tactics and Operations

The company strategy and its management of risk are closely related. IHG has, "*a major risk register that reflects the unmitigated view of the top risks for the business, including the strategic, tactical initiatives and operational issues, we discuss how effectively the risks are mitigated and that discussion occurs at our operating committee level and executive committee level*" (VP Head of Strategy, Americas). "*The strategic planning process, and budget setting processes has evolved over recent years however throughout each iteration, the consideration and integration of risk management in these processes has grown and is expected to continue.*" (Director of Corporate Risk Management).

Exhibit IHG-2:
Framework for Managing Risk and Safe Hotels[9] (which identifies not only categories of risks but also the processes for dealing with them).



To ensure that hotels, guests, people and assets are safe and the reputation of their brands is protected, IHG provides hotel owners, staff and contractors with a systematic framework to follow, with related processes and checklists for many situations. Exhibit IHG-2 is a diagram that shows (left 'A Safe Hotel Cog') with seven categories of potential safety risks in managing a hotel e.g. 'Leisure Safety' at the swimming pool, etc. The right 'Manage Risk Cog' shows seven pragmatic activities that support the management of these risks and it is saying "*when you're managing a risk, go through a process. Although this framework is shown in the context of managing safety risks, the risk management activities apply to all risk types and these steps form the basis of many risk-based programmes at IHG"* (SVP Head of Global Risk Management). The range and scale of risks is broad; from 'Guest Safety' to 'Crisis and Incident'. For example, when *"Tahir Square* [the Arab Spring in Egypt] *broke out we were in the centre of the storm, so we immediately went into our crisis management mode. We had all of our plans, we were relatively well prepared. We started implementing a*

9 From: ***http://www.ihgplc.com/index.asp?pageid=761***

series of actions which felt intuitive. What I found interesting was that we found ourselves teaching the neighbouring international hotels our methods and our practices." (Regional President, the Americas and IHG Board Member). The IHG Risk Management team's strategy is to embed appropriate practices in the business and building capability. "*The team has created a comprehensive set of electronic tools, checklists and training materials, which can be accessed by all corporate employees and at every hotel. Over 100 different training materials have been prepared, including risk management policies and procedures, checklists, templates, posters, videos, e-learning and access to face-to-face training, which underpins the risk management framework. Investing in risk training plays a vital role in embedding risk management capability throughout our business.*" (SVP Head of Global Risk Management)

Leadership and Governanace

Four main aspects of leadership at IHG stand out. The focus on managing risk and reputation; the 'tone' of interactions; a pragmatic view that managers should know what is happening in the front-line; and a no-blame culture that still manages to be self-critical.

The company's focus on risk and reputation management is led from the top. The Board "*talk a lot about our business reputation, it's always something that is on top-of-mind in every board meeting. We talk about the largest types of risk and we talk about things that are going on in the business*" (Regional President, the Americas and IHG Board Member). The risk section of the annual report states: "*The Board aims to embed proactive risk management capability and culture throughout the business. In achieving this, the Board is supported by the General Counsel and Company Secretary and the Heads of Global Risk Management and Global Internal Audit.*"[10] The commitment from top management is to, "*assign each risk to one or more members of our Executive Committee – they have ultimate responsibility for each of the major risks*" (SVP Head of Global Internal Audit). This risk and reputation focus cascades down through the organisation: "*each leadership team will have a risk register, be it IT, HR, Finance whoever it is. They've all got their risk register, and action plans*" (SVP Head of Global Risk Management).

The way employees interact and the 'tone' of those interactions is also something that senior managers know to be crucial. "*There's a lot of respect for people and people are treated well and if people are not performing, they are told that but there is a right and wrong way to do that*" (Director Global Internal Audit). Openness is encouraged and the CEO reinforces this by saying that in "*senior leadership meetings, he expects everyone to participate and speak up and that there is no right or wrong answer, everyone's entitled to a viewpoint. That doesn't mean he'll agree with everything, doesn't mean others will agree, but the worse thing to do is to not have a viewpoint and to be quiet. So, that's tone at the top again*" (Director Global Internal Audit). This focus on open discussion was a consistent message "*The one thing that I'm going to be really disappointed in you is if you don't challenge me*" (General Counsel and Company Secretary)

Leaders at every level in IHG are focused on understanding the front-end, the operational aspects of the business. For example, in a Holiday Inn Express, a manager talked about constantly leading through example in the front-line (including clearing tables and cleaning). She had even moved her office to the reception area where most of the interaction between guests and staff takes

10 From 2012 Annual Report, p38. See ***http://www.ihgplc.com/index.asp?pageid=326***

place because: “*you get to know the staff and all the guests and really get connected rather than get sucked into your computer*” (GM Holiday Inn). And management is not about privilege: “*Sometimes I do all the things others don’t want to do...*” (VP Operations, Central Europe and Germany).

Blame is avoided and the CEO has said, “*‘We have these issues, let’s use this information to improve and fix what we are doing. It’s not about assigning blame for somebody, it’s about solving the problem’*” (Director Global Internal Audit). Although a no-blame culture is present, at the same time the organisation constantly critiques itself. For example, the Board “*reviews itself annually, a third party comes in and does their research with each of us and we get feedback in terms of our ability to speak up and whether or not we’re talking about the right things, have the right views. There’s lots of ways that I think we can control groupthink or a line of action that would become narrowly focused*” (Regional President, the Americas and IHG Board Member). Levels of individual knowledge are also constantly assessed: “*Our CEO used to be the finance guy and he basically said, ‘Look now I’m CEO, I need to have a better understanding of what you [audit and risk management] guys are doing than perhaps I did as a CFO,’*” (SVP Head of Global Internal Audit). An introduction training to risk management was prepared for the CEO and now that is also used for non-execs who join IHG’s Board.

Summary

In the competitive hotel market, managing nine international brands that deliver clearly defined services at 4,600 hotels is no mean feat. Risk management in this environment can easily become ‘technical’ – simply focused on commonly known risks and meeting regulatory standards. However, IHG treats standards as a necessary but not sufficient component of resilience. The culture of the company is recognised by many employees as one of openness, no-blame but self-critical. IHG has a clear framework for identifying and managing many categories of risk in its hotels, but it goes further and views risk as uncertainty that can negatively impact reputation or prevent strategy being successfully implemented. Structures are in place to ensure strong risk awareness is embedded throughout the company and risk management information is constantly gathered and analysed. If a crisis emerges, experienced crisis teams quickly take over. It is the company culture and risk management capability, matched with the many clear processes for managing risk and reputation that characterises IHG’s journey to resilience.

Examples of resilient practices

IHG have demonstrated depth in risk management culture and capability which clearly adds to its business resilience, below are three examples:

Practice 1: Broader Risk Management

At the hotel level, “*Risk management is understood as managing operational risk especially in hotels and it’s about being safe from flood, fire etc.*” (VP Operations, Central Europe and Germany). Individual hotels are expected to identify potential risks, both those related to incidents and business performance: “*if a forecast goes particularly up or down, the General Manager would typically make me aware that something’s coming down the line. When it comes to accidents and incidents, that is quite different, anything that is crucial gets communicated immediately. A risk gets documented whether it’s a safety incident or whether it’s* *a performance risk. We respond as soon as we see that performance in a hotel is slipping whether it's financial or quality or employee satisfaction, procedures for this are all well documented*" (VP Operations, Central Europe and Germany).

At the corporate offices, risk management is viewed through a wider, strategic lens. It is "*a lot more focused on our ability to have the right controls and processes in place to successfully implement our strategic objectives. Of course compliance is still important, especially in financial and other areas but really it's all about things that allow us to fulfil the strategy*" (Director Global Internal Audit). To mitigate strategic risk, business leaders are "*always evaluating different options and thinking through alternative outcomes*" (VP Head of Strategy, Americas).

Practice 2: Monitoring and Risk Awareness

The Risk Management Framework, depicted by two interlocking cogs (Exhibit IHG-2), shows on the 'A Safe Hotel Cog' the categories of common foreseeable risks in a hotel, and the 'Manage Risk Cog', summarises the activities to mitigate risk. As risk management is constantly reviewed at the hotel level, employees are very used to discussing and preventing such risks. However, it is necessary for managers and staff to be aware and monitor emerging, previously unseen risks. Such vigilance is embedded at IHG by front-line managers encouraging staff to be on the alert for anything unusual.

An example of risk awareness being embedded throughout the business occurred during the run up to the London 2012 Olympics. A member of a hotel's cleaning staff noticed a number of suspicious items in a room including reading materials that could have been associated with terrorism. The Risk Management team, working with the hotel security, liaised with local police who investigated and found no grounds for suspicion, but the cleaner was praised for her vigilance and the story spread throughout IHG, helping to reinforce awareness. Risk is not just about the known and obvious risks, it is about vigilance – everyone being on the alert and ready to quickly react (see Boxed example: Luxury Hotel in Beirut).

In addition to corporate staff and employees of the franchisees, IHG widen their risk awareness still further because they "*try to engage as many people as possible in the conversations, we look at benchmarking information, what other emerging risks there are across the globe. We work with organisations like the Institute of Internal Audit and other professional bodies with regard to hot topics*" (SVP, Head of Global Internal Audit).

Intelligence-led Security at IHG Hotels

Guests expect to be safe and secure in IHG hotels, wherever they are, this includes in high-risk places where security is more challenging. However, IHG has developed an approach and a security network to mitigate such risks. The approach starts with a TVA – Threat and Vulnerability Assessment – something that every IHG hotel operating in high ambient threat locations will conduct. However, in locations where the political situation poses more risks, the security network that IHG has created plays an essential role. The security network is key to IHG's approach to security across the estate in all areas and threat environments. The network consists of all of the security managers at IHG hotels, who report anything out of the ordinary in 'Security Intelligence Reports'.

These feed through to the Global Risk Management Department, which analyses the information, seeks additional information from other sources, identifies trends and decides on actions. The IHG Risk Management and security community also has strong contacts with a wide variety of sources including government agencies around the globe. Such sources give warnings about possible terrorist and criminal activity and this was the case in a Beirut hotel a few years ago: "*A well-placed source told us they believed that terrorists in Lebanon were planning an attack on the IHG branded hotel in Beirut. We were given further details and are used to dealing with such information: we must use any intelligence we get and make decisions based on that to mitigate the threat to the hotel, its guests, staff and visitors*" (Head of Security Risk Management). So the security team was set into action immediately.

The TVA was the starting point for a renewed risk analysis and two IHG security experts immediately flew to Lebanon. Both had a military background, like many in the IHG security community, and they checked for any obvious security vulnerabilities of the hotel. The pair knew that "*even with the limited intelligence provided by the source we needed to act. Our first job was to decide how the hotel might be attacked, when and by whom. Our second job was to design 'bespoke mitigation' – ways to prevent an attack – and get them quickly implemented*" (Head of Security Risk Management). In visiting the hotel, the two security experts observed how the hotel functioned on a typical day, with an eye for what terrorists would be looking for. Quickly, it emerged that regular deliveries meant that delivery vans were often parking close to one of the hotel towers. Immediately, this risk was mitigated by having the deliveries rescheduled and re-routed, to reduce the risk that a delivery van could be high-jacked and used in an attack. Measures were also taken to prevent other possible ways of attacking the building.

The security improvements were made quickly and so it became harder for the terror cell to plan its attack. Shortly afterwards, members of the terror cell were captured by the local authorities. It emerged that their main plan had indeed been to substitute a delivery van and fill it with explosives, but because of the IHG security experts' mitigation measures, this became unviable and the attack was delayed. At IHG security, the philosophy of the intelligence-led, threat based approach is that "*the organisation has situational awareness and is well poised and prepared to mitigate against and respond to a broad spectrum of security threats. Risk management and security mitigation in IHG is based on an informed blend of People, Procedures and Technology. At IHG we consider that all staff have a responsibility for risk management and security and are the 'eyes and ears' that deter and detect possible threats; security awareness training and security stakeholdership are a cornerstone of the awareness. When and if things do go wrong, IHG has a robust and well practised incident response and crisis management system in place*" (Head of Security Risk Management).

Although IHG have strong formal and informal networks to address risks, the organisation is clearly self-critical and looking to constantly improve. An example of this is preventing theft. Based on his experience, a hotel security officer is calling for more vigilance in reception areas because: "*80 per cent of the thefts happen in this area, thieves usually pretend to be speaking on a phone call because they expect staff members would not want to disturb them, wearing sunglasses or other camouflage waiting for opportunities. So this is the moment when staff need to be a little more curious, and ask a few questions: 'Who are you waiting for sir?' 'Can I have a room number please?' 'Can I have the name?' 'Can I help you further?' You don't have to be a security professional to notice when a person gets uncomfortable*" (Hotel Security Team Leader).

Practice 3: Crisis Teams

With hotels in nearly 100 countries and territories, IHG is always dealing with natural catastrophes, civil unrest and other crisis situations. IHG have the awareness to recognise unfolding incidents, a strong communications network to report it, and also a clear process by which to respond. When a crisis occurs, "*we have codified and embedded process management, we go straight into that crisis response mode following the process that we have already previously laid out, we have a crisis management team as well at both a global and regional level so that processes kick into place if something comes up*" (SVP Head of Global Internal Audit).

The Crisis Teams are carefully selected because: "*you must have a rounded team, with the right crisis owner that has the authority to make necessary decisions and include the right risk managers, the right communications people and then you supplement it with specialists*" (SVP Head of Global Risk Management). These specialists include people who, "*are trained to deal with newspapers and reporters, there are dedicated crisis spokespeople*" (Hotel Director of Security). Crisis teams need to make decisions fast because, "*the whole thing about emergencies and crises is you've got to think to a certain extent on your feet, based on what you know to be correct. Our emergency response team are the guys that go and establish what the emergency is and communicate back to us with the details*" (Hotel Director of Security).

As is often the case within IHG, employees are proud that they have advanced ways of dealing with risk but there is no complacency: "*I think we recognise that crisis management is not something that's static, it's something that we need to constantly improve and you never do it completely right*" (Head of Security Risk Management). It is recognised that "*crisis management is about leadership, and it's about values, and behaviours*" (SVP Head of Global Risk Management).

Case study: Jaguar Land Rover

Introduction

In 2008, the Jaguar and Land Rover businesses were sold by Ford Motor Company to Tata Motors, a subsidiary of the Indian multinational conglomerate company Tata Group, creating the new automotive company Jaguar Land Rover headquartered in Coventry, UK. Although many believed at the time that this change of ownership would follow a similar pattern to when Ford acquired Jaguar Cars in 1989 and Land Rover from BMW in 2000, i.e. the company would continue to struggle, competing successfully against its significantly larger and better funded German competitors, Audi, BMW and Mercedes-Benz, it became a major turning point for the company's fortunes.

Under Ford, Jaguar Land Rover had been a relatively small subsidiary. For example, in 2007/8 Ford sold globally a total of 5,532,000 vehicles, produced at 90 plants and facilities around the world by 213,000 employees, and achieved $129.2 billion in revenues. Jaguar and Land Rover contributed to these numbers approximately 250,000 vehicles (4.5% of total), built at three UK plants (3% of total) by 15,000 employees (7% of total), and approximately $14 billion/£7 billion revenue (11% of total).

To compare the performance of Jaguar Land Rover in 2008 with its main competitors Audi, BMW and Mercedes-Benz, a few key figures have been drawn from the respective 2008 annual reports and are listed in the table below.

Brand	Vehicles Sold	Revenue
Audi	1,003,469	€34,196 million
BMW	1,202,239	€44,313 million
Mercedes-Benz (cars)	1,125,900	€47,772 million
Jaguar Land Rover	250,000	$14,000 million (approx. €9,500 million)

Although the Ford Motor Company looked after its British subsidiary, from 2006 onwards it could not afford to invest in Jaguar Land Rover. Of greater concern to the board and executives in Dearborn, Michigan, were the challenges faced at that time by the Ford brand. To address these and better position the company for future success, while enduring the adverse impacts of a deep recession, a global financial crisis and a dramatic slowdown in all major global markets, their top priority was the successful implementation of the ONE Ford strategy. As the name of this strategy suggests, Jaguar and Land Rover were not part of it, leading to their divestment in 2008.

Key events

Tata Motors' takeover of Jaguar Land Rover represented, in some respects, a radical change for the British car manufacturer. Under Ford, the company had been operated as a profit centre. This meant that Ford took care of corporate functions such as treasury, finance and enterprise risk management. Further, although Jaguar Land Rover was responsible for marketing, product strategy decisions developed in the UK were subject

to approval from the US. Tata Motors, on the other hand, expects all its subsidiaries to operate as independent companies. Their philosophy is very much 'arm's length'. Tata are decisive in appointing companies' executives, they expect strong performance and ethical behaviour, but then they leave people to get on with it. In other words, they had no intention of providing the corporate services Jaguar Land Rover had been accustomed to under Ford. The company was going to have to learn to become independent, and quickly.

Although Jaguar Land Rover lacked many of the corporate functions expected in standalone companies, and their product line was not as strong as that of their main competitors, Audi, BMW and Mercedes-Benz, the company did not suffer from fundamental weaknesses. For example, Jaguar Land Rover was more than capable of designing, engineering, and manufacturing luxury vehicles that are desired and admired by customers, and it had a market presence in more than 170 countries. Further, Jaguar and Land Rover are two iconic British brands that have strong heritage and distinctive identities that remain relevant and popular. Hence, following the takeover, there was no need to reposition the brands or to make them stand for something new. Also, people at Jaguar Land Rover were passionate about the brands and willing to change the business in order for the company to remain successful. The problem was access to money to expand the company's size and launch new models.

Business challenges

Earlier in the Ford ownership period, Jaguar Land Rover had been able to benefit from Ford's global scale, performance, and strong relationships within the financial markets. As a result, funding wasn't an issue. However, in the years leading up to its sale to Tata Motors, the challenges experienced by the Ford brand, meant that funding available for investment in new Jaguar and Land Rover models and production facilities was limited.

Although Jaguar Land Rover was profitable at the time of its takeover by Tata Motors, while some funding was available from India, Jaguar Land Rover was larger than its new parent and needed to get its finances under control quickly to minimise the impact of the economic downturn and enable investment in a sustainable future.

The leadership for this task was given to a small task force. In the absence of an established treasury function with responsibility for cash flow management and to support decision making, this team, consisting of 20 people from across the business, set out to build up this capability. Many of the team members were not executives or managers. Knowing the business inside-out, being able to make decisions on the spot, and working across boundaries as one team were regarded as more important qualities than rank. In other words, the focus was – and still is throughout the company – on getting the right people in the right roles. Over time, this team was increasingly more able to rely on real-time data for their decision making. This enabled the team to ensure production was safeguarded at all times.

With Jaguar Land Rover's financial position slowly improving, an influx of fresh thinking and good practices from outside the company, to expedite progress, became possible. For example, while a large number of existing executives remained with the company, new executives were brought in. This enabled the development of an executive committee with deep company experience, complemented by experience of running the type of company Jaguar

Land Rover aspired to become. Further, experts for the newly established corporate functions were also recruited, and external consultants were hired and embedded across the business to support the transformation to an independently run company.

People & culture

When the global economic situation eventually improved, the behaviours that were developed during the difficult periods and the lessons learned were not forgotten. In fact, the underpinning values became part of Jaguar Land Rover's "*dynamic business foundations*":

- confident leaders with a spirit of independence
- engaged and passionate people
- think like business owners, build partnerships
- agile and cost effective operations.

To institutionalise this way of thinking and working, the company has introduced a number of frameworks. For example, new management hires go through an induction programme during which they learn about the company's vision, its brands and values but also its three passions for delivering:

- outstanding customer experience
- design of greater products faster
- environmental innovation

As part of this programme, new hires also meet with members of the Executive Committee and Top – 150 leaders.

Recognising the need for a formal approach to achieve consistency across the organisation, Jaguar Land Rover recently introduced a high performance behavioural framework. This aligns individuals' performance objectives via functional and corporate scorecards to the company's vision. Individuals are measured and rewarded based, not just on the achievement of objectives, but equally on the behaviours used to achieve those objectives. The purpose of this is to ensure that short term gains are not achieved to the detriment of longer term benefits. It is not a traditional command-and-control style performance management framework. In fact, its purpose is to support individuals becoming responsible business owners, by providing a clear and common understanding of Jaguar Land Rover's vision, how people and functions within the company relate to one another to fulfil this vision, and the behavioural boundaries within which they are free to act, innovate and improvise. This engenders a strong sense of belonging, empowerment and desire to continually do better, but also the flexibility of mind to deal with uncertainty and think more like a 'David' when competing in markets dominated by 'Goliaths'.

Business structure

Designing, developing, engineering, manufacturing, marketing, and selling luxury vehicles are specialist activities. Traditionally, these specialists have been organised by function. However, at Jaguar Land Rover, their activities are tightly integrated across functions and management levels. One reason is that the end product, a luxury vehicle, is technically complicated. Design choices in one area will have consequences in others, and these interdependencies need to be carefully understood to ensure the end product functions as expected, complies with various global emission standards and other regulations, but also meets customers' expectations in a competitive market. This requires the frequent coming together of functions and management levels to make decisions. Further, taking a new vehicle from drawing board to showroom is a very expensive process, costing hundreds of millions of pounds, and takes a number of years. Late – stage design changes, for whatever reasons, need to be avoided to ensure the product remains competitive and profitable. If such changes are required, the challenge is to carefully manage costs, time and quality aspects, while minimising disruption to other development initiatives and production schedules. Jaguar Land Rover deals with these challenges by having structures in place that facilitate cross-functional decision-making and rapid communication up and across the organisation as well as a portfolio approach to risk management.

Strategy, Tactics & Operations

Reputation is of great importance to Jaguar Land Rover from a brand, Tata Motors, and wider stakeholder relationship perspective. The people and culture to support this have been developed since 2008, and improvements are continually made. However, without the timely and cost-effective development and production of competitive luxury vehicles, that customers around the world desire to buy and that meet all local safety, emissions and other regulations, there is no business to support it.

The challenges Jaguar Land Rover faces in these respects are not all straightforward – some are complicated and others are complex. For example, designing, engineering and producing luxury vehicles is a complicated process. There are many parts that form the whole vehicle, and although there are clear and predictable cause-and-effect relationships between the parts, it requires a wide range of experts working closely together to investigate these relationships, consider multiple options for dealing with technical risks and challenges and, using industry standards, brand identity and resource constraints as a touchstone, to identify appropriate solutions through computer modelling and rigorous testing. Indeed, in 2012, Jaguar's strength in this area was recognised by being awarded the top spot in the *JD Power/What Car*? annual customer satisfaction survey.

Complex challenges and risks relate, for example, to the unpredictable, uncontrollable, and irreversible actions and intentions of competitors and regulators, particularly in emerging markets such as Brazil and China, volatility in currencies and commodity prices, global economic conditions, and the ability of Jaguar Land Rover's suppliers to operate effectively under these circumstances. Here the company cannot rely solely on expertise, process and analysis to provide the right answer, as causes and effects may be initially unknown and irreversible after the fact. Instead, it requires a combination of probing the future, sensing the direction of developments, and understanding what is and is not possible in order to quickly and confidently make decisions. To paraphrase a quote by Ratan Tata, Chairman of Tata Group (1991-2012), it is not about 'taking right decisions, but about taking decisions and then making them right'. At this level, Jaguar Land Rover's strategy and enterprise risk management are an integrated exercise in which the company's Executive Committee Members are actively involved, including:

- informally on a continual basis
- formally on a monthly basis in a Business Performance Review meeting, and
- twice yearly with the Board/Audit Committee in formal Enterprise Risk Management meetings.

To deal with these risks and challenges, Jaguar Land Rover developed a number of approaches. Three of these will be described here.

Trigger point analysis

To be able to identify and understand in a timely way the trends and developments that could indicate the future direction of sales volumes and cost bases in all global markets in which Jaguar Land Rover has a presence, and consequently the implications for funding and cash flows, corporate risk managers work with subject matter experts across the business to identify the key indicating factors. Today, this analysis includes key economic, financial, product and legislative indicators as well as others.

Data for pattern analysis is obtained from a number of the company's databases, insights from 60 to 150 of Jaguar Land Rover's top leaders working in the key risk areas, studies by professional services companies and other external sources.

Drawing on the lessons learned during the difficult times, these risk managers and subject matter experts use the data gathered to ask "*what if?*" questions to understand the business impact of specific changes in key indicators. For example, "*Assume we lose 10 percent of volume, what are we going to do?*" or "*Assume an emerging market changes its fuel duty overnight, making our products less competitive, what are we going to do?*" Although these questions formed the genesis for today's scenario planning exercises, and gave Jaguar Land Rover the ability to, for example, swiftly reallocate vehicles produced for one market to others where they could be sold faster, they also gave insight into the limits, or trigger points, beyond which mitigating actions are required by the Executive Committee.

The insights gained through the Trigger Point Analysis are reported on a monthly basis to the Executive Committee and actions are determined thereon.

Multi-track Research and Development

The majority of models developed and sold by Jaguar Land Rover tend to be large vehicles with powerful engines, and consequently the company's fleet average fuel consumption, CO_2 and greenhouse gas emission figures are comparatively high. As legislative targets are determined at the fleet average level, Jaguar Land Rover sales are more sensitive to changes in legislation than, for example, their German competitors'. Audi, BMW and Mercedes-Benz have the advantage of broader model portfolios that include small, more fuel-efficient cars and sales volumes that are a multiple of Jaguar Land Rover's, bringing their averages down to lower levels.

As Jaguar Land Rover lacks the means to compete head-on with its German counterparts, with regard to researching and developing new ways to meet ever stringent fuel consumption and emission standards, the company needs to think and work differently to ensure it has sufficient lead time and makes the most of its limited resources. It achieves this in a number of parallel ways:

- By using the company's operations around the world as its eyes and ears on the ground and to develop direct working relationships with regulators, Jaguar Land Rover in the UK will know about proposed regulatory changes as soon as discussions emerge.
- By having an innate understanding of the company's means and capabilities, Jaguar Land Rover can rapidly interpret the implications of changes and respond by shaping the solution space. For example, Jaguar Land Rover supports lower fuel consumption and emission standards, as would be expected from an ethical company.
- Therefore, when changes are considered by legislative authorities around the world, Jaguar Land Rover is in a position to explain its business model to them and agree criteria. By attending conferences and reading industry journals, Jaguar Land Rover tries to predict the technology roadmaps of competitors and others. This enables the company to gain an impression of the future technology landscape, of what is and is not possible, at little cost, and to invest its own limited research and development resources where the company can make the greatest difference. One of these areas is the technology for building all aluminium vehicles, an area in which Jaguar Land Rover is an industry leader. This expertise enables the company to reduce the weight of its future models and, therefore, emissions and fuel consumption.

Supplier risk management and resourcing

When Jaguar Land Rover was taken over by Tata Motors in 2008, many of their suppliers believed that the company would continue to struggle, as it had under Ford, or even go under in the face of rising commodity prices and weak global demand for luxury vehicles, due to the economic downturn. Consequently, many decided to scale down their production of parts for Jaguar Land Rover.

When Jaguar Land Rover had turned the business around in 2010, introduced hugely popular new models such as the Range Rover Evoque in 2011, and sales volumes started to rapidly pick up across the board, particularly in emerging markets such as Brazil and China, the company realised that their growth could be constrained by a lack of supplier capacity. To better understand their supplier network and proactively deal with issues that could affect production, therefore avoiding the throwing away of revenue and profit due to missed sales, Jaguar Land Rover embedded specialist risk managers alongside the people who manage supplier risks as part of their day job. Working side by side, these teams identified opportunities to:

- rationalise the supplier base and therefore reduce the company's dependency on small, low item suppliers,
- segment suppliers based on their strategic importance and value of procurements, and manage relationships accordingly, and
- monitor the capability and capacity of suppliers better so that issues and alternative solutions could be explored earlier.

Leadership & governance

The sign of a great company's capability is great bench strength – its second team is as good as its first team. As a result of the company's values, recruitment policy, frameworks, formal training programmes, and executives dedicating time to coaching and mentoring the next generation of leaders, the teams at Jaguar Land Rover have become a lot stronger over time and are increasingly less dependent on particular individuals. For the company's executives, this means that they can afford to work closely with the board and external stakeholders, such as investors and suppliers – their direct reports can be relied upon to take care of business. Similarly, it means they can walk the shop floor, understand situations from the perspective of those who have to deal with business challenges on a daily basis, and update people on developments in other parts of the company.

However, the relationship between executive leaders and others in the company goes beyond top-down involvement, communication and providing the context for outcomes and expectations. Every executive has an open – door policy and managers throughout the company have direct access to them. For a company with currently 25,000 employees, that is remarkable.

As a result, when the executive committee members and Top-150 leaders meet biannually to formally review existing and new risks, the effectiveness of current controls, as well as actions for improvement as part of the company's Enterprise Risk Management exercise, which is now an integral part of the Strategic Business Plan, they are intimately familiar with the situation faced.

Tata Motors' philosophy is very much 'arm's length'. However, Tata is a very ethical company and they take the proper running of their companies seriously. Board members and non-executive directors are therefore highly experienced individuals, who come from the various parts of the Tata Group, which also helps to share best practice internally. The board will provide support when required, but wants to be kept informed. Further, it celebrates success but will enforce changes at the top if performance does not live up to expectations.

Summary

Following the takeover by Tata Motors in 2008, there was a clear understanding within Jaguar Land Rover that the business had to change dramatically and quickly. Although some outside the company believed that Jaguar Land Rover would be the next British automotive brand to disappear from the market, there can be no doubt that the company achieved something remarkable in only four years. For example, in the 2011/12 financial year, revenue was £13.512 billion, which is almost 100% up in comparison with 2007/8. In 2012, Jaguar Land Rover sold 358,000 vehicles, which is 43% more than four years ago. Further, the company recruited 9,000 new people in the last two years, and is expanding its manufacturing footprint globally, including in India and in China through its joint venture with Chery Automobile.

Given Jaguar Land Rover's i) relatively limited means to fund costly research and development initiatives, ii) dependency on suppliers' ability to support production growth in challenging financial and economic conditions, and, with the company's plants working at or near full capacity, iii) limited ability to reallocate people from one plant to support another in overcoming particular challenges, effective enterprise risk management is vital to the company's ongoing success and resilience. Having the right people in the right places, senior leaders directly involved in the entire business, and structures that facilitate rapid communication throughout the organisation are fundamental to this.

These capabilities and achievements are built on a company-wide recognition that their customers do not settle for second best. Designing, engineering, and manufacturing luxury vehicles, that remain the most admired and desired by customers around the world, in a way that meets legislation and regulations, as well as Tata Motors' own high ethical standards, remains the company's focal challenge.

Case study: The Olympic Delivery Authority (ODA)

Introduction

The Olympic Delivery Authority (ODA)[1] was established in March 2006 as a public body responsible for the construction of venues and infrastructure for the 2012 Summer Olympic and Paralympic Games in London. The Authority worked closely with the London Organising Committee of the Olympic Games (LOCOG)[2], with their respective roles having been summarised as, 'the ODA builds the theatre, and LOCOG puts on the show'. In fact the key responsibilities of the ODA included the construction of the Olympic Park, the planning and funding of transport for the Games, and the regulation of advertising and trading. The £7.2 billion programme included around 40 major projects, which the ODA had the overall responsibility for delivering. Now in the post-Olympics phase, the ODA is working to close out these contracts and to transform the Olympic Village into more than 2,800 new homes.

The Olympics Games is a major global event, with most nations participating and a global television audience of around 4.5 billion. With such intense public attention worldwide, the reputation of the UK was at stake. The UK Government was well aware of the issues encountered by other major UK construction projects, notably Wembley Stadium, and the Scottish Houses of Parliament. Intense scrutiny by the national media was expected on such a high profile project. This is not a new issue as, for example, there had been criticism when construction was still taking place very close to the start of both the Athens and Beijing Olympics. In addition, "*in six of the previous summer Olympics, several of the ODA equivalents have been disbanded by government within two years of being formed because the governments have become edgy about the apparent lack of progress*" (Chief Risk Officer, ODA). The ODA "*from the outset set out to demonstrate that we were professional and transparent in our business relationships*" (Chief Risk Officer, ODA). To compound the issues facing the ODA, the global financial crisis meant that availability of private funding for major construction projects completely dried up at a critical time. This was of significant importance for the construction of the Olympic Village, which had initially been intended to be funded by private construction. The absence of private sector funding meant that the ODA had to approach government for what was tantamount to an open-ended bridging loan. This would have been difficult to pull off had not the ODA previously established an open and transparent working relationship with government.

Given such high stakes, the risk management framework used was a critical element behind the success of the ODA. Key risks which were identified and planned for included: failure to deliver key projects on time, failure to retain key personnel, transport system failures, and significant damage to major assets.

People and culture

Commitment and shared purpose

When the ODA was established in 2006 it was a totally new organisation and it benefited from having a 'start-up' culture. The commitment shown by the whole team was critical to its success. Within the ODA there was a real shared purpose: "*We had this one team ethos, we were all in this*

1 See: ***http://www.london2012.com/about-us/the-people-delivering-the-games/oda***

2 See: ***http://www.london2012.com/about-us/the-people-delivering-the-games/locog/***

***together like the Musketeers, one for all and all for one*" (Chief Risk Officer, ODA). An important factor supporting this collective culture was a stable and cohesive top management team, who developed trust and confidence through working with each other and sharing a common goal.**

This shared purpose meant that "*it was a very positive environment to work in, there was no political bickering, no infighting, no one stabbing you in the back, you were all part of a team*" (Chief Risk Officer, ODA). It was felt that this absence of internal politics had a major impact on reducing the stress of the project, making it fun and a challenge, rather than a high-stress assignment. The sense of shared purpose was apparent across the entire project. "*If you went on to the park and you had 30 people lined up in front of you, you couldn't tell if they were ODA, CLM or a contractor, it was like a seamless team and everyone was committed to delivering this goal of the Olympic Park*" (Chief Risk Officer, ODA). As a result, staff turnover was very low. This was critical to knowledge retention, which featured high up on the risk register as a key element of resilience.

Effective communication with suppliers and customers

Whilst risk management is commonly associated with the financial services sector, it has not been so widely adopted in construction. This presented some initial challenges and led to "*one or two skirmishes in the early days*" (Chief Risk Officer, ODA) in defining risk management methods and terms, as well as in embedding working methods that addressed risk management.

It was found that the way to effective risk management was through communication and "*to present things in a way which shows the person you are talking to that it is beneficial to them. If you can explain why it will help that person achieve their objective, they will buy into it … some risk managers make it too academic*" (Chief Risk Officer, ODA).

A second important aspect of communication was with government stakeholders. The ODA team were open and honest in discussing risk internally and in their relationships with key stakeholders. When presenting on risk issues to government, they made sure that "*we were presenting government with solutions not just problems … and because we built a good track record they had confidence in us we could deliver*" (Chief Risk Officer, ODA). This combination of openness, solution focus and trust allowed the team to maintain a very positive relationship with the government – their key stakeholder.

Health & Safety focus – improved employee relations

An important aspect of programme risk is health and safety, and this is particularly true of major construction projects. The ODA had a dedicated and very effective H&S team and "*invested a lot of time in training people in health and safety and having a uniform approach*" (Chief Risk Officer, ODA). This was felt to play an important role in the development of good relationships with contractors and unions: "*if we were seen to be treating our staff properly, that would cascade down to people wanting to work on the project. It also meant the unions could see we were serious about health and safety … so we had a very good rapport with the unions and mitigated the threat of union action*" (Chief Risk Officer, ODA). As a result of this investment and focus, the ODA won a number of significant health and safety awards.

Learning

One factor that helped the overall programme was a keen focus on promoting learning across projects. For example, "*the Stadium project began say on 'Day one' and the Aquatics Centre project kicked in at 'Day one hundred and one', so we were learning how to do things in the Stadium, which we would then reproduce within the other projects*" (Chief Risk Officer, ODA). This approach to learning also meant that "*we recorded opportunities alongside risks, certainly at a project level and a programme level … mainly opportunities to save money or to save time*" (Chief Risk Officer, ODA).

Business structure

Although it had a total of around 1,800 contactors to manage (and a total workforce peaking at circa 12,500), the ODA itself was a lean organisation, with peak staffing levels of around 280 during the period 2007 to 2012. Their role as project sponsor was a strategic one, including developing and implementing governance strategies, project and programme monitoring, and progress reporting. The consortium CLM (CH2M Hill, Laing O'Rourke & Mace) was contracted by the ODA to act as programme managers, taking responsibility for all of the project operations. CLM brought in around 600 people to manage the projects and the contractor relationships. CLM also had its own risk team, which maintained very close links to the ODA risk team.

Each of the 40 major projects had its own control board, which produced a risk report. Working closely with the CLM risk team, the ODA risk team would produce a programme-level risk review. This was reported into the ODA programme board, which then reported directly to government.

Strategy, tactics and operations

Through engaging with the delivery partner, CLM, responsible for programme management, a uniform approach to risk management was developed. Project status reports were produced in a common format, and presented on a single sheet of A3. These project reports showed the status of each project, the current level of risk, and the financial impact of those risks. ODA applied a scoring mechanism that considered impact on cost, time, reputation and some secondary objectives that allowed them to prioritise their efforts. The risk management method was designed to be proactive and forward looking: "*We encouraged the project managers to keep an active log of what we called 'Trends and Issues', so we could see trends emerging and issues arising*" (Chief Risk Officer, ODA).

With around 1,800 small contractors, there was a significant risk of supplier failure. As part of their active risk management process, ODA "*monitored the health of the smaller contractors, particularly the ones who were crucial to the individual projects … if they had cash flow difficulties we encouraged them to tell us and we try and accelerate payments to them*" (Chief Risk Officer, ODA). This approach to managing the risk of contractor failure was seen as an essential precautionary step during the period of recession preceding the London Olympics.

De-risking the major threat: time

Time was a key element of risk for the programme, and represented a major threat. This was recognised early on, and the ODA adopted a strategy they called 'Two, Four, One': two years to plan, design and clear the land; four years for construction (the 'Big Build'); and one year to solve any final issues and to run test events at the key venues. This strategy was a major success "*because we de-risked time, which was our biggest threat in many ways*" (Chief Risk Officer, ODA). As an example, although the Aquatics Centre was completed some three months later than originally scheduled, this did not disrupt the overall programme since it was before the scheduled test event.

Government risk register

Central government produced a strategic risk register comprising around 200 headline risks, from problems with abnormal weather to major terrorist attacks. The sheer range and level of these risks presented a major challenge: "*could the park be 100 percent resilient to all these 200 risks? No, it couldn't possibly be. But could you plan for some of them? Yes, you could*" (Chief Risk Officer, ODA). Critically, the ODA worked with government to develop responses to these risks.

Leadership and governance

"*Governance is making sure you have a proper framework and process for managing risk*" (Chief Risk Officer, ODA). The ODA applied the 'three lines of defence' risk governance framework, which is widely recognised as being an effective framework. In essence this is, "*a sound framework which, when allied to a common sense and logical approach towards managing risk, produces strong results*" (Chief Risk Officer, ODA). The levels are: line management who are responsible for business operations / programme delivery (detailed analysis of risks); programme assurance (who carry out quality and compliance reviews) and the Risk & Audit team responsible for corporate control (external audit and policy reviews).

Each level has different requirements, but they are all closely linked. In the first line of defence, people "*have to understand the risks of business areas they are managing … which are actively managed by the people at the coal face … they would be the ones who tackle the risks which emerged from the projects*" (Deputy Chief Risk Officer). These risks would be managed "*within the parameters set by the third line of defence, the governance side of it*" (Chief Risk Officer, ODA), and it would be monitored "*by a programme assurance office which reports into the chief executive*" (Chief Risk Officer, ODA).

In the first 12 months of the ODA's existence, the Chief Risk Officer worked to embed this governance framework in order to develop a common understanding. This was a key process that was led from the top: "*one of our basic concepts was the fact that you have got to have the right culture tone from the top … risk management isn't there as a tick box exercise but as something that is in the blood of the business and led from the chief executive down*" (Chief Risk Officer, ODA). As such, risk management was a central feature of ODA operations. The Chief Risk Officer had a very strong relationship with the chief executive and financial director. The audit committee was critical to the risk process and actively challenged the risk schedules. Directors would attend audit committee meetings to discuss risks that they had responsibility for. There was a real view that discussions about risk were positive, facilitating good conversations and helping to deliver solutions.

Summary

The London Olympics generated exceptional levels of public interest and expectation, with 300,000 foreign tourists and 5.5 million day-trippers. It was also the biggest media event in history, attracting the largest ever global TV audience of 4.7 billion viewers. Employees at the ODA were successful in making this happen by delivering the construction and infrastructure projects on time. Their work has resulted in a number of industry awards.

A key aspect of their success has been their approach to managing risk. By implementing a common approach to risk management that was embedded into the daily operations, project and programme level risks were identified and dealt with before they could disrupt the programme. By adopting a proactive approach, key issues such as supplier failure were prevented. Time, a major risk in the construction programme, was also successfully mitigated against. Two issues that contributed to the success of the programme were effective communication and a strong sense of commitment and shared purpose. Effective communication helped make risk management relevant to the daily operation of the programme. Alongside this the approach to managing risk was driven by a cohesive top management team that was united in a common goal.

Resilience relates to the strength of the organisation; the ability to withstand an impact and bounce back. The ODA were successful in "*building a park which also had to have long term resilience in the sense of its future legacy*" (Chief Risk Officer, ODA).

Case study: The Technology Partnership

Introduction

The Technology Partnership (TTP) was formed in 1987 as a technology and product development company with a vision to "*work in partnership with our clients to bring new products to market, creating new business from advances in technology*"[1]. The Partnership was founded by a group of 30 investor employees, all of whom had previously worked for PA Technology, part of the PA Consulting Group. TTP now operates in a number of diverse technology areas, including industrial and consumer products, micro devices, medical and life sciences technology, and electronics. The company's core offering is a contract R&D service – it can rapidly solve challenging technology problems, or develop new products on behalf of its clients. Developing technology and new products requires a broad range of scientific, engineering and business capabilities and TTP is now Europe's leading independent product development company, typically serving 440 clients per year. TTP is still owned by the employees and is located close to Cambridge. The company employs around 315 staff and in 2012 had a turnover of £39 million.

The company needs to deal with a fast-moving business environment, and a broad range of technology, ranging from biosensors to wireless security technology, depending on the sector in which the client company is active. TTP is often asked to help with projects where the client's own engineers are overstretched and so the ability to respond rapidly to new customer projects is essential. This means that TTP operates with a 'low forward workload' to ensure there is available capacity to respond fast, although this also means that significant amounts of its future income stream are always uncertain. There is also a high degree of uncertainty in each of the 70-80 technology and product development projects that TTP are typically working on at any given time. TTP manages commercial risk within projects through contracts, in which "*the basic model is fees for time*" (Finance Director). In this approach, clients retain ownership of the development risk, but know that they are working with the highly capable TTP team, which has extensive experience of solving technology-related issues quickly and effectively. Although contract R&D is the primary mode of operation, with development work being paid for by clients, some internally-funded projects are conducted, which help build even stronger technological capabilities within TTP.

Technological capabilities are important and these are based on the knowledge of the team of scientists and engineers. It is recognised at TTP, however, that technological expertise needs to be matched with excellent communication with the client and management of their expectations. So there is a keen focus on establishing and maintaining good client relationships. "*Key features of relationship management are continuity and openness. Thus the project leader and key members of the project team will be well known to the client who they will meet regularly. Key decisions will be discussed with the key client contact, so that there are no surprises*" (Chairman). The company often takes on particularly challenging projects because, when the client contacts TTP, it means that the project has "*got to be really hard … so you need good people to do it*" (Managing Director). The strategy of focusing on difficult technological challenges, establishing excellent client relationships, and the company's reputation for quality enables TTP to apply a premium pricing strategy.

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1 See ***http://www.ttp.com/***

Business challenges

One challenge for TTP is that creating new technology is inherently complex and uncertain: "*If we are developing a new technology, or a new product for a customer, it may or may not be doable. So often we are pushing the limits*" (Chairman). Every new project has aspects which are uncertain at the beginning and, for example, it is not always possible to precisely define the client's requirements: "*the specifications can often be quite fluid and you're both working together and you're on a little bit of a journey of discovery … in the early phases defining and tying down what you need to do … And then you can get more confidence in the cost and timescales and really that's how we manage risk for our clients*" (Project Leader).

TTP often have responsibility for an 'end-to end development' project, including all aspects of the development process, from understanding the client's requirements, to delivering a solution that can be manufactured. This increases the range of technological risks in a project. In addition, the impact of a failed project on some clients' businesses would be catastrophic. For example, if one recent client project "*hadn't been successful, it would have incurred significant amount of cost and delay to the programme and the client company at that particular time was about to replace their whole range of products … and didn't have a product to sell*" (Project Leader). Therefore, identifying technical and project risks and their potential business impact is an integral part of TTP's work.

People and culture

Top management clearly recognise the value of TTP's culture, which encourages people to be able to act alone: "*Culture is very important and the definition I like is that culture decides what people do when you're not around*" (Chairman). It goes without saying that high levels of scientific and engineering knowledge are part of the culture but the nature of TTP's business means that every employee also needs a desire to constantly explore, to be able cope with very high levels of autonomy, and to adapt quickly to working in project teams.

A desire to explore

A key issue driving the culture within TTP is the type of project: "*We earn our keep operating at the frontier of new products and new technologies*" (Managing Director). The process of creating new technology is a fundamental because: "*That's what turns the engineers and scientists on … creating something that didn't exist before. The 'interesting' bit is important: it is interesting, challenging …* " (Chairman). The opportunity to work at the forefront of technology is not only motivating for employees but also it sometimes enables the company to spot new business opportunities.

Within TTP there is an awareness that the insights gained from creating new products and technologies can also lead to ideas for new businesses. TTP has created new groups and formed several spin-off companies as such opportunities were identified: "*The instrumentation business that we have started out as a contract to develop an instrument. The team developed the specialist instrument, and the task expanded to providing a manufacturing service for the customer. This service grew, so that it became a separate subsidiary which develops and manufactures a broad range of instruments, which are sold into the* *life sciences and biotech sectors*" (Chairman). In exploring, adapting to clients' needs, and spotting new opportunities, management perceive that: "*One of the key messages … is to be prepared to improvise*" (Chairman).

Ability to act autonomously

It is not unusual at the beginning of a project that the client does not know exactly what they need. So project leaders must to be able to adapt and, "*half the job of the project leader is to find out what it is the client needs, not what he [or she] asks for*" (Managing Director). Project leaders need to be very flexible and, interestingly, TTP has less focus on formal project management methods than might be expected. Instead the aim is to "*manage the people rather than the process*" (Project Leader).

The requirement to continually adapt as projects progress means that the individual scientists and engineers are given the 'space' they require: "*You are given a lot of responsibility but you are also given a lot of freedom … you don't have managers telling you on a daily basis what to do, each person decides themselves what needs to be done*" (Project Leader). Project leaders at TTP are also given a lot of responsibility and a very high degree of autonomy: "*We give a lot of responsibility to project leaders, not just for the technical leadership of the project. Ideally they have been involved in drawing up the proposal and developing a relationship before it even starts*" (Chairman). Senior management need to monitor the progress of the typically 70 projects that are running at any one time and this poses a challenge. Managers need to set an appropriate tone in providing guidance, "*by asking a question or making a suggestion but not by saying: 'Get out of the way and let me do it!'*" (Managing Director).

As project leaders are given responsibility for the whole project life cycle, they require a wide range of skills to be able to operate effectively. This means that, "*If somebody wants to increase their value as a project leader, then actually they have to become competent at not just dealing with the technical side of things, but also dealing with intellectual property issues, dealing with the contractual issues, actually dealing with everything*" (Managing Director).

Teamworking

TTP employees have a high degree of crossover in expertise and interests, so collaboration and co-operation are possible, and strongly encouraged: "*Although most people at TTP are specialists in their own right, we are unusual in the way we operate across the boundaries of disciplines to share ideas and solve problems. The result is a unique capability to look at technical issues from a broad perspective*"[2]. A key aspect of balancing the peaks and troughs in demand that are inevitable with a responsive business, is that each group is willing to help other parts of the business. This "*reinforces the idea that it is a team enterprise. We're all in it together*" (Chairman).

Co-operation at the project level helps and it is seen as "*one of the most powerful things. People will join resources from the other groups and they make a personal bond*" (Managing Director). After-work social groups, sports teams, and working on community issues all help foster a sense of shared purpose including, "*the fact that they eat in the same restaurant, that sort of social mixing*" (Managing Director). Working together and face-to-face informal communication is strongly encouraged at TTP: "*often you get a new joiner who says: 'Why don't we have a database where I can look up, you know, an electro-engineer with Digital Signal Processing experience?' And the answer is because if you do*

2 See: ***http://www.ttp.com/technology/software/***

that, then you miss out an awful lot. Just go and ask somebody … You'll find the person you want and you'll find a whole pile of other stuff too. You learn all sorts about what's going on" (Managing Director).

The company also takes active steps to avoid a 'culture of blame', which would undermine the emphasis on teams. There is "*very little blame internally … the people who stay awake all night worrying, they will beat themselves up, they do not need to have somebody else telling them that they have done a bad job*" (Project Leader). The board also promotes a constructive approach to risk taking: "*we are aware that people make mistakes … One of the tasks of the more senior guys is to manage the consequences of a junior making mistakes. If they are not allowed to make little mistakes, they will not learn and, sooner or later the mistakes will be big ones*" (Chairman). The lack of a blame culture also means that mistakes can be identified and dealt with early on, rather than being ignored: "*We are communicating to the client … we have realised something and it was unforeseen … if it is something where we have made a mistake, we will flag that*" (Project Leader).

Although everything is done to avoid a blame culture, this does not mean that criticism is frowned upon. Critical and tough questions are expected in group meetings, and people understand "*it is ok to ask questions, provided you're polite*" (Chairman). It is also common to ask others for advice which "*is largely quid pro quo because you will do the same for them and usually you try and ask the people that you think have a good level of experience and have experienced problems in the past. So they know the kinds of things that you should be looking for*" (Project Leader).

Business structure

TTP is an operating company within the TTP Group. Other companies in the group include TTP Venture Managers, which invests in IT and clean technology, TTP Labtech, which supplies instrumentation and custom automation, and Tonejet, which operates in the commercial and industrial printing markets. The TTP Group also owns Melbourn Science Park, where TTP is based[3].

Operations at TTP are characterised by a project-led organisational structure, with a flat hierarchy: "*There is very little hierarchy for a start – that is one of the major things. So if you are ambitious and you want to climb the ladder you do not come to TTP. However TTP recognises good people, they only really take on good people and they pay very well. So it is a pretty unique company in that respect*" (Project Leader). This encourages independent thinking which is essential in the autonomous environment of TTP. Risk management is very much based on awareness at the individual and project-level, with less focus on tools and techniques. For example, TTP does not run traditional project management training; instead it runs what are called 'Project Leadership Courses'. At the project-level an absolute key element of risk management is the monthly 'Project Peer Reviews'. Their role is not seen as one of line management, but as an aid to reflection for the project leader, "*to assist by helping the person to stand back*" (Managing Director). This means the reviews: "*ask you difficult questions and [help] spot things that you might not have thought of yourself*" (Project Leader).

So, at the project-level, much of the emphasis is on the team and project leader taking the responsibility to identify and deal with project risks, strongly

3 See: ***http://www.ttp.com/corporate/about***

supported by peer review. As TTP have many projects running in parallel, senior management monitors the overall risks the company is exposed to by combining the delegation of responsibility, together with an open door management policy and a culture which encourages a rapid response to recognising and fixing problems rather than allocating blame. "*A simple definition of risk supposes that the magnitude of potential loss, and the probability of that loss occurring can be forecast with some confidence. We believe that speed of response to the unexpected is more important than the predictions of a soothsayer*" (Chairman).

Strategy, tactics and operations

TTP's business is: "*Operating at the frontier of new products and new technologies … whether it is sensing the risks or whether it is sensing opportunities, for us it is the same, for survival and growth*" (Managing Director). It may be thought that, due to the level of technological risks that the company faces in its many projects, TTP is risk-averse when it comes to business investments. "*In a typical year TTP invests about 20% of revenue in new technologies, products, markets and services. We do not see this as evidence of a risk adverse approach to business investment*" (Chairman).

Investment risks

Cash flow is a primary consideration for TTP and management, "*We have a pretty conservative approach to cash. Profit and loss are an accounting construct, cash is what pays the salaries and the grocery bill*" (Chairman). Any new opportunities that are identified internally and not directly funded by a client contract are treated with a great deal of caution. The company takes the attitude that "*if this all goes wrong, can we afford it? From a cautionary perspective … we expect to write off every project*" (Chairman). So although the highly creative and motivated TTP employees will often propose ideas for new products or services outside of their contract work, "*if somebody says let's have a three-man team for six months to do this thing … there's a good chance they'll get a 'no' … because, actually, if it is good enough, somebody out there will pay for it*" (Managing Director). Scientists and engineers are given some freedom to pursue their own projects, but the key is that TTP is primarily a service company providing contract R&D, rather than a product company seeking to invest in its own new products. This approach serves to reduce the exposure to risk: "*If you remember that the basic model is fees for time, then in a sense it doesn't particularly matter whether you're doing something that's never been done before*" (Finance Director).

Since TTP generally runs technology development projects "*as a service for somebody, for their benefit and they probably will get IP out of it, then essentially they take the risk*" (Chairman). The technology projects which TTP runs on behalf of clients are frequently operated in stages, so client investment can increase as confidence increases. This model, alongside the credibility and track record of TTP, helps clients maintain a level of confidence, even though they are still responsible for the project risks.

Where the business case for new technology is strong, the TTP Group will invest in developing future capabilities. For example, TTP Ventures is an incubator for young engineering companies. One recent project is the Carbon Trust Incubator, started with funding from the Carbon Trust as a vehicle for "*finding companies on their behalf that could be groomed to attract more investment*" (Managing

Director). A key benefit of the venture for TTP was it explored the areas where new capabilities would be needed in the near future, for new and emerging markets. The Carbon Trust Incubator was not profitable in its own right, but provided "*access to and visibility in and of everything that's going on in the UK, and some of Europe, to see where the opportunities are for us*" (Managing Director).

Since the company intends to remain employee owned, its capacity to attract large investments will remain relatively low. Company growth and "*the financial strength of the business [and the ability to invest] has actually come from retaining profits, so being profitable*" (Chairman). This conservative investment strategy means that "*We basically aim for every project to be on a profitable basis*" (Finance Director).

Business risk

Business risks at TTP can be viewed as resulting from the risks associated with individual projects and risks across the portfolio.

For single projects the risks are related to contracts, liability and confidentiality. Contracts are a critical factor for a contract R&D firm. "*Quite a lot of the risk associated with the development, effectively, is managed through the contractual relationship*" (Chairman). Since contracts have always been so important to TTP, it has developed its capabilities to a very high level and offers contract development as a consultancy service. Whilst financial risk is typically owned by the client, technology and product development carries a huge potential for exposure to future business risks such as product liability, particularly in the medical and life sciences. TTP recognises these risks and "*has insurance policies in place for that: professional indemnity insurance*" (Chairman). One other important aspect of business risk is confidentiality. This is a particular concern where multiple partners are involved in one project. Typically in these scenarios, TTP takes the view that "*we can't carry the risk of a partner breaching confidentiality, so they have to have their own relationship with the customer*" (Chairman).

Across the portfolio, there are two main issues. As already mentioned, TTP must operate with "*a relatively low forward workload … part of it is the responsiveness that if you have too much then you become less flexible*" (Managing Director). The diverse range of groups and projects, and the capability to share expertise across many of them means that "*quite a lot of the portfolio risk is dealt with just by the sheer structure of the company*" (Finance Director).

Leadership and governance

Corporate governance, the amalgamation of policies and standards, in TTP, is managed using a similar approach as with projects: "*So, we have an AGM and an EGM, and they get their approval. But the philosophy is the same as with the project leaders, basically. As far as possible, you let them get on with it and do what's sensible*" (Chairman). Governance needs to be pragmatic, and compliance to governance standards poses an opportunity as well as a challenge: "*some of our engineers work in areas like medical devices where there is a lot of regulatory imposed process. Naturally there are ISO standards and things like that to which we must conform, but we try to ensure that process doesn't stifle creativity and innovation*" (Chairman).

Summary

At The Technology Partnership, the ability to explore, improvise, work autonomously, and in a team are key attributes for every engineer, scientist and project leader. As the technology development projects that TTP conducts for its clients are so complex, they involve significant uncertainty. This means that clients often cannot clearly specify their expectations at the commencement of projects and so managing client relationships is also crucial. In each individual project, risks are managed by peer-reviews, and by establishing a fast response if problems occur, rather than trying to predict every potential problem. Part of the responsiveness that TTP has developed is based on the company avoiding the over-commitment that results from taking on too many client projects. Across the many projects that are running at any one time, TTP's total exposure to risk is mediated by the variety of markets in which it operates. In addition to client projects, TTP also funds some of its own development projects but it is extremely cautious on such investments preferring, where possible, for clients to fund development.

Case study: Virgin Atlantic

Introduction

Virgin Atlantic Airways Ltd is a British long-haul airline, founded in 1984 by Sir Richard Branson. 51 percent of the company, which is headquartered near Gatwick Airport, is owned by the Virgin Group. For many years Singapore Airlines held the remaining 49 per cent, but sold their stake to Delta Air Lines in December 2012, subject to regulatory approval. The airline employs about 9,000 people, 4,300 of which are cabin crew and 750 are pilots.

Virgin Atlantic uses a mixed fleet of 41 modern wide-body Airbus and Boeing jets to fly passengers and cargo to over 36 destinations in North America, the Caribbean, Africa, the Middle East, Asia, and Australia, from Gatwick and Heathrow airports. Virgin Atlantic announced recently that it would also start operating daily domestic flights between London Heathrow and Aberdeen, Edinburgh and Manchester.

In 2012, Virgin Atlantic carried 5.4 million passengers, achieving a load factor of 78% and a turnover of £2,740 million. It is the UK's second largest long-haul airline, the third largest European carrier over the North Atlantic, and the UK's eighth largest airline in terms of passenger volume. Although Virgin Atlantic's key figures and statistics are on average only a fifth the size of their main competitor, British Airways, in the eyes of travellers, both airlines are perceived as two super-brands of level pegging. As Sir Richard Branson stated on Virgin's website, "*[Virgin Atlantic] has grown into a wonderful airline which has punched above its weight for almost three decades. We intend to carry on doing so for many years to come.*"[1]

Business challenges

Operating profitably in the heavily regulated airline industry is a challenge. Fixed costs are high and fuel prices, which make up a third of operating costs, have increased incessantly. Further, with many different carriers offering a good but increasingly commoditised product, profit margins and customer loyalty are generally low. To succeed in this complex, dynamic and uncertain environment, managing costs carefully and minimising disruptions to operations is essential. However, without a product and service that continually attract sufficient passengers to fill aircraft and provide a memorable experience which draws people back, an airline is not going to remain in business very long, as the costs are so high. Making the brand really stand out is therefore crucial.

Compounding the business challenge are a number of risks, in addition to the fundamental need to ensure safe travel. Demand can fluctuate dramatically and is affected not only by changes in global economic and financial conditions, but also by acts of nature and political instability in certain parts of the world. With shortages of key airport infrastructures, growth is also constrained. Additionally, airlines, like many other companies, have to deal with public environmental concerns, as well as new threats such as cybercrime and computer hacking. Dealing with terrorism has, unfortunately, been an issue the airline industry has had to contend with for a long time.

Against competitors that have scale and networks, Virgin Atlantic can only

1 See: ***http://www.marketingmagazine.co.uk/sectors/travelleisure/article/1163631/Branson – hits-back-BA-Virgin-Atlantic-brand-axe-rumours/***

succeed by continually offering a truly differentiated product and superior bespoke service – on the ground and in the air; in other words, the company cannot afford to be perceived as similar to other airlines. Virgin Atlantic has to stay ahead of the competition by being "*red where others do beige*"[2], to get people talking and inspire customers to travel with them. "*Based on all the research that we have done, Virgin as a brand really stands out. But we do have to differentiate on product and service. This means that we have to invest in that area but we also need to make money to sustain being a business. It is always a trade-off between delivering what is right for the customer, such that you maintain your attractiveness and market position and delivering it cost efficiently. A lot of that comes down to the people that we employ, because they are always searching for new ways to do things differently and more effectively. I guess we will say Virgin does punch above its weight in the commercial arena, but equally the advocacy of our people in actually doing the job and excelling in the job is a component of that.*" (Chief Operating Officer).

This pioneering, customer-oriented mindset is at the core of Virgin Atlantic's resilience. As Sir Richard Branson states on Virgin's website, "*This is a company that simply would not exist without the energy, the determination, the wit and the wisdom of our people.*"[3]

People and culture

The essence or brand proposition of Virgin Atlantic is to "*fly in the face of ordinary.*"[4] Given the difficult challenges of operating profitably in the airline industry, delivering on this proposition requires people in all areas of the business that have 'innovation', 'caring for others', and 'peace of mind' as their core values. Virgin Atlantic takes this very seriously and expects job applicants not only to meet the functional requirements of the job, but also to demonstrate they already live by these values.

To ensure people understand and live the Virgin Atlantic brand in the same way, everyone joining the company, from early career starters to new board members, goes through a two-day 'Virgin Induction Programme' (VIP).

During this programme, "*We talk about our brand, our values, the history of Virgin Atlantic, where it comes from, where the business is today and where it is going*" (Chief Operating Officer). Following this introduction, senior managers take people through each of Virgin's values in more detail. The purpose of these sessions is to help people understand what the values mean on a personal level, but also how their roles relate to those of others throughout the business, and the impact their actions could have on operational performance and the company's reputation.

'Peace of mind' is central to these sessions: "*The brand very much has peace of mind as its core value. That is what we will give you all of the time – we will give you peace of mind. It is what our organisation is contracting with our passengers and with our staff. We will run a safe and secure operation so that as a passenger you can be confident that you are going to depart on time, get to your destination, with your baggage, enjoy the flight, and leave with good memories. For employees, it means that the company is financially stable, that you don't need to worry about being able to pay the mortgage and provide for*

2 Virgin Atlantic brand story (internal document)

3 See: ***http://careersuk.virgin-atlantic.com/life-at-virgin-atlantic/a-word-from-richard.html***

4 See: ***http://www.virgin-atlantic.com/gb/en/the-virgin-experience/fitfoo.html***

your family, and that you can focus on doing your job well" (General Manager Corporate Safety and Security).

Virgin's values are simple, yet combined they bring people and activities together across a complex and dynamic global operation, inspire a collective sense of identity and empowerment, as well as a desire to remain vigilant and continually do better.

Customer focus

As a brand, Virgin Atlantic is very customer-centric: "*It is all about the customer and the experience. People are always looking to do things better, deliver a better experience for the customer, and deliver it cost efficiently. The mantra I hold is that you have to see it through the customer's eyes, because if you try to be too clever and design something that actually has zero impact on the customer then why are you doing it?*" (Chief Operating Officer).

The company uses a number of different approaches to stay on top of customers' needs, wants and expectations:

- regular in-flight customer surveys
- mystery shopper programme
- bespoke research to understand particular topics
- focus groups with regular flyers to explore new concepts
- in-flight trials of new concepts

In addition, the company's senior leaders travel the network regularly: "*I recently did a flight to Lagos, and I went as a passenger. I checked into economy, went through the airport, and onboard the aircraft I interviewed people travelling in that cabin. I asked them about what they expected of Virgin Atlantic. People were very open. They were not struck by 'can I tell you this or not' – they tell you about the good, the bad and the ugly. For me, that was very good, because it enables me to see what our passengers experience*" (Chief Operating Officer).

Senior leaders also try to maintain a first-hand understanding of the challenges crews face to deliver a superior customer service: "*I make sure I regularly travel in all cabins and sample the products to see what works and what does not. I do that by flying on the rotation of the crew and putting myself in their shoes. If the crew lets me, I'll even serve ice-cream on board. You have to be ready for a lot of input, because if there is one thing that our people do not do, that is to hide their input. They are incredibly passionate about what they do. They really care about the passenger, and they really care about the business. Therefore, they can be quite vocal about what they think we have or have not got right. So you get a lot of input, which is great*" (Director of Operations, Safety and Security).

People involvement

Virgin Atlantic is very much a people company, both for their employees and customers. The airline prides itself on seeing passengers as individuals, not as tickets or bookings. As a result, Virgin recognises that a customer's journey is longer than travelling from airport A to airport B. In Virgin's perspective, this journey starts from the moment an individual starts thinking about travelling and 'ends' with the memory of an enjoyable flight when they arrive home again. The intention is to keep Virgin Atlantic at the front of the customer's mind and change the interaction with them from a short relationship – based around a single journey – into a lifelong relationship.

To achieve this experience, people within the airline's various functions collaborate closely – from the marketers choosing the keywords for Google ads, to the IT specialists maintaining the booking website, to the engineers who ensure aircraft are technically compliant, serviced and ready to depart on-time with a cabin created by the in-house design team that is in fine working order, to the Clubhouse airport lounges, to the crew who provide the sparkle, and to the local teams around the world who ensure passengers, baggage, crew and aircraft are looked after properly.

In addition, passengers expect something new quite regularly: "*We like to drive change that improves our operational performance, and that is never ending, but if we were just doing that, we would get bored. Our people and passengers need something new quite regularly. So, we actually really welcome other kinds of change that can be quite disruptive to the operation. If we did not have any of that, we would think we were missing something. That is part of our culture. Quite often, either we come up with new ideas or, for example, our counterparts in Customer Experience come up with new ideas. When there is a new idea, we say, 'That sounds great, love to have a look at it, but we want to be involved.' We would always want to involve a few crew members or a few crew trainers or some of our airport check-in team – so, we involve people from the frontline and see if the idea works. We trial from a perspective of trying to show ourselves that it can work, not to prove it cannot*" (Director of Operations, Safety and Security).

This way of collaborating extends to Virgin's suppliers as these are critical for the success of the airline's operation: "*We always treat our suppliers as if they work for Virgin. When we can, we even put their people in our uniforms. We make them part of the family*" (Director of Operations, Safety and Security). This also contributes to Virgin Atlantic's resilience: "*When you share the same values and work in partnership with your service providers, the approach to resolving a service delivery issue is much more collaborative, because it is also to their benefit to rectify the situation quickly*" (General Manager Corporate Safety and Security).

Business structure

Like most companies, Virgin Atlantic has a hierarchy but it operates in a flat way: "*We do not have a mahogany row. The executives sit in open plan offices, and we are not on the top floor – we just happen to be in one corner on the second floor. People know where we are, we immerse ourselves in the business and they can come and talk to us*" (Chief Operating Officer).

Operations and crisis management

A feature of Virgin Atlantic's flat structure is that Operations and Crisis Management roles are separated to respond faster and more effectively to major unexpected events. In this structure, emergency response or duty commanders are not executives or even necessarily operational people: "*The Head of Legal has been a duty commander for a good number of years. We look for the kind of person who has a passion and would like to get involved. It is open to people across the company: generally, if you want to do something, you will do a good job. Also, they have to be able to hold meetings, coordinate responses across all aspects of the company, structure communications and think on their feet*" (Director of Operations, Safety and Security).

The logic behind this separation of roles is that when an emergency happens, it does not mean that senior leaders are overwhelmed by having to manage every aspect at once. They can step back, keep an eye on the bigger picture, act as a sounding board for the duty commander and manage key external stakeholders on their behalf if needed. Further, it means that when the airline operations department declares an emergency, an experienced and well-prepared response team can take the incident away from them and manage it separately in the Crisis Centre. The event's influence on normal operations is thereby minimised.

Airlines encounter many unexpected events during operations, yet Virgin's emergency response team is engaged infrequently. The reason is that many unexpected events, such as flight diversions for weather or medical reasons, occur so often that they are considered business as usual and are dealt with through standard operating procedures. Even when an aircraft declares an emergency, for example, due to problems with an aircraft's undercarriage, most times the operations department can deal with it. In those instances the duty commander will be alerted and will be on standby, but generally response teams will only step in when an event:

- can attract significant media attention
- can lead to a large number of enquiries by passengers and staff
- impacts multiple routes
- has direct safety and security implications

Even when events meet these criteria, many will be business as usual and can be dealt with through standard contingency plans. In the past airlines have had to deal with a range of security, terrorist, and weather related incidents and are therefore prepared to deal with the consequences. For instance, although Virgin Atlantic does not have specific plans for tsunamis, earthquakes, hurricanes, volcanic ash, industrial action, or terrorist events such as 9/11: "*… what we do have is a contingency plan for airspace closure, for whatever reason. Further, we have a two-tier approach. We have an Amber Team that deals with very specific events and a Red Crisis Team that deals with major aircraft accidents. We have never had to activate our Red Team as such, but we do activate the Amber Team for a lot of events. When they are activated, we will go through a set of procedures in terms of accounting for staff, finding out where our aircraft are, making sure people are safe and secure, determining what we are going to say to passengers and the media, and what we need to do to get operations back to normal*" (Manager Resilience and Business Continuity).

In those instances, executives are kept informed and are available to provide support but typically do not get involved: "*The commander who is running those situations is very competent. He knows where his decision matrix is and what his level of empowerment is, and he just gets on with it*" (Chief Operating Officer).

As a result of this structure: "*When hurricane Sandy approached the US East Coast last year, we were able to launch aircraft up until a time where we thought the weather was going to hit operations. We were the last flight that got in and we were also the first flight to get out of there afterwards*" (Manager Resilience and Business Continuity).

Monitoring the wider threat landscape

Delivering a remarkable customer experience is core to the Virgin brand. However, safety and security always come first. Virgin's approach goes well beyond statutory requirements – it is about peace of mind in every respect. This does not mean that the company's attitude towards risk is about avoidance. It is about managing risk sensibly: "*We fly to some places with challenging* *infrastructure on the ground. I think we would go where we feel that, first of all, there is demand, but also where we feel that we can add value to the local marketplace, by offering our Virgin Atlantic products and services. Obviously, we wouldn't fly at all costs, but we generally find ways to manage our risk and to make it an acceptable operation for us*" (Director of Operations, Safety and Security).

Members of Virgin's Safety and Security team, as well as a number of other senior managers, have government security clearance. This enables them to contribute to industry and government platforms dealing with security threats and risks. The team also has close links with the SAS Counter – Terrorist Wing, military liaison people and other agencies. Through these relationships Virgin has an accurate picture of the landscape of threats. Further, people throughout the organisation are regularly trained on safety and security, which means the number of eyes and ears the members of the Safety and Security team effectively have on the ground around the world is many thousands. Aided by modern communication technologies, this means that Virgin's Safety and Security team may even know about events in the world before government intelligence agencies do: "*For example, when the Mumbai bombings happened, our airport manager in India picked up the phone and told us that these bombs had started going off. Literally within five minutes of that happening, we phoned the information through to a number of UK government departments who at that time were not aware that the event was occurring*" (Head of Corporate Security and Resilience). Commercial entities have a key role to play in the prompt reporting of global incidents.

With safety and security paramount to Virgin's reputation, the Safety and Security team are empowered to delay and stop flights to particular destinations or to put a restriction on cargo from particular countries: "*If I think it is unsafe or not secure, I can say we are going to stop it until I'm satisfied that the situation is safe and secure enough. I have cost this business a lot of money, but the risk of getting it wrong, the knock-on effects, we could go out of business*" (Head of Corporate Security and Resilience).

Strategy, tactics and operations

As aviation costs are very high and competitive pressures intense, airlines can only succeed long-term by maximising the use of all their aircraft on routes with high demand, and doing so as efficiently as possible. This requires a compelling product and the ability, from an airport slot allocation perspective, to operate flights to and from a range of different destinations. Further, to reduce the impact of high and volatile fuel prices on profit margins, it requires modern, fuel-efficient aircraft. Some airlines prefer to buy their aircraft. Others, like Virgin Atlantic, lease the majority of their fleet, as this offers the advantage of being able to replace economically unattractive aircraft quickly and easily.

With such strategies in place, the challenge becomes avoiding and/or minimising significant disruption to operations. When something does go wrong, the desire is to know as early as possible about the event and to respond in a controlled and considered manner. Structure, process and external relationships play a key role in this, but also everyone's ability to timely identify and effectively deal with risks. As the consequences of getting it wrong can be significant, the company takes risk management very seriously. For example, Virgin Atlantic runs 'safe and secure' culture programmes for the whole company: "*I always say to* *[crews during training], 'You are the last line of defence and you are flying on the plane.' The number of times I get crew reporting they have heard, seen or found something of concern, means this layer of our security systems is working*" (Head of Corporate Security and Resilience).

Additionally, all the people involved in operational and strategic decision making go through a common risk management training programme, so that everyone works with one concept of risk: "*We have made the commitment to use risk management in the decisions we make. So, rather than waiting for bad events to happen and learning from them, we try to think what could happen in a particular context, for example, when we consider flying to new destinations, and what it is that we can do to ensure a safe and secure operation for our crew and passengers in that context. We want it to be uneventful and almost boring, because that means everything is working for us*" (General Manager Corporate Safety and Security).

This attitude to risk management extends to the organisation's highest levels: "*Managing risk is a core role and it is not incentivised in any way. We have a Safety and Security Board that meets every six weeks. We discuss operational events, for instance, health and safety issues, the risk management of events that we have been experiencing such as, for example, the recent disruption due to snow. Emerging risks are also discussed. We have similar structures embedded within the divisional areas, so within Engineering, Operations, Cabin Services etc. We engender very much a forward-looking, proactive and open culture where, when we are talking about risk, safety and security, it is not about blaming someone. It is always about learning and what we can do to prevent the event happening again. It is always about the event first, not the individual*" (Chief Operating Officer).

Leadership and governance

A characteristic feature of Virgin Atlantic's senior leadership team is that they are intimately engaged in the business: "*Spending time with my senior reports and our teams at all levels is important. I make time in my agenda to just be where I want to be and talk to whom I want to talk to. I talk to a lot of people and try to get a feel for what they are doing, try to show them that I am actually aware of how they are contributing, and answer their questions. I walk around the office a lot but also around the operation at our airports. I get a tremendous sense of input and energy from seeing our global operation in action and witnessing our teams delivering with a great sense of pride*" (Director of Operations, Safety and Security).

When Virgin's senior leaders go into the business, it is not always just about maintaining an understanding of the situation on the ground. It is also about engaging with people on how the company is performing and keeping the brand alive: "*Clearly, we can't personally touch the whole business, but we do have open business briefings every quarter with the executive team. We will record that and put it on the intranet, so that everyone can access it. We also do monthly 'meet and greet sessions' where we go into the business for a couple of hours, so that people can come and ask questions. I think we are very much known in the business as individuals, not just personalities that sit at the top of the organisation, so people don't have a fear of speaking with us. They are engaging with us. So, it is all about interaction. Further, one of the things that we have invested in over the last couple of years is making sure that the brand lives internally and externally and making sure that the two are connected. Something* *that was lacking in the past was that we had nice airport Clubhouses, aircraft that reflected the Virgin brand, and crew in red uniforms, but this [headquarters] building could have been an insurance company's building. Now the building feels like Virgin Atlantic*" (Chief Operating Officer).

A comment by Virgin Atlantic's Head of Internal Audit, a secondee from one of the Big Four professional services firms specialising in audit, tax and corporate finance, confirms this style of leadership: " *… the nature of the organisation is that there is an executive team who do not really have egos. They are quite happy for you to go and have an honest conversation with them. Equally, they are quite happy to listen when you give them honest recommendations. I do not find that I sit at a table with a director here and spend an hour discussing the language of the report and whether I can make it sound better. I sit there and we discuss what we are going to do about risks, and I think that is the right approach.*"

In addition to the above sessions, the senior leadership team frequently meets formally to discuss the airline's performance, risks and actions for improvement: "*On a weekly basis we have an executive operational meeting. All of the heads of the divisions will come together, and we will look at what has happened from a sales, commercial performance, marketing, operations, and aircraft reliability perspective, etc. Then, on a monthly basis we have a management board meeting, and we go through the performance of the business, key business products, and we look at how key projects are performing. We also look at what is happening in the external world, particularly from a regulation and governance perspective because that really influences our business. As I mentioned before, we have a Safety and Security Board that meets every six weeks*" (Chief Operating Officer).

Summary

In the case of Virgin Atlantic, a focus on safety and reducing risks is shaped by the nature of the airline industry. However, the entrepreneurial spirit of its founder, Sir Richard Branson, has led to a culture that achieves resilience through the efforts of its people. Regulatory standards are perceived as essential but the company aims to go further in its management of risk. Much of this drive is based on a brand proposition that is inspiring both to staff and customers. This has led to a passion throughout Virgin Atlantic to focus more strongly on the customer than the competition, and a desire to be extraordinary at everything the company does. Leadership plays a key role in this, in that senior managers are constantly involved with the company's operations.

Thus, at Virgin Atlantic, resilience is achieved through the people and culture, the organisational structure, roles, processes, relationships and management practices. It is reinforced by a safe and secure culture. Collectively, this engenders a mindset that is forward looking and geared towards providing peace of mind in all aspects of management and service delivery.

Case study: Zurich

Introduction

Zurich Insurance Group (Zurich) is a leading multi-line insurance provider with a global network of subsidiaries and offices in Europe, North and Latin America, Asia-Pacific and the Middle East as well as other markets. It offers a wide range of general insurance and life assurance products and services for individuals, small businesses, mid-sized and large companies as well as multinational corporations. Zurich employs about 60,000 people serving customers in more than 170 countries. The Group, formerly known as Zurich Financial Services Group, is headquartered in Zurich, Switzerland, where it was founded in 1872. Turnover in 2012 was $73 billion and operating profits were approximately $4 billion; general insurance contributing almost 50% to both of these figures.

The recognition of the importance of resilience and the CEO's statement in its 2012 annual report says: "*We continue to execute our proven strategy, growing our business in emerging markets while delivering a resilient performance in mature markets*". This case study focuses on the General Insurance business as most of the interviewees were executives in that part of the organisation. The views expressed by the interviewees concerning risk management and resilience issues and the company's approaches to addressing them were very consistent, even though their roles and responsibilities varied – which indicates a strong shared purpose and beliefs within the senior management of the company.

Key events

Zurich suffered serious financial losses in 2002/3, due to a combination of events and as a consequence of its rapid expansion into areas where it had little expertise. Consequently, the company was restructured, and a number of businesses were sold off. Since then Zurich has streamlined its business portfolio to concentrate on insurance, and in 2012 the Group name was changed from Zurich Financial Services to Zurich Insurance Group. Recognition that inadequate management of risks had been one of the causes of poor performance, resulted in a change to how risks were perceived and managed: "*the concept of Enterprise Risk Management is built into the DNA of the company, or at least it has been since 2003/4 … these for Zurich very challenging times has informed maybe more than anything else the importance of sustainability in everything we do*" (CEO Global Life).

In the last ten years, Zurich has become more conscious of the need to improve the management of risks throughout the business. It also led to the new CEO's expressed view back in 2003 that Zurich should concentrate on its core businesses and become a 'boring insurance company'. The resulting conservative and risk averse strategy has been criticised by some market analysts, but it served Zurich well during the financial crisis in 2008. As was pointed out: "*[in insurance] the fundamental problem is that you sell propositions without knowing the actual production cost*" (CFO General Insurance).

Business challenges

The essence of Zurich's business, as for any insurer, is risk management, on behalf of both its customers and its shareholders: "*Zurich needs a 360 degree view of risk*" (Chief Risk Officer General Insurance). Hence, risk management and resilience are built into the organisational structure, control systems and business processes. This is reinforced by regulatory bodies acting to protect the interests of consumers and investors, particularly since the financial crisis of 2008/9. For example, the European Union's Solvency II Directive, which will harmonise EU insurance regulation, aims to further improve the capital adequacy and risk management of insurers to protect consumers against losses and reduce the risk of insolvency.

Zurich's diversified portfolio of businesses within the insurance industry and its global spread is considered as a key aspect of resilience, reducing its dependence on any particular sector and financial exposure to unpredictable events or changes in macro – economic conditions. Equally Zurich's extensive long-term collaborations or alliances with banks in many countries and affinity groups acting as distributors, give it access to large customer bases without additional fixed costs. Like all insurers, major risks are spread across a number of companies and also with re-insurers. However, being a complex business ('multiple markets, multiple products, multiple distribution channels and multiple customer segments') brings with it organisational complexity and also risks.

Changes in technology are also introducing new risks, not just for Zurich as a business, but also for their customers, requiring 'R&D evaluations' to identify both the risk implications and the business opportunities that new technologies are creating. There is an increasing need to deal with 'cyber' risks, especially with respect to customer data (identity theft, cyber-attacks, etc.) but also the implications for reputational damage of breaches of IT security. Technology and its adoption are also affecting the distribution channels, consumer behaviours and the nature of the insurance products themselves.

There is also a shift in the industry to a more customer-centric, market orientation. This requires Zurich to gather new types of data and to take a less mechanistic and more holistic approach to understanding risk. This includes using behavioural data as a way to define customer segments, rather than relying on 'cruder' risk assessment techniques such as credit scoring.

People and Culture

To address the challenges faced in the industry, Zurich has found that structure and processes such as risk identification and development of contingency plans are not enough: "*As a global organisation it is also about how you actually disseminate governance structures, performance management structures, risk management structures that permeate the entire organisation with consistency. So I think another facet of resilience is an industrialised and standardised set of processes, that operate consistently, but you can have all the best processes in the world but if you haven't got the right capability in terms of people then again you will be blindsided by issues that you've not foreseen or perceived*" (CEO UK General Insurance).

The emphasis is on people taking responsibility and being accountable, but not being punished for making mistakes, provided they are open and honest and learn from them: "*The culture we are trying to instil in the company is that it is okay to make mistakes if they happen within the framework that the company has set. Then it is all about how you deal with them*" (CFO General Insurance). The push for openness is so strong that "*Good news travels fast but bad news travels faster, but whereas some companies have a culture of punishing bad news – we almost encourage it*" (CEO Global Life).

The company culture is based on a set of values called 'Zurich Basics', covering integrity, teamwork, striving for excellence, being focused on the customer and sustainability which they believe drives sustainable performance and also should underpin behaviours. For example: "*Making money would not be an excuse for poor business practice: it is one test of the moral and commercial ethics of this business*" (Chief Actuary General Insurance). The support for these values is strong and consistent and "*If people don't believe in the basics, then they need to find somewhere else not to believe in them!*" (CEO Global Life).

Customer focus

A key part of the culture is also the focus on customers. Zurich provides tools, such as 'Zurich Risk Room', which can be downloaded onto an iPad, to help customers understand and consider certain types of risk. This means that "*Our resilience is not only because we have a broad portfolio of risk but also because we help our customers become more resilient*" (Head of Sales, Distribution and Marketing Global Corporate, General Insurance). Zurich considers itself a 'thought leader' in risk management and this is a differentiator with some customers. "*We consider what sort of knowledge do we have that we can share with our customers from an enterprise risk perspective that can make them a better risk and that makes them less likely to suffer loss or if they do suffer loss to recover much easier … that allows customers to make better risk decisions*" (Head of Sales, Distribution and Marketing Global Corporate, General Insurance). "*Because we sell trust, we usually get a better response and more loyalty from people, who have had a claims experience – it is actually the best advertisement, but it is expensive!*" (CFO General Insurance).

As all its lines of business are within insurance, Zurich is not taking risks beyond its core competences and always has "*sufficient funds to honour all the past promises*" (Chief Actuary General Insurance) – an essential way to gain customer trust and investor confidence: "*Our resilience is part of the [customer] value proposition*" (CFO General Insurance). As one executive said "*We can't get away from the fact that resilience comes from strong financial management and having, through that, a very robust and strong balance sheet that sits behind the business and you only get to a strong balance sheet if you've got the right financial processes, mechanisms and governance structures*" (CEO UK General Insurance).

"*I would say we have a huge desire to be more customer-centric, I wouldn't call us very customer-centric, not compared to very customer-centric organisations in the world, but maybe relative to our industry. At the end of the day … insurance is a very technical business … with underlying pricing usually driven by a line of business statistic, not a customer proposition*" (CFO General Insurance).

Another aspect of the culture is the focus on communications between functions. In insurance "*There are really three key frontline functions in a general insurance business; the underwriting function, the claim function and the financial function and typically the senior underwriting, senior claims and senior finance* *executives will have regular contact with each other*" (Chief Actuary General Insurance). Effective communication between specialist areas is stressed at Zurich because "*one of the differentiating features of an effective insurance business from one that's perhaps less good is the sharing of information across functions. This is absolutely key, should there, for example, be a legal change impacting a product that we sell; this may lead to a need for the actuaries to set aside higher reserves for past claims, but which may also impact how we view that product from a future marketing, pricing and underwriting perspective. To not make these connections across functions can leave an insurer fundamentally exposed. Zurich expands significant energy and has institutionalised formal frameworks to address this*" (CEO UK General Insurance).

Business structure

There are 'three lines of defence' required to produce comprehensive Enterprise Risk Management. In the case of Zurich, like other insurers, these are explicitly built into the structures and processes. The first line is operational management practices, which are guided by the Risk Management Framework, and performance is monitored through a formal process and specific metrics, which are reported up through the line structure. For example, the Chief Actuary is responsible for ensuring the provisions and reserves are adequate to meet the costs of all claims from any business that Zurich has previously written around the world.

The second line is compliance to policies and procedures, overseen by the legal and compliance functions as well as Risk Managers, who have dual reporting to local management, and through to the Chief Risk Officers (CRO) for each business segment and each region. The CROs form a network across the whole business. There has been significant growth in this aspect of insurance companies over the last 10 years as there has been more intense focus on risk management. CROs are responsible for the 'Risk Management Framework' – the policies, controls, tests and processes – both defining them and ensuring there are no policy breaches. Although there is a high degree of internal trust: "*it is reinforced by the risk and control framework*" (Chief Actuary General Insurance). The CROs, who were introduced around 2000, perform more of an assurance and review than assessment function, although they do collect and analyse data and model it for certain risk types to assess the potential financial impact. They write reports to the appropriate executive teams and the Group Chief Risk Officer does the same to the CEO. The CROs have a direct line to the unit CEO and the Risk Committee. "*There are no blocks to the risk officer in our company*" (Chief Risk Officer General Insurance).

The third line of defence is Internal Audit (plus External Auditors and Regulators), whose role includes review of operational integrity and objective evaluation of the key risk areas in the business and the overall risk of the business model.

Strategy, tactics and operations

Many organisations have risk management processes that are detached from strategy. In the insurance industry, 'risk mitigation' up-front reduces the likely damage from an incident and 'resilience' is what produces an effective recovery. Zurich has business continuity plans for every country, backed up by a Group Crisis Protocol, which proved very effective after the earthquakes in Chile and New Zealand. This applies to the company

and its customers. For example, the day after hurricane Sandy struck in 2012, a 'cash response' team was in the field and in contact with the field inspectors. Although some risks are relatively low probability and high severity, most of Zurich's business is very predictable and there is also considerable consistency in customers' needs across markets, leading to similar value propositions with well understood risk profiles.

Risk management does not stop with contingency plans: "*The foundation of decision making in Zurich is very strict economic principles … we look at everything on a risk adjusted basis*" (CEO Global Life). To support this, Zurich has a process called 'Total Risk Profiling' (TRP) which is used for all investment decisions, whether it is related to a product, a market, a region, or even an IT project. TRP considers the internal and external factors that can affect the outturn and the mitigation actions that can reduce the risk to an acceptable level. It consists of five or six very standard common practices that each unit uses. For major investments, TRP reports are fed up to the group executive committee and the overall company TRP is reviewed by the Board of Directors. One practice that increases Zurich's resilience is that as an "*extremely thoughtful company*" (Head of Sales, Distribution and Marketing Global Corporate General Insurance), a considerable amount of research is done prior to entering new markets. This considered approach has meant Zurich has survived the turmoil of the last four to five years better than most of its competitors.

Scenario analysis is 'ingrained in the insurance business' and Zurich is using stochastic analyses continuously to look at thousands of potential outcomes from investment scenarios, with the primary aim of achieving sustainability. The company will withdraw from lines of business that do not look sustainable in the long term. It also models worst case scenarios, which are several extreme events in a short time period. Another form of risk analysis is the International Advisory Panel of experts that considers the future economic and geopolitical issues across the regions. The current horizon for both is 2020. "*For every risk of any nature, we've got someone looking at it, researching it and ensuring that the organisation is fully aware of it.*" (Chief Risk Officer General Insurance).

Leadership and governance

In the Airmic *Roads to Ruin* report, it was found that companies that experienced problems had a 'glass ceiling' hindering the flow of information to the board. At Zurich, this problem is avoided by a number of approaches. For instance, the philosophy of 'management by walking about' is an integral part of the way resilience is built into the day-to-day behaviours across the organisation. "*I spend one or two days a month at our (operational) locations; I either do a customer event or broker event, but spend half a day to walk the floor, coffee sessions, meet people and get an understanding of business at the coal face … listening and answering questions … it is an opportunity to connect the top to the bottom of the organisation – it is about having a real rapport and connectivity with the people that ultimately represent our business*" (CEO UK General Insurance). "*You've got to have the right combination of control frameworks in place coupled with the right people capabilities and a culture that's prepared to be open and transparent. The mantra I use is when you identify an issue, flag it up the line first and handle it second … It has got to start at the top of the organisation, with supportive language that shows we are more interested in how we learn and move forward than holding an individual accountable*" (CEO UK General Insurance).

There is an expectation that employees should always inform top management if they think issues are arising. To facilitate this, there is a "*well publicised and well used internal hotline process that goes directly to the General Counsel … [such reporting can be anonymous as] there are aspects of a whistle-blower … that need to be investigated and taken seriously*" (CEO Global Life).

Cultural values are reinforced from the top of the organisation: "*Our group CEO Martin Senn is very, very frequently communicating the importance of integrity; very strong messages about integrity and values and having the right approach to our customers*" (Chief Risk Officer General Insurance). "*One of the big challenges of any insurer is that as an underwriter of risk, our business is subject to a fairly rigid framework of processes and controls, with the inherent danger that our people do not think beyond the process. This in part is why I spend time visiting our locations, with a view to encourage a dialogue that is candid and two-way*" (CEO UK General Insurance).

Many companies expect non-executive directors to contribute to risk awareness. At Zurich, non-executive directors are provided with extensive training in risk matters by the Chief Risk Officer. This covers actuarial and financial management practices and also specific topics, such as Solvency II. The Zurich Risk Policy describes all these core practices and the associated regulations: "*We appoint very senior people onto our board and in addition we offer them training if they feel they need it; some of it is done by the risk group, some of it by other technical people, I think we have a strong and broad programme*" (Chief Risk Officer General Insurance).

Summary

In the case of Zurich, resilience is a clear organisational objective rather than an emergent property. This is in part due to the nature of the industry, but also due to the form of differentiation, pursued by Zurich, as both interviewees' comments and the 2012 annual report demonstrate: 'Our resilience is because we make our customers resilient' and 'Our resilience is part of the (customer) value proposition'. Hence resilience is built into the organisational structure, roles and processes and management practices, but is reinforced by the culture and expected behaviours of employees at all levels. An important aspect of resilience at Zurich is the way that management recognises that company strategy needs to be evaluated through a risk management lens. Therefore the strategy itself, the range of products, businesses and markets served, need to support resilience.

"*For me, in terms of resilience it comes back to strong financial management, risk management and governance, ultimately supported by highly capable individuals; you need the right mix of skills and capabilities. But you also need enough depth and breadth of real grounded experience to understand the connectivity of functions across what is quite a complex business and you need to have the behavioural set and culture where individuals take personal responsibility for being part of driving and supporting a successful organisation. Ultimately, I think it is about how you marry all those facets together that allows you to develop resilience*" (CEO, UK General Insurance).

Appendix B: Details of Methodology

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Choice of method

The research described in this report was exploratory and it aimed to answer the question: "How do successful organisations manage risk?" A survey would be inappropriate to answer this question, as not enough background data could be gathered on respondent organisations to understand the context in which they were managing risk and achieving resilience. Therefore, case study research was chosen as the most appropriate method, as it allows an in-depth understanding of organisations and their business environment to be generated. This decision was also based on the view that a clear understanding of the steps that companies need to take to become resilient, with examples of specific approaches from companies, was not available.

Sample organisations

In total, more than 20 successful organisations that were known to have a strong focus on risk management were considered. Contacts from Airmic and the sponsors – Crawford, Lockton and PwC – were used to approach these organisations, but some felt unable to commit the time required, whereas eight successful organisations agreed to provide access for the research. These were AIG, Drax, InterContinental Hotels Group (IHG), Jaguar Land Rover, Olympic Delivery Authority (ODA), The Technology Partnership (TTP), Virgin Airlines and Zurich Insurance.

Data collection

Three sources of data were used: interviews, documentary evidence and the results of a management workshop on resilience (held at Cranfield School of Management on 11 July 2013). At each organisation, in-depth interviews were conducted with managers and various staff. A wide range of job titles are represented by the respondents: from CEOs to risk managers, from marketing managers to operations managers, and from finance managers to non-executive board members. The job titles of the interviewees at each organisation are given in Table B-1. (Note that only two managers could be interviewed at the ODA, but this was considered a unique opportunity to learn about that organisation's approach before it was dissolved as planned.)

More than 80 semi-structured interviews were conducted with 70 people between August 2012 and May 2013. Approximately 70% were conducted face-to-face and the rest were made by telephone. The majority of the interviewees agreed for the interviews to be recorded and this led to more than 1,000 pages of transcripts for analysis, in which managers at different levels of their organisations candidly explained how they manage risk and achieve resilience. Where recording was not possible, the interviewers kept notes during the interviews. Multiple interviews at different levels were used in each organisation to obtain a comprehensive picture of risk management.

The second source of data was documents. Extensive use was made of data from company annual reports, websites and the risk management process descriptions provided by organisations (these were mostly sourced from the companies' internal presentation materials). Interestingly, the organisations are very open about their practices and, for example, IHG publishes full details of many of its approaches on its website and in its annual report.

Table B-1
Job titles of the interviewees at case study organisations

No.	Case Study Organisation	Number of Interviewees	Job Titles
1	AIG	12	CEO EMEA CFO Chief Risk Office & Head of Strategic Planning Director Aggregation Director Property Executive Director, UK Commercial Lines Executive Director, UK Consumer Lines UK CFO UK Chief Risk Officer UK Head of Client Services UK Head of Legal UK Managing Director

2	Drax	8	Director of Corporate Affairs Engineering and Safety Manager Finance Director and Board Member Generation Manager Head of Biomass Development Head of Biomass Supply Head of Risk and Corporate Finance Operations Director of Haven Power
3	InterContinental Hotels Group (IHG)	19	Director Global Internal Audit Director of Corporate Risk Management Director of Engineering Director of Finance 2 Directors of Rooms Director of Security General Counsel and Company Secretary GM Holiday Inn Head of Security Risk Management Hotel Director of Security Hotel Security Team Leader Regional President, the Americas and IHG Board Member SVP Head of Global Internal Audit SVP Head of Global Risk Management SVP Programme Office VP Head of Strategy, Americas VP Operations, Central Europe and Germany
4	Jaguar Land Rover	8	Assistant Treasurer Deputy CFO and Operations Controller Director Risk and Compliance Powertrain Engineering Manager Product Planning Manager Purchasing Risk Manager 2 Risk Managers
5	Olympic Delivery Authority (ODA)	2	Chief Risk Officer Deputy Chief Risk Officer
6	The Technology Partnership (TTP)	7	CEO 3 Board Members 3 Project Managers

7	Virgin Atlantic	7	COO Director of Operations, Safety and Security GM Corporate Safety and Security Head of Corporate Security and Resilience Head of Insurance and Cards Head of Internal Audit Manager Resilience and Business Continuity
8	Zurich Insurance Group	7	CEO Global Life CEO, Zurich UK GI CFO GI Chief Actuary Chief Claims Officer, GI CRO, GI Head of Sales, Distribution & Marketing

The third source of data was the management workshop held at Cranfield School of Management on 11 July 2013. A dozen managers from most of the case study organisations and Airmic attended this. Managers from InterContinental Hotels Group and Virgin Atlantic gave presentations, attendees discussed the key issues and everyone answered a semi-structured questionnaire (see Table B-2) on the challenges of managing risk and reputation. The answers to the questionnaire were collected and used in the data analysis and certain quotes were selected for the final report.

Table B-2

Topics from the Management Workshop[1]

No.	Questions Asked	Overview of Answers	Answers – Topics	Example Quotes
1	What do you think were or are the key challenges on the road to resilience within your company? How were or could these be overcome?	• the 12 managers' answers included 5 main topics, some of which were mentioned multiple times • cultural issues were most often mentioned	1. Creating the right culture and buy-in (8 mentions) 2. Need to drive risk awareness from the top (2 mentions) 3. Applying too much process / need for an informal approach (2 mentions) 4. Cross-functional barriers (1 mention) 5. Competitive pressures (1 mention)	"Overcoming the natural instinct to … apply too much logic and analysis." "Creating the environment in the company which brings about a fundamental challenge to the way risk is addressed and managed." "Staff 'buy-in' to a different behaviour in tough times." "Establishing ownership of risks is clear – the business [should be the owner], not Risk Management." "How do you mobilise your entire workforce / supply chain / contract network to become risk managers."

1 The ideas presented here are based on the discussions at the Resilience Workshop, held at Cranfield School of Management on 11 July 2013.

2	What are the key implications for boards and executives to make their company more resilient? How were or could these be addressed?	• the 12 managers' answers included 4 main topics, some mentioned multiple times • issues relating to the business and reputational impacts of risk were most frequently mentioned	1. Understanding the potential business and brand impacts of risk (6 mentions) 2. Need for board and executive to recognise the cultural issues (4 mentions) 3. Need to communicate and make risk management transparent (3 mentions) 4. Showing shareholder value of risk management (2 mentions)	"Recognising the need to create / maintain a culture – embedded in all staff rather than … an enforcement function. Behave and encourage behaviours in accordance with a resilient culture." "Risk management must be used as an integral part of the management of the business and not a tick-box exercise." "Recognise it is more about culture than process." "How to understand the strategic and brand / reputational implications of operational failures."
3	What are the key implications for risk professionals to make their company more resilient? How were or could these be addressed?	• the 12 managers' answers included 3 topics • the main issues raised were about the significant changes in the risk manager's role	1. Changing role of risk managers: need to embed the right thinking throughout the organisation (9 mentions) 2. Requirement for risk manager to communicate, educate and make risk issues more visible (4 mentions) 3. Need for support from the top (3 mentions)	"Risk professional must become valued senior provider to the business." "Don't hide behind rules and regulations. Adapt your language and style to your audience. Get out from your office and engage with the workforce in their environment and remember they know more about their risks than you do, they may just not be able to articulate it." "How to establish a comprehensive, company-wide network and to enable a communication process around this which works."
4	What is the role of risk management tools and techniques in achieving resilience? If any, which one would be indispensable in a modern risk professional's toolbox?	• 11 managers answered this question. there were 4 topics raised	1. Other factors are more important (4 mentions). 2. Tools must be simple and easy to apply (4 mentions). 3. Communication is crucial (2 mentions). 4. Scenario planning is key (1 mention).	"Resilience is more about culture, behaviour and mindset than insight to any tools that impact these things." "Talking to people is the most indispensable." "Awareness of tools and techniques is good – imposition is bad." "Tools help to simplify but are there to articulate meaning to key decision-makers."

Data analysis

The data were analysed in three main stages (between which there was some iteration):

1. For each of the case study organisations, the three different types of data were compared to gain an understanding of how each company manages risk. The data from the transcripts and other documents were then collated and summarised as the typically six-page case studies that are given in Appendix A. The case study summaries were deliberately written in a factual style, with the key approaches of the company listed under the emergent headings: *people and culture; business structure and strategy, tactics and operations;* and *leadership and governance*. Other than sorting the data into the emergent headings, this stage did not draw conclusions on the individual companies' practices and so the case studies (technically referred to in the case study methodology as case write-ups) are semi-raw data.

2. Members of the research team then conducted a systematic cross-case analysis, comparing and contrasting the case studies to gain a deeper insight into the different ways that companies achieve resilience. At this stage, the first level of analysis was to identify all of the different approaches to managing p*eople and culture; business structure and strategy, tactics and operations;* and *leadership and governance* across the case studies. An example of the output of this analysis is the 'Summary of the evidence across the case studies' given in Table B-3. Key examples from the companies' approaches were selected for the relevant sections of the report. Then, excerpts from the case studies (set out in full in Appendix A) were selected to provide the illustrative boxed extracts given in the text.

3. Key findings from the cross-case analysis were compared to managers' responses to the semi-structured questionnaire distributed at the workshop held at Cranfield School of Management on 11 July 2013

Limitations of the research

1. The main source of data was the semi-structured interviews, which of course are 'manager-reported' views on risk management and resilience. However, where possible, managers' statements were cross-checked with other interviewees and with other sources of data, such as company internal process documentation. In addition, as multiple interviews could be conducted at different levels of an organisation, this made it possible to verify how risk was managed throughout the organisations visited.
2. The processes used, the approaches taken and examples from the past were described by managers and employees, but it was not possible to observe an organisation reacting 'live' to a potential crisis.

Recommendations for further research

1. Based on this report, there is a need for a survey of a wider number of companies to identify their approaches to risk management and resilience.

2. This report used interviews, websites and company documents as the main sources of data. Although providing many insights, this approach did not focus on how organisations deal with an actual crisis. Although difficult to achieve, there is a real need for an in-depth longitudinal study of the way in which resilient organisations actively avoid, contain and quickly recover from an actual crisis. To collect the amount of data needed in tracking how a crisis is dealt with in real-time would require an ethnographic approach and unlimited access to internal and external company communications. Only a very forward-looking organisation would be willing to give such access, although capturing data on how a crisis unfolded and how the organisation dealt with it could be an excellent learning opportunity for the organisation studied.

3. Probably the most important area for further research would be to track the progress of a number of companies that had decided to try and achieve resilience. Based on the findings of the current research, it would be insightful to observe how organisations utilise the business enablers to achieve resilience. Particularly interesting for instance would be to observe the changes initiated to create a culture of risk management. Similar to the previous point, ethnographic research would give detailed insights.

Summary of the research methodology

To gain the necessary insight into how successful organisations manage risk and achieve increased resilience, in-depth case studies were conducted. Eight organisations were selected, which were known for their focus on risk management: AIG, Drax, InterContinental Hotels Group (IHG), Jaguar Land Rover, Olympic Delivery Authority (ODA), The Technology Partnership (TTP), Virgin Airlines and Zurich Insurance. The types of data collected included interviews, public domain information on the organisations and confidential internal documents. More than 80 interviews were conducted with managers and staff, leading to more than 1,000 pages of transcripts.

The analysis was conducted in three stages. Firstly, the data on each organisation was collated to obtain a comprehensive and reliable picture of that organisation's risk management practices. To increase the reliability of the findings, extensive triangulation between different interviews was used.

The second stage was a detailed cross-case analysis to identify the different approaches that the different organisations had taken to achieve resilience. Thirdly, the findings from the cross-case analysis were compared with the views of attendees at a management workshop. The detailed findings are described in the main report.

Table B-3

Summary of the evidence across the case studies

Business Enablers	AIG	Drax	InterContinental Hotels Group (IHG)	Jaguar Land Rover
People and Culture	• encourage employees to see asking for help as a strength • encourage challenging questions • risk management regarded as everyone's job • accept mistakes • focus on learning	• culture built around safety and continuous improvement • focus on experience • risk focus for everyone, including contractors • promote 'chronic unease' to increase risk awareness • focus on learning • customer-centric	• focus on culture and not just processes • 'Winning Ways' encourages employees' behaviour (developed by staff) • working with franchisees to deliver consistent brand cultures • open and risk aware at all levels • continuous improvement • focus on learning (and no-blame)	• 'dynamic business foundations' sets the culture for the organisation • strong induction programme • behavioural framework to support high performance
Business Structure	• functional • risk management is organised across the businesses • monthly risk management committee chaired by ceo • strong communications about risks	• functional (eg engineering responsible for the major assets) but always aim to take a cross-functional view • risk committees across different business functions (eg risk management committee; technical risk committee) • risk registers collated from different businesses and overseen by audit committee	• highly developed risk management structure • recognise that risk is inextricably linked to reputation • risk and reputation managed by brr – business risk and reputation • risk working groups • risk registers	• functional • strong measures to achieve cross-functional integration • rapid communications around risk management • strong focus on managing risk to ensure reputation

	Olympic Delivery Authority (ODA)	The Technology Partnership (TTP)	Virgin Atlantic	Zurich Insurance Group
	• commitment, trust and shared purpose established in this start-up organisation • across many contractors • strong focus on communicating the need for risk management • built on health and safety focus • focus on learning	• full recognition that managing technology and new product development is inherently about risk management • focus on exploration and learning by doing • autonomous working • peer review system and peer support • teams that also provide cross-team support • focus on learning, no ‘culture of blame’ but asking challenging questions	• ‘fly in the face of [the] ordinary’ philosophy • strong focus on the brand values; customer focus (providing ‘peace of mind’) • people involvement • strong supplier involvement • customer-centric (including learning from market research, testing ideas and providing a unique experience)	• focus on culture as well as robust processes • people take responsibility for risks within a company framework: ‘zurich basics’ • within this framework, there is a no-blame culture and focus on learning • focus on the customer and their risks (making customers resilient) • strong, effective communications between different functions
	• programme and project-based organisation • oda developed and applied risk governance • risk reports for all 40 major projects, including ‘trends and issues’ log	• project (ie client) based flat organisation • risk assessment at the project level, including peer reviews • establishing a good client relationship is central to mediating project risk	• flat organisation • operations and crisis management are deliberately separated (so that operations do not become overwhelmed in a crisis) • amber and red crisis teams) with duty commander • monitoring the ‘threat environment’	• three lines of defence: risk management framework, policies and procedures, internal audit

Business Enablers	AIG	Drax	InterContinental Hotels Group (IHG)	Jaguar Land Rover
Strategy, Tactics and Operations	• analyse strategic (business) risks • have a defined risk appetite • conduct pilots in new markets to mediate risk • use vulnerability identification scheme (VID) – a survey of thousands of people in the organisation • near-miss reporting • assess 'accumulated risk' (consolidated across all businesses) • scenario planning with rdss (realistic disaster scenarios)	• analyse strategic (business) risks: upside and downside • project risks analysed through a risk ranking • clients' financial risks analysed • risk scenarios and the necessary response are identified responses are practised • risk reporting includes: risk assessment matrices and near-miss reporting (with photographs) • operational 'golden rules' to minimise operational risk • 'controlled anxiety' • behavioural aspects of risk are always considered • contractors integrated into risk thinking	• analyse risk at the strategic, project and operational levels (including financial performance) • extremely high levels of risk awareness (eg intelligence is constantly monitored) • extensive risk-related training for staff (more than 100 training packages) • crisis teams include a 'Crisis Owner' with the right authority, specialists and communication experts	• portfolio approach to risk management • enterprise risk management is integrated with the strategic plan • trigger point analysis (more advanced that standard scenario planning) to assess business risk • multi-track R&D looks at technical, regulatory, and competitor developments and the risks they pose • risk management of supplier base
Leadership and Governance	• open reporting and strong communications • audit committee checks that NEDs play an effective role on the board • review committees for risk governance and achieving resilience	• president in risk meetings • management's operational experience and focus recognised throughout the organisation • deliberate steps to prevent hierarchical barriers • managers not given short-term bonuses	• focus on managing risks to protect reputation • managers know the front-line • executive committee strongly involved with risk management • management visible at the operational level • NEDs trained in risk management	• open door policy of top management and a regular presence at the operational level • bi-annual 'top 150 leaders' meeting reviews existing and emerging risks, and the control mechanisms to address these

	Olympic Delivery Authority (ODA)	The Technology Partnership (TTP)	Virgin Atlantic	Zurich Insurance Group
	• common format for risk reporting • effective communication with suppliers and assessment of their financial robustness • focus on 'de-risking' time: 'two, four, one' (two years to plan, four years for construction, one year to solve final issues) • government risk register reported back specifically to the politicians	• know operating at the boundaries of technology is high risk • business risks, eg investment decisions are risk assessed • portfolio of projects assessed to mediate risk • less focus on tools and techniques for risk management, more on being able to react fast	• prefer leasing aircraft to buying them – to give flexibility • strong awareness and regular reporting of issues • focus on fast recognition and communication as issues develop • risk management training programme • divisional areas have their risk assessment and reporting structure • Safety and Security board: consider operational and emerging risks across the business	• strategic and economic focus of risk management • enterprise risk management built into the structure of the organisation • 'Total Risk Profiling' of all investment decisions • extensive research on risks in new markets
	• three lines of defence: line management, programme assurance, and risk and audit team • strong relationship between Chief Risk Officer and the CEO	• AGM and EGM provide corporate risk governance	• senior management is intimately involved in the business • formal and informal meetings consider all aspects of risk	• management visible and regularly involved with operations • hotlines for communication (including 'whistle-blowing') • NEDs provided with risk management training

Acknowledgements

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