

Enterprise Risk

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The official magazine of the Institute of Risk Management

Creative partnerships: Saurabh Dubey is a believer in strong partnerships between risk managers and their organisations. Taking the philosophy of collaboration to IRM's United Arab Emirates Regional Group has helped it thrive



Route to the top: IRM's senior executive programme takes off / **Stamping out slavery:** risk professionals' role in eliminating forced labour / **SPECIAL FOCUS – Avoiding disasters:** instead of focusing on recovery businesses could do much more to avoid catastrophe / **Learning from disasters:** a case study in building codes shows how far resilience depends on co-operation both inside and outside of organisations

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About the IRM

The IRM is the leading professional body for Enterprise Risk Management (ERM). We drive excellence in managing risk to ensure organisations are ready for the opportunities and threats of the future. We do this by providing internationally recognised qualifications and training, publishing research and guidance, and setting professional standards.

For over 30 years our qualifications have been the global choice of qualification for risk professionals and their employers.

We are a not-for-profit body, with members working in all industries, in all risk disciplines and in all sectors around the world.

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Social purpose

Risk management has an inherent social dimension. While the practice aims to take advantage of upside risk, it also limits harm – either to the organisation itself, or those that the business interacts with.

Three features in this issue of *Enterprise risk* drive that message home. First and most dramatically, Anita Punwani's article "Stamping out slavery" (pages 22-25) urges organisations to crack down on modern forms of enforced labour. While awareness of the crime has risen sharply in recent years with legislators in many countries demanding companies act, global supply chains are complex and can make identifying when and where slavery happens problematic.

"In some cases, this complexity is presented as a reason for organisations not taking social responsibility for eliminating the issue," she writes. Risk managers can ensure codes of ethics, best practice and meaningful responsibility are allocated throughout their organisations – and acted upon. It is one of those areas where doing nothing is tantamount to allowing slavery to continue happening – a moral wrong.



Doing nothing is tantamount to allowing slavery to continue happening – a moral wrong

Perhaps less obviously, our pair of features on disasters reinforce risk management's social role. Gareth Byatt and Ilan Kelman's article "Avoiding disasters" (pages 26-29) argues – in my view successfully – that many disasters need not happen at all. Granted there will always be earthquakes, fires, floods and famine, but many of these catastrophes affect people so badly because of "the choices we make to live and build in harm's way". One of those choices is not to prepare adequately in advance – think of the lack of PPE when COVID-19 struck, despite numerous reports predicting a pandemic.

Businesses can and do invest in such preparation – which can have important benefits to society. As the authors write: "being part of co-ordinated action to avoid disasters and tackle disaster threats can help you deliver your objectives by maintaining a good state of organisational resilience and demonstrating a purposeful role in and commitment to society and the environment."

To do so successfully means that risk managers need to ensure their organisations learn from past mistakes, as Michel Bruneau writes in "Learning from disasters" (pages 31-35). In a case study on building codes, he shows again and again how a lack of understanding (or inconsistent application) of such requirements in different parts of the world has led to both destruction of property and businesses, and heartbreak when people thought they were protected.

One key lesson is that resilience is a team sport – one that spreads throughout society. A business may have an invincible building, but if the infrastructure around it is destroyed, then its survival is in question. Risk managers are ideally placed to see that wider picture before disaster strikes.

Arthur Piper
Editor

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work priorities



In-House Training

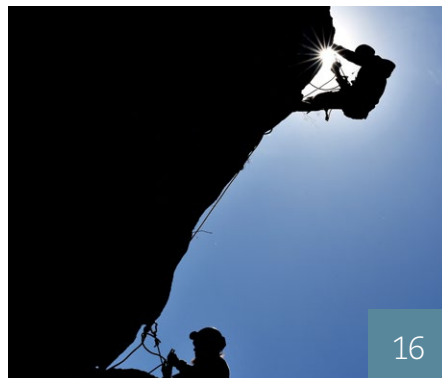
We spend time with you to identify and assess your specific training needs to ensure we develop a course that meets all of your objectives.



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**Supercharge
your career with
this OFQUAL
accreditation!**



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IRM Certificate gets Ofqual approval

Having a regulated qualification can give professionals and their organisations enhanced confidence in their risk management efforts

I am delighted that IRM is now a recognised Awarding Organisation and regulated by Ofqual.

This is good news for both the Institute and our members. The recognition solidifies our commitment to delivering high-quality risk management education and ensures that students and employers can place their trust in this career-enhancing and practical professional qualification.

IRM's globally recognised International Certificate in Enterprise Risk Management (ERM) is the first qualification to be regulated. This qualification is now registered on England's Regulated Qualifications Framework (RQF) and sits at Level 5, which is equivalent to a foundation degree.

The International Certificate in ERM is a comprehensive qualification designed to equip individuals with the skills and knowledge necessary to effectively identify, assess and manage risks within their organisations. The recognition by Ofqual ensures that the qualification meets rigorous standards of quality. The Certificate has recently been updated in line with current risk management principles and practices. ERM is now assessed



by one multiple-choice question exam and three assignments.

Benefits

The accreditation brings several benefits for both students and employers. For students, the Ofqual

accreditation adds credibility and value to their qualification, as it is backed by a reputable regulatory body. It provides assurance that their learning experience meets industry standards and enhances their professional development. Graduates of the International Certificate in ERM can highlight their expertise and stand out in the competitive job market, increase their earning potential and demonstrate that they are current and competent in the workplace.


The December 2023 candidates studying the International Certificate in ERM who successfully complete the qualification will be the first cohort of students to leave with a regulated qualification.


Enthusiasm

Students who go through the rigours of the Certificate are often enthusiastic about how much it helps their careers to progress. Samuel Jefferson, IRMCert, business incident manager, Close Brothers Group Plc UK – who was the overall top global student –

said: "After completing my exams, I felt like I immediately had a better understanding of how risk management works in my organisation, and this has allowed me to approach my work in a more informed way. I would recommend that any risk professional, or aspiring risk professional, consider studying for the IRM Certificate."

Employers also reap significant advantages from the Ofqual accreditation. They can be confident that individuals holding the International Certificate in ERM have received a rigorous education in risk management. Hiring certified professionals offers employers a pool of talent with the necessary skills to effectively identify, analyse and mitigate risks, thereby enhancing the overall risk management culture within their organisations. This accreditation enables employers to make more informed decisions when it comes to selecting qualified risk management practitioners.

To learn more about the International Certificate in ERM and IRM's other qualifications and training, please [click here](#). 

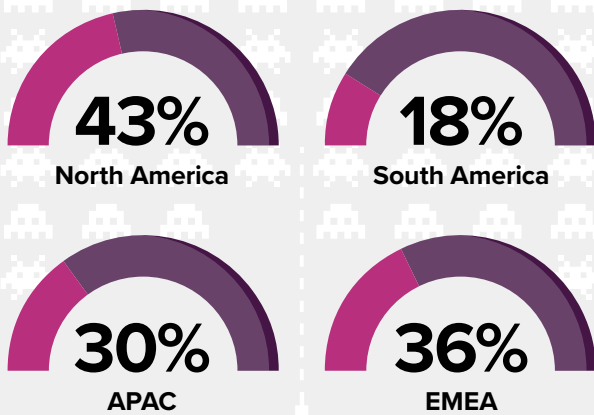
 **Barbara Amponsah-Abedi (FCIEA) is IRM's director of qualifications and responsible officer.**

The latest stories and news affecting the wider business environment as interpreted by our infographics team

Security decision-makers overconfident in cyber defences



Do you trust your organisation's cybersecurity defenses to successfully defend against most/all cyberattacks? (percentage of those that answered "we are protected")



With most trust placed in humans over technology:

Employees to avoid cyberattacks



Security teams to identify security gaps



Accuracy of cybersecurity alerts



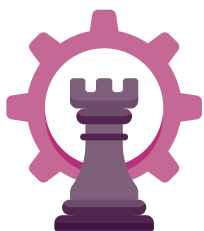
Effectiveness of cybersecurity tools



Accuracy of threat intelligence data

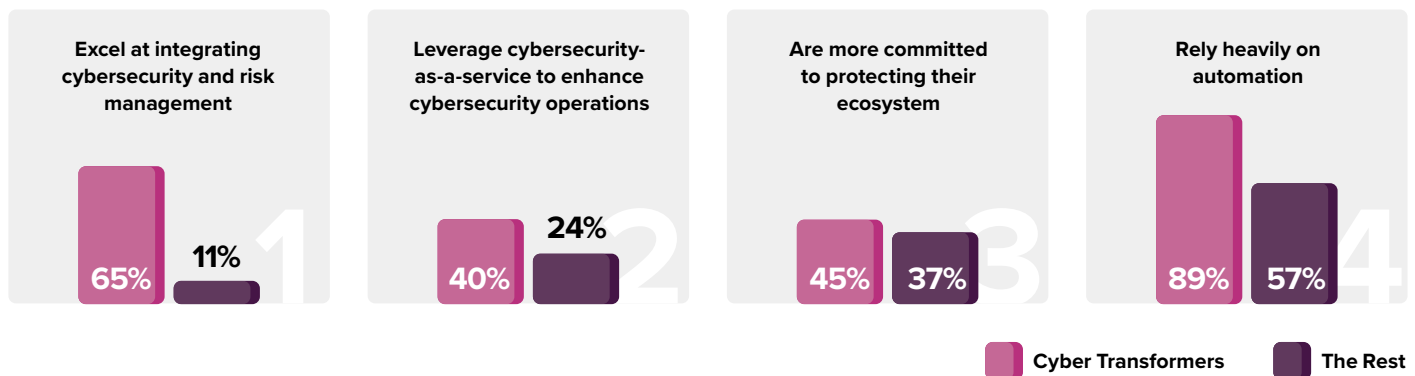


Source: McKinsey Global Surveys on economic conditions, 2023



Organisations that align business strategy with cyber resilience do best

Four metrics make most successful cyber resilient business stand out

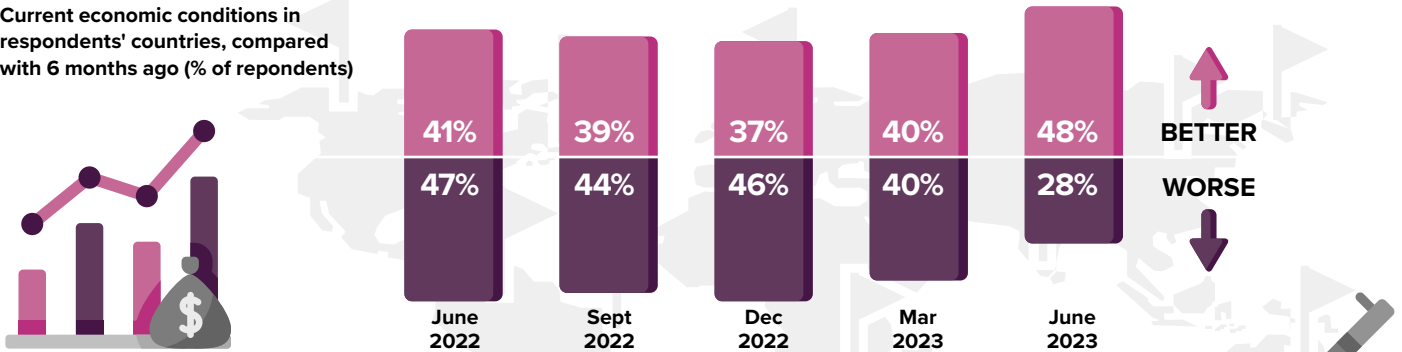


Source: Accenture State of Cyber Resilience 2023, June 2023

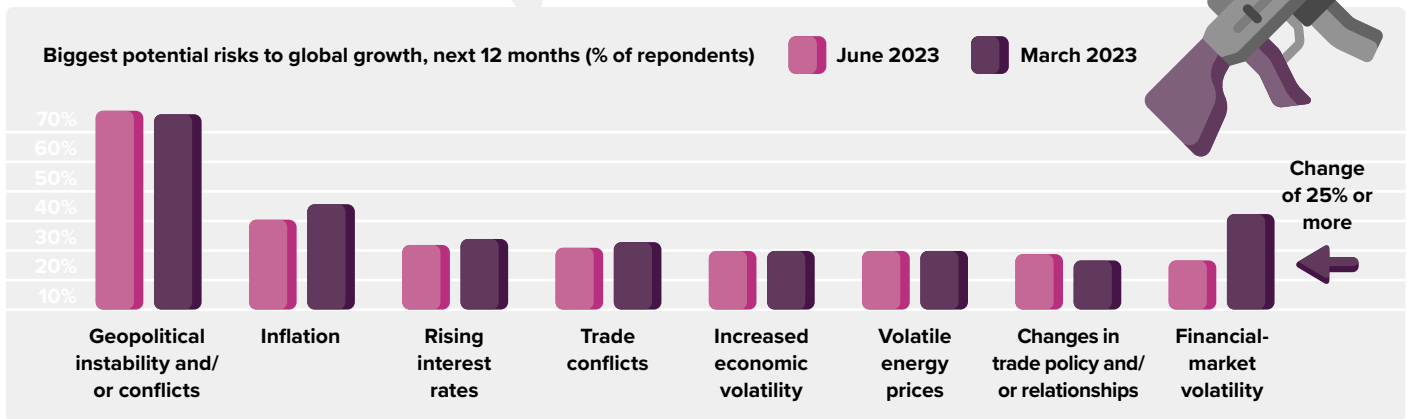
Confidence grows on regional economic performance

Most regions in the world now think their home economies will grow compared with last year

Current economic conditions in respondents' countries, compared with 6 months ago (% of respondents)



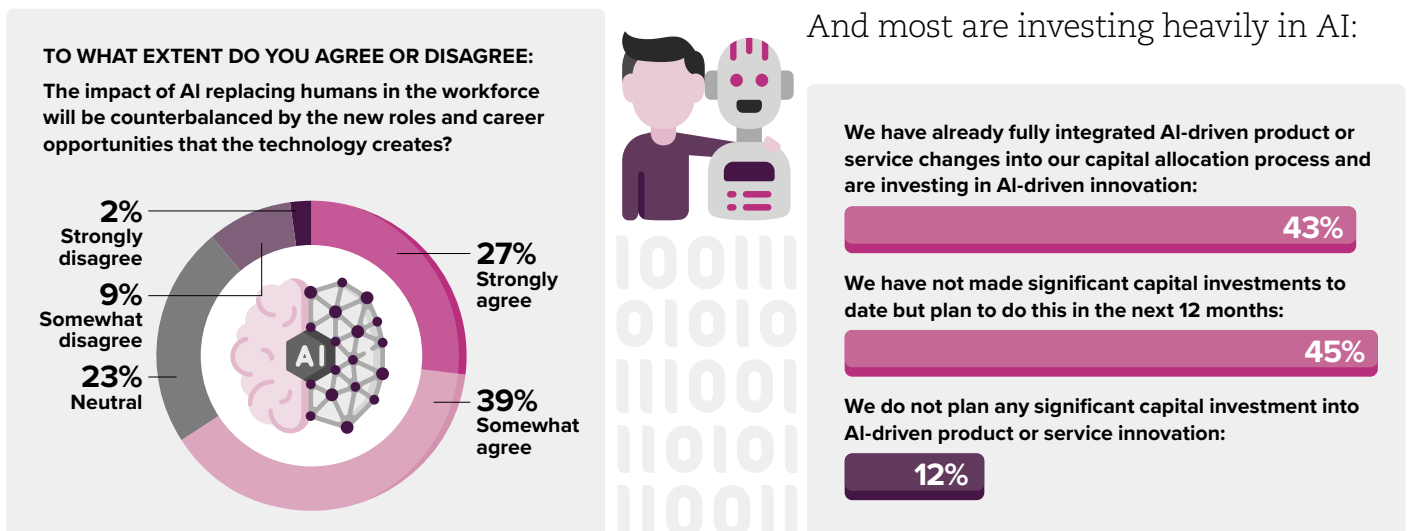
While geo-politics and inflation continue to top the corporate worry list:



Source: 2023 State of Cyber Defense: The False-Positive of Trust, Kroll June 2023

CEOs optimistic about role of AI in business

And most are investing heavily in AI:



Source: CEO outlook pulse – July 2023, EY

Creative partnerships

BY NEIL HODGE

Saurabh Dubey is a believer in strong partnerships between risk managers and their organisations. Taking the philosophy of collaboration to IRM's United Arab Emirates Regional Group has helped it thrive

The shocks to the world economy over the past few years have put risk management at centre stage, with organisations reassessing how they identify, mitigate and leverage risks to their businesses. Different countries have their own unique challenges and priorities, however, and for the United Arab Emirates (UAE), business and people risks are interconnected.

For Saurabh Dubey, managing director for internal audit and financial advisory services at Protiviti Member Firm for the Middle East Region in the UAE and chair of the IRM's UAE Regional Group, there are three


key risks affecting the business: supply chain management, talent management and uncertainty caused by merger and acquisition activities.

Disruption

Naturally, says Dubey, supply chain disruption is probably one of the most important risks for any organisation at the moment, so it is bound to be high up on any risk management function's agenda. In the UAE, however, sourcing materials is not a problem: the problem is their timely availability, price and logistics. "Prices have risen, and trying to secure goods and services as easily as you did pre-

COVID is now much more of a problem for companies," he says. "Logistical issues can mean delays in supply, which affects output, and this is a very real concern for UAE businesses and is therefore a priority for risk functions."

People-related risk is another key concern for employers. "The UAE is a growing market and ripe for further investment," says Dubey. "Opportunities are good, salaries are high and achieving a happy work/life balance is not difficult, so attracting talent from all over the world to work in a leading organisation is easy. However, retaining them is a big challenge. There are plenty of opportunities for talented,

A man with dark hair and glasses, wearing a black suit jacket, a white shirt, and a red and blue striped tie, stands in an office hallway. He has his hands clasped in front of him and is looking directly at the camera. The background shows a modern office environment with glass walls and a stone wall.

“ Prices have risen, and trying to secure goods and services as easily as you did pre-COVID is now much more of a problem for companies



“ Turnover of talented people means that organisations need to seriously consider putting succession plans in place

skilled people to move to better, more senior positions.”

A spurt in mergers and acquisitions has also contributed to a “talent exodus”, says Dubey. “M&A activity is very strong in the UAE and the Middle East. From a risk point of view, there needs to be much better employee engagement and a roadmap setting out how these people will still be important to the organisation post-merger. Employers should also make those employees aware of the potential benefits, the possibilities for career progression and that they might even have additional responsibilities going forward.”

Succession planning

Dubey says there are two immediate knock-on effects from people risks: the first is that companies need to plug skills gaps quickly, especially as they become increasingly

reliant on new technologies to drive their business and realise opportunities. Luckily, employers are prepared to invest in training for staff to gain professional qualifications, which helps retain skilled people. The other key issue, he says, is that succession planning has become increasingly important. “Turnover of talented people means that organisations need to seriously consider putting succession plans in place. Risk functions are also not immune to talent retention problems. Experienced risk managers with key sectoral knowledge and specialist skills are hugely in demand here, so keeping them while you are trying to build a best-in-class risk function can be a very real challenge.”

Dubey says risk management has grown in stature as a profession during the past decade and has also become a resource that managers

increasingly rely upon to help deliver the organisation’s strategic goals. “Risk management has transformed massively since I first came here 11 years ago. The size of risk functions has grown, and their areas of involvement have also grown to suit the needs of the business. For example, the risk management function is now often involved in strategic decision-making and on key projects from the beginning.”

Maturity

He says, “A decade ago, the approach to risk management resourcing was to have a lean team in-house and use consultants to fill in any gaps when required. That has since changed dramatically. Organisations have now developed mature in-house risk functions with established risk management frameworks and are hiring in experienced staff, as



“ **Organisations have now developed mature in-house risk functions with established risk management frameworks and are hiring in experienced staff** ”

well as training those who need it. They are also investing in the latest tools to help risk managers in their day-to-day work.”

Dubey says it is now more common to see very good, leading-edge practices where the risk management function works in a very collaborative way with the leadership team. “Risk management is being increasingly integrated into core functions of the organisation to help with project planning. Risk managers are now more involved in sharing risks associated with investment decisions; what kind of equipment, technologies and people resources should be purchased and used

in various stages of projects; and how third parties should be engaged and reviewed.”

According to Dubey, risk managers are also “carrying out periodic risk assessments during the lifecycle of these projects to check they are on track and on budget, that new risks are being identified and mitigated, and that new opportunities are being realised. They are also questioning what can go wrong on the project and suggesting where improvements can be made. By involving risk management in all aspects of project and investment decisions – by inviting risk managers to

work collaboratively with other teams – the function can help the organisation realise greater value.”

In demand

Dubey says experienced risk managers are in high demand in the UAE, especially those with sectoral knowledge. “Those who have previously worked in the oil and gas industries are obviously highly valued, but experience in other sectors – such as financial services and tech industries – is also highly valued. Professional qualifications are also a must. However, there are still plenty of opportunities for entry-level risk professionals here, especially if

they can demonstrate good IT and technical skills,” he says.

A key priority for risk functions is to ensure that the organisation has an effective risk culture. This requires risk managers to get closely involved in how the business works to understand the challenges different departments face and how they view and leverage risks and opportunities, says Dubey.

“If risk managers aren’t working alongside the business, then they can’t understand the challenges other business functions face and they can’t make any sensible recommendations to help them,” he says. “Establishing a strong risk culture is very, very important if you are a practising risk manager, and it is essential that you keep

New regional group

Dubey believes networking among risk professionals is a great way to promote risk management techniques. The IRM previously had a regional chapter in the UAE, but declining interest and the COVID lockdowns effectively saw it become dismantled. However, Dubey believed that such a forum was necessary so that the region’s growing community of risk managers could meet fellow risk professionals, ask for help, share their experiences and share best practices. With help from IRM in the UK, he set up a regional group in June 2021 and formed a diverse committee to lead it.

Dubey says he and the team had specific criteria they wanted for committee members. “We wanted to have representation

We looked at the feedback we were getting – what they liked, what they didn’t, what improvements we needed to make and how we could change the format for the future and so on – and we started to get good traction. In the first webinar, we had over 50 participants. We quickly doubled this to over 100 and then kept on increasing the numbers.”

Building knowledge

The group now has around 150 members. “We get a lot of approaches from people within the group, as well as fellow IRM members, on LinkedIn and via phone and email asking to share best practices,” he says. “Others in the group are regularly being asked for their thoughts on new risk management techniques, benchmarking and problem solving. By providing answers, we are helping to build up professional knowledge and best practice that is both sector specific and general to most organisations.”

Dubey adds that the activities of the group are not limited to IRM members. “We actively encourage group members to extend invitations to colleagues, friends and whoever else wants to attend our events. We also encourage non-members to participate in discussions, ask questions and share advice. We believe this is the best way to build a risk management community in the UAE.”

The future of risk management in the UAE is set to continue to grow, Dubey believes. “By working alongside the business, leaders are very aware of what good risk management can deliver for the organisation and the difference we can make,” he says. “Managers value our input and our experience. There is no doubt that risk functions are going to become an increasingly important resource for organisations to help deliver their strategy moving forward.”



Neil Hodge is a freelance journalist and photographer.

“ Embracing data analytics and the latest AI-based technologies appears to be taking time for the risk profession

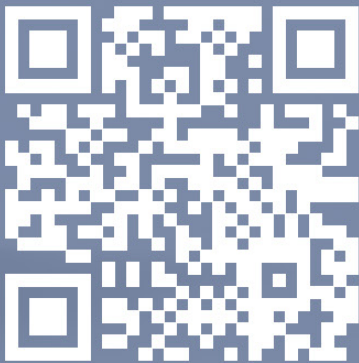
informing the entire organisation from top to bottom about what it is you are doing, why you are doing it, how you are doing it and what you plan to achieve together. The key message is to get them to understand the importance of recognising risks for their own sakes rather than ours. You can’t do that if you are not actively talking to other business areas or seeking to be involved.”

Adopting the latest practices and learning new skills is also essential for risk managers, says Dubey, and is critical if risk functions are to keep pace with the latest market trends. “If we want to succeed as a profession, we need to immediately develop new technical skills and learn how to leverage the benefits that emerging technologies can give us. However, embracing data analytics and the latest AI-based technologies appears to be taking time for the risk profession.”

from different sectors, and we were also clear we wanted a mix of people from industry and consulting backgrounds. Two years on and we have more than 150 members who represent a range of sectors, such as oil and gas, banking, healthcare and the consulting sector, while our membership is also incredibly diverse and is representative of all the major industries here.”

Once set up, Dubey and his team asked members how they would benefit the most from what the chapter could do. The overwhelming response was to have targeted knowledge-sharing sessions for different sectors to discuss what the key emerging risks impacting them might be, and how changes in the market/regulations may also impact their organisations. He says, “We ran about six webinars on different topics which included thoughts on best practice and survey findings.

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With training courses covering a wide range of enterprise risk management topics, our courses are delivered by industry experts so you can immediately apply the latest in best practice techniques. As well as being practical and interactive, the courses allow you to log CPD hours and some offer accreditation.

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Route to the top

BY CLIVE THOMPSON

IRM's Senior Executive Route is helping experienced risk professionals raise their profiles and achieve long-deserved recognition and opportunities

The Senior Executive Route (SER) to achieving Certified Membership of IRM has been available to senior managers who work in risk management since 2015. It was specifically designed to enable us to attract those members who come to risk through ways other than taking our exams. These people who have successfully applied would not otherwise have been members of the Institute.

The SER process was also specifically designed to guarantee that those candidates who are tested meet our stringent standards and demonstrate they possess the knowledge that our examination candidates have as well as being senior in the risk profession. The process, which was designed with HR professionals, ensures that membership is not

given away, and we regularly suggest to some candidates that they need to work on their theoretical knowledge before we can pass them – around

are provided with training and work in pairs to bring consistency to the marking process. Their contribution is invaluable, and without their volunteering it

“ The SER process is assessed by senior peers in the Institute who have shown a desire to further the profession


14 per cent of candidates have failed the interview process.

The SER process is assessed by senior peers in the Institute who have shown a desire to further the profession and commit to devoting time to prepare and interview over the course of 90 minutes those candidates who come to us. They

would not be possible to have this route. The chair of the SER is Serrina Galleymore, a successful SER candidate herself, and without her help the process would not be where it is.

Greater recognition

The SER process has not featured

A photograph of two rock climbers silhouetted against a bright sun in a clear blue sky. The sun is positioned between the two climbers, creating a starburst effect. The climbers are positioned on a dark rock face, with ropes and gear visible. The overall scene is dramatic and emphasizes the theme of risk management.

“ The route is important for the Institute and for all of our members because it brings greater recognition to the risk management role

in our marketing process until recently. The 79 candidates who have passed came to us through word of mouth, or because they had shown an interest in the Institute anyway. We have now redesigned the application form and carried out our second training of assessors. The next tranche of our assessment panel are all, as we hoped, based in those geographies where the SER has most attraction – Africa, India and the Middle East. With these new things in place we are ready to advertise it more heavily.

The route is important for

the Institute and for all of our members because it brings greater recognition to the risk management role. Executive recruitment firms are interested in this as a means of demonstrating that their candidates actually know what they are talking about; we have used the process to measure candidates in a few job opportunities and would like to do more of this.

We will be reaching outside of the risk management profession to make the SER better known. At the same time, if you are reading this article and know someone

who you feel deserves the sort of recognition successful applicants have achieved – please encourage them to apply. And if there are people already calling themselves CRO, going through the SER process is a perfect way to demonstrate to the world you know your onions!

i Clive Thompson, CFIRM, is technical adviser to IRM and author of the “Financial risk management” chapter of *Practical project risk management*, 2nd Edition (Editor: D Hillson).

Serrina Galleymore

Chair of the Senior Executive Route



Having become a member through taking the SER itself, I was approached to become an assessor. I eventually took over the chair role to run the SER after the consultants we had used to initiate the process finished. I now manage the other assessors we have recruited to conduct the assessments and provide any adjudication if it is required for any candidate.

I have a seat on the Professional Standards Committee, and reports on our progress made there are overseen by the board. While doing this I also have a day job leading the risk remit of a major professional membership organisation which has regulatory responsibilities. My family and dog also take up some time, but I have always liked to be busy!

I find the role very rewarding for my own continued learning – and I love giving back to this profession (and to the Institute) which has provided me with so much. It has given me the opportunity to contribute to the success of great risk leaders who possess the relevant experience and operate at a level that surpasses the Diploma route but have reached a point in their careers where they wish to seek formal recognition in a way that fits with their hectic schedules.

Because I came into the Institute through this route, I know how the candidates may feel. I personally enjoyed the experience, but some feel daunted. The overconfident ones are usually “found out” very quickly, while others, especially those with family commitments, may feel they do not have the time to study for yet more exams, or that they simply do not perform well under formal exam conditions. It is my job with the other assessors to put their minds at ease and encourage the good candidates, while helping those with gaps in learning to identify what they need to do to enhance their leadership skills in risk management.

Dr Willys Chache

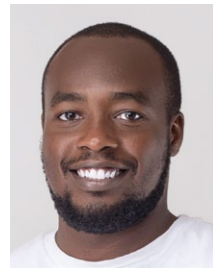
CMIRM, Dip CII, CBSP

I am the head of enterprise risk at Kenya Power and Lighting Company.

We are at the heart of the growth and development of the country and have been powering the nation for a century.

As a risk management professional and a researcher with experience in both the insurance industry and the energy sector, I am proficient in strategic development and implementation, training and enforcing internal and external compliance requirements. My role requires engagement with senior management and the board on risk and compliance issues.

I have further experience in engaging regulators and handling areas of improvements for regulatory obligations. I hold a PhD in business administration



and an MSc in finance. My first degree was in actuarial science. As well as holding the CMIRM qualification, I am a certified enterprise risk manager in government, a certified balance score card professional, I hold the Diploma in Insurance (Dip CII, UK) and am a trained lead auditor – ISO 9001-2015.

The SER process and benefits

The senior executive route recognises prior experience and qualifications in risk management. Having been in

the risk profession through research and employment, it was a great opportunity to demonstrate my expertise and practical contribution to the risk management profession. I can attest that the process was well structured and efficient in delivery. This does not mean it was a walk in the park. The competency-based interview measured my in-depth understanding of risk management, practical experience in risk management and individual contribution to risk management within my

context. I had to demonstrate my professional experience in risk management, how I influence strategy and decision-making and the organisational capabilities on matters of risk management. Since acquiring the title CMIRM, I am more confident as I engage my peers within risk management and other professions. The credentials demonstrate my professional standing and subject matter expertise in risk management. I have also had engagements with potential employers on risk management opportunities and other leadership roles.

Nishtha Khurana CMIRM

I am currently the CRO of a Swiss-Indian joint venture company trading on the gold market.

I am a senior management professional with over 19 years of experience in risk management, internal audit, operational risk management, SOX, compliance monitoring, internal controls and financial controls.



Why undertake the SER process?

The SER process was an opportunity to prove my proficiency, not just in theoretical aspects of risk management but in the practical side of things. Having spent almost half of my life in the arena of risk, I had felt that I had not received a deserving recognition of my skills and knowledge. IRM was the only reputable and recognised institution that could highlight this extremely valuable field of knowledge, especially the part

that comes from the real-world handling of risk-related situations. Throughout our careers, we spend time implementing risk strategies, yet there was no certification that acknowledges our contribution. That was until I found out about the SER process of IRM. The more I read about the SER and talked to people who had opted for it, the more I was convinced that the SER process is the one that will provide me

with a long-due recognition in my chosen field of profession – and I was not wrong about it at all.

Process and benefits

The process of the SER was very seamless and uncomplicated. I reached out to the India Chapter of IRM and let them know that I wanted to opt for the SER process. After submission of my CV, I got a go-ahead on the same day. After that, there were two stages: form completion and submission, and then an interview with a panel

of senior IRM members. Not only were the IRM India Chapter very forthright with explaining the process; they also took my queries whenever I had any questions. Both the form and the interview focused on application of IRM Standards in real settings – that was not overtly daunting since that is what I do day in and day out. The interviewers also made me relax. The hour-and-a-half-long process was more like a conversation, and mostly the feedback was instant. Overall, I had sailed through the process because it felt more like a meeting with fellow colleagues discussing our daily job. After becoming the CFIRM and attaching the certification to my name, I have gained entry into a community of risk professionals, an elite group of like-minded people contributing to the arena of risk management and working together to propagate the importance and benefits of risk management in the corporate world. The certification also brought me a lot of respect within the risk community itself and also opened my way to multiple resources within our chosen field.



Sue Moore CFIRM

I am Chief Risk Officer (CRO) for DWP. I am responsible for effective risk management across a department of some 85,000 people delivering employment support, benefit and pension services to millions of people every day. It is vitally important to develop and accredit risk professionals in light of the ongoing uncertain global landscape, such as the recent pandemic and general instability, not least as this has challenged a lot of traditional risk thinking, such as the changed emphasis on risks that are low probability but high impact – and because the consequences of getting it wrong could be catastrophic. IRM helps the risk profession stay at the heart of these issues, understand latest thinking and share good practice.



Good risk management has never been more important because of the uncertain operating environment, and as we can rely less on what we used to do as the pace of change intensifies and new risks and opportunities emerge. AI is an obvious example. The value of the risk profession coming together and being supported as a community of practice is huge, and having the confidence that individuals meet set standards is very reassuring.

Need to be accredited

My background has largely been in large-scale operational leadership and delivering major government programmes. Risk management is vital to the success of these roles, and where I learnt how to effectively

manage risks in practice, not just the process but implementing and managing through our risk framework. Having been appointed as CRO over three years ago, and being passionate about developing the risk profession, it was clear I needed to be accredited to have full credibility in my role and as I encourage all of my team (and wider) to work towards accreditation.

The SER route was perfect for me, and while a testing process, as you would expect when evidencing standards, it was enjoyable to be able to reflect not just on technical knowledge but also leading a risk function at a really challenging time and understanding the latest risk thinking and learning.

Becoming a fellow of IRM through the SER process really validated my experience, and being a member of IRM has already expanded my network and given me access to a range of other people and information sources.



Becoming a fellow of IRM through the SER process really validated my experience

Zanele Makhubo CFIRM

I am the chief risk officer for the Gauteng Department of Human Settlement and am responsible for embedding enterprise-wide risk management along with championing the buy-in of strong business continuity and disaster management resilience strategies in the workplace.

I am an educator by training, having taught accounting, economics and business economics for seven years in Soweto. I also worked for the Office of the Auditor-General as an external auditor for four years auditing government provincial departments and municipalities. With over 12 years' experience in risk management and business continuity, I have presented in



many forums in South Africa, Zambia, Botswana, Zimbabwe, international webinars and virtual platforms. I am the current chairperson for IRM South Africa Regional Group and a certified fellow of IRM (CFIRM), and I have qualifications in education, accounting, public and development management and business continuity.

The SER process

I really wanted to know how my experience and competency gained over the years with the other risk professionals matched that of global professionals, and the SER route was the perfect way to do that for me. More than anything I felt that getting a globally recognised qualification

would bestow recognition so that I can advocate for the risk management profession with conviction and confidence. The process was easy and user-friendly. The membership assessment form was simple to complete in line with IRM's Professional Standards in Risk Management. The confirmation of being admitted to the next leg of assessment was very quick, and the interview was awesome.

Benefits

The professional recognition I have received from this has assisted me to get buy-in for risk management with other senior leaders and helped me to

“ The professional recognition I have received helped me to earn a seat in the boardroom

earn a seat in the boardroom. I have used it to inculcate the risk culture across the organisation. The qualification is universally recognised among my peers in risk management and has helped me to chair the risk management committee of another institution as well as the South African Regional Group. I think it has made me more attractive as a specialist and public speaker for risk management and allowed me to organise risk events in collaboration with academic institutions such as the University of the Free State and University of Johannesburg School of Economics. 📍

SENIOR EXECUTIVE ROUTE TO MEMBERSHIP

WHAT IT IS:

A way to receive the CMIRM (or in exceptional cases the Fellowship) by demonstrating the equivalent knowledge to our examination candidates.

WHO IS IT FOR?

Experienced professionals with at least eight years' experience in senior risk-related roles, who have not taken our exams but may have other qualifications (and do not want to do more exams!)

WHY DO PEOPLE APPLY/WHY DO WE OFFER IT?

Most applicants tell us it's great to demonstrate their knowledge to their peers, and they want to test themselves.

We want these people, many of whom have a CRO title, to be properly assessed.

HOW TO APPLY:

These are the procedures: [irm-senior-executive-membership-application-process-and-procedure-may-2021.pdf](#) (their.org)

Stamping out slavery

BY ANITA PUNWANI



With complex supply chains signs of modern slavery can be difficult to spot, but risk professionals have a major role to play in helping to eliminate the practice

Children learn from history books about the slave trade and the abolition of slavery. Slavery, however, has not been eradicated – modern slavery still exists. People across the world are being exploited for profit. Children are working in mines, agriculture and sweatshops; products we use daily such as mobile devices, food and clothes may have been made by children forced into labour. World Vision, an international children's charity, refers to estimates at the beginning of 2020 which place 160 million children in child labour, accounting for almost one in ten children globally.

There are different forms of modern slavery including human trafficking and forced marriage as well as forced labour. The International Labour Organization defines forced (or compulsory) labour as “all work or service which is exacted from any person under the threat of a penalty and for which the person has not offered himself or herself voluntarily.” While globalisation has brought economic prosperity to many, others have been left at risk of exploitation most notably in the Global South. The issue has been brought to the attention of the public in the Global North through exposure of the conditions faced by people working in global and local supply chains;

this year marks ten years since the collapse of the Rana Plaza Complex in Bangladesh. Canada has recently joined countries such as the UK, Australia and many European countries by bringing in modern slavery legislation.

Failing to spot warning signs

Slavery may be hidden because of its exploitative nature. People in the Global South may be forced into labour, but the problem also extends to people living in the Global North, including those transported from the Global South to the Global North. Modern-day slaves are often the most vulnerable members of society whose lives, livelihoods and families are placed at risk. The situation in which they find themselves is described by a leading charity, Anti-Slavery International, which states: “People can be particularly vulnerable to modern slavery when external circumstances push them into taking risky decisions in search of opportunities to provide for their families, or when people find they are simply pushed into jobs in exploitative conditions. Anyone could be pressed into forced labour, but people in vulnerable situations – such as being in debt, or not having access to their passport – are most at risk. Crises like the Covid-19 pandemic and climate change can

make people even more vulnerable to exploitation.”

This problem has its roots in history. Although there is public awareness that there was an anti-slavery movement and acts of legislation to abolish the trade, it is only recently that organisations such as elite universities and leading banks have been named publicly as having links to the slave trade. The cultural and historic links between economic profit and slavery have not always been highlighted. The complexity of global supply chains can make it a challenge for organisations to identify the problem; however, in some cases, this complexity is presented as a reason for organisations not taking social responsibility for eliminating the issue.

Risk factors

The risk of modern slavery in an organisation depends upon several factors including the nature of its operations and supply chains. Types of work that may be high risk include temporary, seasonal, low/unskilled, hazardous, domestic and work where people are involved in construction, manufacturing, agriculture, forestry, fishing, food and accommodation services, and personal services as well as mining and quarrying.

Present day risk factors, as set out in the British Standard

“ Products we use daily such as mobile devices, food and clothes may have been made by children forced into labour

WHAT ARE THE CHALLENGES IN ELIMINATING FORCED LABOUR?

In relation to addressing the challenges in eliminating forced labour, what is the main way the IRM risk professional can contribute to this effort in their respective organisation, both internally and through its supply chain?

Parosha Chandran, professor of modern slavery law at King's College London; human rights barrister at One Pump Court Chambers and parliamentary adviser: “It is important that every organisation has a clear understanding of the nature of the way in which it is procuring goods and services through due diligence and ensuring transparency of operations across its supply chains. Some of the world's largest global organisations are being accused of using child labour, for example in relation to sourcing cheap cocoa in the production of confectionary items. The risks to the organisation of failing to do so are not only the prospect of litigation, which is a real risk, but also to the organisation's reputation and profit. Profit is the very reason that children as young as ten are working in unacceptable conditions on less than two pounds a day. Organisations need to care about the way people are treated in conducting their business; some of the most vulnerable people on our planet are being exploited to enable organisations to profit. The need to address modern slavery through civil and criminal corporate liability is gaining momentum across the world. For this reason, the risks of harm to all the victims of modern slavery need to be identified, assessed, managed and monitored by governing bodies in the first instance by posing the question, who are we doing business with, and what practices are they employing? – and then conscientiously working with partners towards answering the question and eliminating the risks.”

Vasuki Shastry, member, International Advisory Council, Institute for Human Rights & Business; associate Asia-Pacific fellow, Chatham House: “For risk professionals, the nature and typologies of forced or child labour practices have become more difficult to assess, manage and measure. Multinational organisations heavily dependent on manufacturing in their supply chains are particularly exposed to such risks. Conventional risk mitigation measures are inadequate because the issue cuts across complex political, socioeconomic factors and human rights. Risk managers should collaborate with actors on the ground (local NGOs) and develop customised metrics to ensure ongoing monitoring and measurement. A one-size-fits-all risk management toolkit for forced labour will remain elusive.”

Andrew Wallis OBE, CEO Unseen: “The complexity of issues faced when tackling modern slavery and in particular forced labour are not to be underestimated. Overarching is a structural and systemic problem that cannot be ignored. Namely procurement is entirely predicated on an extractive or dare I say exploitative profit model. This pushes inevitable pressure down the supply chain that has an inevitability – forced labour due to the insatiable demand it creates for cheap labour, services and goods and profit margin. So, at the structural level if risk managers are going to have a chance, they must be fierce advocates for a rapid transformation to a sustainable profit model of business and in particular procurement. At the opposite end of the spectrum, the issue to be grappled with is, how do we hear the voice of the worker at scale? We are all aware of the multitude of failings when it comes to dip sampling as part of the social audit framework. For those charged with risk mitigation it is crucial that they know at scale what is going on – both positive and negative – to appropriately respond. Rapid changes in technology are enabling us to achieve this, such as examples like Million Makers which rewards workers for their data and input at scale. However, data alone is not enough as it also requires a response, and this will be varied and requires multiple stakeholders but crucially organisations that are trusted by workers in precarious situations, and these tend to be NGOs or unions. Finally, both these issues are not an either/or. We need both; otherwise we are applying a sticking plaster solution to a structural problem, or we are blindly believing that the complex system even if transitioned to a sustainable model will not create further issues that need addressing but in a more positive environment.”

“ Risk professionals must be fierce advocates for a rapid transformation to a sustainable profit model of business and in particular procurement



Organizational responses to modern slavery – Guidance, include *discrimination*, such as that based on ethnicity, gender, caste, tribal group and religion; *geography*, arising from poor labour market governance (e.g. restricted freedom of associated and/or collective bargaining) or legal accountability for rights violations; *labour market structures*, arising in countries, regions and sectors where structures may leave workers vulnerable due to a lack of choice of employment; and *migration for work*, arising because low skilled workers or poorly protected migrant workers can be at greater risk of abuse, as well as *highly complex global business models* where there is a lack of appropriate governance and oversight mechanisms.

Role of the risk professionals


Risk professionals have a role in supporting the governing body to eliminate risks, firstly, by ensuring it takes responsibility for raising awareness of the problem, making a formal commitment to do so and then having the necessary oversight of all its operations, programmes, projects and partnerships as well as supply chains. Modern slavery statements and policies should


set out the formal commitment to eliminate the risks, including in relation to adhering to relevant legislation. Existing policies and practices may need to be adapted in relation to areas such as supplier codes of practice, migrant workers, wages, welfare, training, recruitment and procurement as well as compensation for victims. This needs to be an enterprise-wide effort.

Andrew Wallis, CEO of Unseen, an NGO working to end modern slavery, was awarded an OBE for work that led to the UK Modern Slavery Act. He describes a business model for the confectionary supply chain in which new brands are joining companies who have already committed to sourcing cocoa via a scheme with principles to source fully traceable cocoa beans, pay a higher price for cocoa to enable a living income for farmers, build long-term relationships to boost farmers’ income security, promote strong partner co-operatives to professionalise

cocoa farming and increase cocoa productivity and quality. Fairtrade, the world’s largest and well-recognised fair-trade system, is a global organisation working to secure a better deal for farmers and workers. Their model gives businesses a “first line of defence” in identifying and addressing instances of modern slavery within their supply chains. Independent auditors look for evidence of indicators of modern slavery. Their standards support workers’ voices to be heard, union membership and collective bargaining.

In relation to addressing the challenges in eliminating forced labour, as Wallis says, IRM risk professionals “must be fierce advocates for a rapid transformation to a sustainable profit model of business and in particular procurement.”

The IRM Environmental and Social Governance Group supports the UN Sustainable Development Goals. Organisations that risk professionals work for may also support these goals. In relation to forced labour, the goal is stated as “take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.” Our group’s third event, ‘ESG Group perspectives: Perspectives on Social Responsibilities’, addressed the risks of modern slavery and relevant governance and risk standards. Recordings of our events featuring Vasuki Shastry and Professor Parosha Chandran, as well as committee member details, are available on the [IRM ESG Group webpage](#). 

 **Anita Punwani (CFIRM) is the founder chair of the IRM’s Environmental and Social Governance Group. For the British Standards Institute, she chaired the committee and initial workshop which laid a risk-based foundation for the BSI Standard BS 25700:2022: Organizational responses to modern slavery — Guidance.**

Avoiding disasters

BY GARETH BYATT AND ILAN KELMAN

Businesses spend a lot of time and money on disaster recovery processes, but they could do more to avoid catastrophe in the first place

Can a business work towards objectives for its owners and stakeholders while also having a societal and environmental purpose to, among other things, support efforts to avoid disasters? We believe so. By disaster, we are talking about circumstances in which people, infrastructure and/or livelihoods are harmed by processes such as wildland fires, storms including cyclones and hurricanes, major floods, droughts, earthquakes and public health situations such as a pandemic. Disasters caused by war require a different discussion.

Note that harm to us is required for it to be a disaster. So-called natural disasters do not exist; they are just disasters. Disasters do not come from

nature; they come from the choices we make to live and build in harm's way, or to force people into harmful situations or do nothing about it if they put themselves in perilous places.

Despite the efforts of many people, disasters continue to occur around the world. [The United Nations completed a review in mid-2023](#), which emphasised an increase in the number of people affected by disasters since 2015, that disasters are expensive to respond to and that funding for disaster risk reduction has stalled.

Disasters affect everyone

As we saw with COVID-19, nowhere is immune from catastrophe. Disasters have damaging impacts on businesses and the economy, as well as on

“ Being part of efforts to avoid disasters can bolster your organisational resilience

society and the environment, in communities, cities, towns, and rural and remote areas including small islands. Supply chains break down, property gets damaged and company share prices can plummet as investors take flight. Recovery from disaster can be a long and costly process that can prevent businesses from focusing on retaining and expanding

“ Disasters do not come from nature; they come from the choices we make to live and build in harm’s way



their customers and clients, and other business objectives.

Is your business taking action to help the places where you have a presence avoid disasters? If a disaster does occur in an area where you operate, does your business play a role in protecting communities and the environment as well as focusing on your own people and operations? Whether you are a local business operating in one area or a multinational, being part of co-ordinated action to avoid disasters and tackle disaster threats can help you deliver your objectives by maintaining a good state of organisational resilience

the world of storms, fires, floods, earthquakes, ongoing drought and other situations and events, yet we are not destined to see human lives lost, livelihoods destroyed and harm to nature that may take a long time to recover from, if at all. No disaster should be a shock or “black swan” to us because we should know the hazards and threats we face – we have had enough practice and experience of them by now.

Some hazards cannot be predicted to happen at specific timings or locations, but we can predict and act on the vulnerabilities and exposures we face. We can also define and

private sector can add value in analysing risks and threats and taking action to avoid disasters.

Principles for avoiding a disaster

Common threads we see enabling strong and flexible bonds to exist between groups of people working to avoid a disaster include having a mindset to avoid disasters, rather than accepting them as inevitable. Good governance and accountability are important. Understanding a wide range of perspectives and cohesive and transparent action by groups involved is also critical – as is the allocation of scarce resources



Good things happen when committed people and organisations collaborate in a symphony of action to prevent a disaster

and demonstrating a purposeful role in and commitment to society and the environment.

Being part of efforts to avoid disasters can bolster your organisational resilience and crisis management practices, such as protecting against supply chain disruption, a cyber-attack or an environment/safety incident (purposeful and co-operative business resilience of this type is something Gareth has written about in a previous edition of Enterprise risk). It's not a question of choosing between achieving business (and maybe shareholder) objectives and supporting a broader purpose – both can be achieved.

Disasters can be avoided

In our research work into disasters avoided, we use a definition of a disaster that is brief and simple: *a major situation requiring outside support for coping*. Something happens, we cannot deal with it and we need help.

The key question is, what can we do to avoid a disaster? Every day there are examples around

measure quantifiable outcomes to show the socio-economic benefits of avoiding disasters for all groups of society (including the public, businesses and governments), which is important to show the benefits of investing time and scarce resources into proactive action. Good things happen when committed people and organisations collaborate in a symphony of action to prevent a disaster from happening (and are also ready to respond to disasters that occur).

Through a series of case studies, which are funded by NASA, we are documenting examples from around the world of how disasters are being avoided (our findings and material are being made freely available). Time and again we see the valuable role that businesses play in achieving this outcome. From providing proactive community support to working on technology solutions and helping to build resilient places, businesses play a valuable role. We also see examples of how risk management and resilience techniques used in the

and funding informed by science-based evidence and data.

Key in all of this is a willingness – a mindset – by everyone to invest in upfront planning and action towards saving lives and livelihoods and protecting the environment. As part of this effort, we can also define quantifiable societal, economic and environmental benefits which can be linked to the [UN Sustainable Development Goals](#) (SDGs) and the [Sendai Framework for Disaster Risk Reduction 2015-2030](#). As we are finding in our case studies, many businesses around the world are working with governments, support agencies, academia and the public to help avoid disasters and to be better prepared to deal with disasters that occur.

Resilience requires an integrated approach

When it comes to allocating scarce resources, some actions involve dedicated financial investments, others are more about establishing a network of people to act co-operatively. There must be clear



KEY POINTS AND CONSIDERATIONS

Helping society to avoid disasters is good for business – positive linkages can exist between business objectives and a broader societal and environmental purpose. Here are a few summary points to consider.

- 1 Businesses can and should play their part in helping to avoid disasters, as part of achieving their objectives. What skills and services can your business provide to help achieve this goal, in the parts of the world where you have a presence?
- 2 How can your business work with government, researchers and other teams towards this effort? Could learnings from the way you manage risk and resilience in your business be useful for an integrated group working to avoid disasters?
- 3 Helping communities, cities, towns, and rural and remote areas to avoid a disaster can help your business resilience. Knowing where your vulnerabilities are, and the disaster threats you face, can help you focus your efforts and support yourself and those around you.

provide services such as Earth observations to assist with monitoring long-term trends and short-term threats. Grocery retailers can help communities in many ways. Collective action from businesses helps to sustain and maintain economic outcomes for everyone. People can continue to earn their livelihoods or recover quickly to do so, supply chains can continue to operate, infrastructure and the built environment can continue to be operational and disasters can be avoided.

Many tools and techniques that can help the effort to avoid disasters are related and similar to those used for achieving good business resilience and risk management. For example, counterfactual analysis and near-miss analysis helps us to think through how actual situations or close calls could have unfolded differently. The use of premortems and “prospective hindsight” can help us to think through worst-case scenarios and how we can avoid them. Bowtie analysis helps us to unpack specific risks or threats. The Johari window psychology construct tells us to consider “unknown unknowns”. In the business world, just as with disaster risk management, the Johari window can help us understand and manage risk.

As the head of UNDRR ([United Nations Office for Disaster Risk Reduction](#)), Mami Mizutori, has stated: “disasters can be prevented, but only if countries invest the time and resources to understand and reduce their risks.” We believe that, with a collective effort including the support of businesses around the world, we can avoid disasters. 🌐

“ Counterfactual analysis and near-miss analysis helps us to think through how actual situations or close calls could have unfolded differently

and transparent visibility across all groups involved, with the “glue” that bonds these groups together being good governance and shared accountability.

What role can businesses play? The actions of many businesses during the COVID-19 pandemic provide us with a great many examples (from pharmaceutical companies to restaurants and manufacturers). Opportunities abound for businesses of all sizes and in all parts of the world to be part of collaborative efforts and projects to achieve sustainable resilience against disaster threats. Businesses can support governments and local authorities in many ways. The finance and insurance sector can assist with innovative proactive finance and insurance solutions

for people and local communities to have resilience in the face of disaster threats. Engineering and construction firms (designers and builders) can create solutions for buildings to be both sustainable and resilient against disaster threats, including nature-based solutions that integrate with the local environment. Technology, satellite specialists and drone manufacturers can



Gareth Byatt is an independent risk and resilience consultant (private sector). Ilan Kelman is a professor of disasters and health at UCL, UK, and the University of Agder, Norway (scientist). YouTube channel: [The Science of Disasters with Ilan Kelman](#).

During 2023 and 2024, we will be releasing case studies and examples of disasters that have been and are being avoided.

Please contact us at ilan_kelman@hotmail.com and gareth.byatt@riskinsightconsulting.com. We would love to hear from you.

Learning from disasters

BY MICHEL BRUNEAU



Risk managers know that critical infrastructure must be protected for businesses to continue to operate after a disaster. But understanding building codes that underpin the resilience of physical assets are a case study in how detailed knowledge must inform strategic decision-making

Within seconds, your market share – or your entire business – can be lost, thanks to an earthquake, a hurricane, a tornado or other natural hazards. Insurers and risk managers may consider their exposure to various economic, societal or technological hazards, but some often underestimate their exposure to losses from natural hazards, for a number of different reasons that “fly under the radar”. This typically happens when incorrect assumptions are made regarding the performance of the built infrastructure during extreme events.

Building codes sacrifice assets

There is generally lack of a ground-level understanding of the kind of protection provided by design codes and standards, and the extent of their enforcement. For example, in approximately 10 seconds, hundreds of reinforced concrete buildings – including new ones designed to the latest edition of the building code – were severely damaged by a magnitude 6.3 earthquake that struck Christchurch, New Zealand, in 2011 in one of the country’s most tragic disasters. Considering the prohibitive cost to repair them, most were demolished. To the structural engineers in Christchurch, as far as their buildings had preserved life, this was a success story. They

knew that the design objective in the modern building codes worldwide is to achieve life-safety, and not protection of the assets – meaning that a building can be damaged to the point of being a total write-off as long its occupants can escape safely.

This life-safety design philosophy is engrained in all building codes, but, with some rare exceptions, nearly

has not changed since – in New Zealand or elsewhere for that matter – because building codes are only intended to provide minimum standards, and many believe this should not change, because this is what the market will bear, or for whatever other reasons. Case in point, in California, proposed legislation that would formalise the option of designing buildings

“ The term designed to code implies an umbrella protection approaching invincibility – something far from the truth

everybody is unaware of this fact. To the non-engineer, the term designed to code implies an umbrella protection approaching invincibility – something far from the truth. This reality had either not been explicitly communicated to, or not understood by, the Christchurch public and building owners, who were figuratively crushed to see their downtown being similarly literally crushed by demolition crews, multiple buildings at a time. All of this in a country known to have some of the most stringent requirements when it comes to providing earthquake-resistant buildings.

Note that the fundamental philosophy of building codes

to remain fully functional following an earthquake has been vetoed multiple times by the governor so far.

To counter this, more and more engineers nowadays, in some parts of the world, make it a priority to inform their clients of this situation and to offer them options that could reduce or eliminate damage. Even when that happens, many developers still choose the less expensive life safety option. Not surprisingly, in Christchurch, some tenants for whom business continuity in the event of future earthquakes is important have asked to talk to the structural engineer who designed a building before renting

there, rather than trusting the interpretations of a developer. However, that is the exception, not the norm. Few are aware that their business enterprise could collapse overnight.

Codes do not always exist

Climbing a bunch of steps on the vulnerability scale, most of the existing infrastructure has been built at a time when knowledge did not exist on how to design infrastructure to resist the extreme forces from hurricanes, earthquake, tornadoes and others. For example, while the latest edition of a building code may require nowadays that the first occupied floor of a building at a specific coastline location be elevated 17 feet above sea level, that does nothing to prevent the buildings built on grade decades ago (per obsolete

editions of the code) from being wiped away by a storm surge. Most jurisdictions do not have the leverage to legislate imposed upgrades to existing buildings, simply because that is not

in adopting building codes, and some have ferociously resisted doing so, in the name of freedom – for lack of a better term. For example, by the end of 2010, a FEMA study reported, “The

“ Most jurisdictions do not have the leverage to legislate imposed upgrades to existing buildings

politically viable (even when this is known to be economically viable from a long-term perspective).

Also, that is assuming that a building code has been enacted by a jurisdiction in the first place, which is – surprisingly – not always the case. Some cities and some states have been keen

State of Missouri relies on the local jurisdictions to adopt and enforce their own building codes. The State only demands that projects for State-owned facilities must be designed in accordance with the latest edition of the International Building Code.”

In other words, a new 200-





seat state courthouse will be designed in compliance with a national model code, but for a 2,000-seat movie theatre, anything is possible; consult the local jurisdiction. In the same spirit, in Arkansas, waivers have been provided to allow developers to construct in flood zones because it created economic development. Similar code adoption tangles have been symptomatic across the board, irrespective of hazards. Like college students partying on Florida beaches in the middle of a pandemic, convinced of the invincibility of their immune system and not about to let all these fake-news stories disturb their drunken plans, some

groups oppose any building code rules and restriction. As of 2018, states such as Texas, Mississippi, Kansas, Illinois and Alabama, for instance, still had no mandatory statewide codes. Earthquake design requirements are non-existent, as are hurricane and flood design requirements. Even basic requirements to resist gravity loads are absent.

In short, it would be unrealistic to set up headquarters in California expecting to survive the design earthquake without damage, or in Florida expecting to sail through a Category 5 hurricane, or in mid-America expecting that a tornado slicing through a building would

leave it unscathed, if all those buildings were “designed to code” – or worse, to an obsolete code or to any other arbitrary design basis in lieu of code.

Team sport

One must also keep in mind that resilience is a team sport. Just like it is good but of limited benefit to be healthy in a pandemic when everybody else is sick, the same is true in a region devastated by any hazard – to be the only one standing is of little consolation. However, as many business and insurers know, the entire local economy of a region does not have to collapse for business operations to grind to a halt.

“ The entire local economy of a region does not have to collapse for business operations to grind to a halt



A realistic risk assessment would require knowledge on how the infrastructure critical to operations will perform during an earthquake or similar hazard

When a critical link in the supply chain breaks, hell breaks loose.

In particular, much of today's operations critically depend on shipping, and shipping ports happen to be critical and vulnerable links in the transportation chain. For example, at 05.46 on January 17, 1995, the Kobe container port was the sixth largest in the world. Thirty seconds later, it was out of business, thanks to the 1995 Kobe earthquake. For the most part, the port had been built on reclaimed lands that liquefied (i.e. turned into quick-sand) during the strong shaking. Quay walls toppled, ground displaced, piers became submerged and cranes collapsed. Damage amounted to a trillion yen (roughly \$10 billion). It took two years to repair it all and return to full operations, but in the meantime, container shippers had rerouted their ships to other ports, forged new lasting business relationships there, and the Kobe port never recovered its status, dropping to 17th largest in the world when fully reopened. In fact, even within Japan, it slipped from being the busiest shipping port before the earthquake to fourth place thereafter.

In 1995, the Japanese were already acutely aware of the threat of earthquakes, as they had suffered from many devastating such events before. However, in the belief that post-war Japan was a technologically advanced nation, everybody missed some important worldwide (and still applicable today) facts on how infrastructure is built to resist extreme events. In 1995, this collapse of shipping activities affected the entire Japanese economy, with some businesses never recovering. However, keep in mind that 1995 was before the globalisation frenzy

had reached today's peaks.

Consider the Port of Long Beach today. Not only is it the largest port on the West Coast, where \$10 billion of goods transit every year but also it is where all main pipelines to the oil refineries in California are located. Beyond the fact that it is situated in earthquake country, a simple terrorist attack with easy to fabricate shaped charges could create major economic losses to the nation by shutting it down for an extended period. Or likewise, could shut down the port of Boston, through which transits half of the liquid natural gas coming into the United States.

Keep in mind also that many industries are self-regulated when it comes to extreme events – meaning that they can typically write their own design codes, which can result in quite significant variations across industries and across a large country. In other words, a business may have an invincible building, but if its operations depend on a number of critically vulnerable lifelines designed with variable levels of resistance to extreme events (or never designed to resist any, if of an older vintage), then business survival is at risk.

Risk assessment options

If business continuity through extreme events is identified as a key objective, a realistic

risk assessment would require knowledge on how the infrastructure critical to operations will perform during an earthquake, a hurricane, a tornado or other natural or man-made hazard. Some may indeed elect to investigate how the very infrastructure that their success depends upon will perform. Others may rely on redundancy to bypass the problem. For example, reputable North American banks used to keep duplicates of all their records on both coasts and now keep them on duplicate servers in this digital age, such that total destruction at one of these two places would locally mean lots of hardships and losses but would not impact survivability of the data – and of the business.

Others may be willing to forego the survival of their business, as long as everybody is in the same boat, which would make sense for example if the client base is local and the entire community would be wiped out by the same disaster anyhow. All options are possible and can be realistically considered, as long as misinformed, unrealistic assumptions are not made regarding the state of today's infrastructure. However, gambling that extreme events will never happen is a strategy adopted by those who feel lucky that only works until a disaster strikes – at which point, one then has to cope with the blessings of disaster. ☹️








Michel Bruneau is a SUNY Distinguished Professor (University at Buffalo) and author of the book *The blessings of disaster: The lessons that catastrophes teach us and why our future depends on it* (Globe Pequot/Prometheus). He is a Distinguished Member of the American Society of Civil Engineers, a fellow of the Canadian Academy of Engineering and emeritus director of an NSF-funded Earthquake Engineering Center that focused on enhancing the disaster resilience of communities. bruneau@buffalo.edu

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Puppet masters

AI Armageddon is a popular trope, but it is people and not machines pulling the strings

Since at least 1968, people have known what bad computers can do. That is because HAL 9000 in Stanley Kubrick's 2001: *A space odyssey* showed that AI is willing to sacrifice humans that deviate from the mission – especially ones that are planning to disconnect the computer itself. This aspect of the technological imaginary got further fuel from James Cameron's 1984 science fiction classic *The Terminator* with the cyborg played with mechanical cool by Arnold Schwarzenegger. The killer robots in this movie jumped back in time in what turns out to be a thwarted attempt to murder the mother of the human resistance leader who was also trying to turn them off.

Given that most people working in Silicon Valley and elsewhere on today's AI models grew up on these movies, it is not surprising that Armageddon has also been on the agenda recently. [Computer scientists](#), for example, said in a poll that there is currently a 10 per cent chance that humans will be wiped out by machines – as the technology advances, we can reasonably expect this number to rise.

But there are dissenting voices. Co-founder of London's DeepMind and chief executive officer of Inflection AI Mustafa Suleyman told the [Financial Times in an interview](#) that the dangers of AI are closer to hand and more mundane. In his new book *The coming wave*, he argues that instead



of worrying about superintelligence, governments, regulators, businesses and members of the public should focus on the more predictable developments coming down the line over the next decade.

AI programs should be able to “reason” over two or three ideas and turn those deliberations into plans that have real-world consequences. “In future, AI is going to be participating in the economy in a material way, unlike the way that Excel participates in the economy,” he told the FT. “It is going to be booking and buying and planning and organising.” It needs to do so fairly and with human interests at heart.

In fact, virtual reality pioneer and writer Jaron Lanier has repeatedly argued that digital technologies can be redesigned to put humans at the centre of networked systems. The kind of computing inequality embodied in huge servers such as Google and

“ **Information is people in disguise** ”

Amazon is due to an engineering decision made in the early days of the internet to make links one directional, he argues in his book *Who owns the future?* That has enabled technology companies to harvest huge amounts of data and combine it without the owner of the data being able to trace how it has been appropriated. Two-way linking – an idea that has been around since the 1960s in computing circles – would maintain the provenance of the data so that artists, musicians, photographers, writers and others can see who is using their intellectual property and potentially be paid for its use.

Since “information is people in disguise”, according to Lanier, AI can be seen as a form of social collaboration. To see that, [organisations need to open up the black box programs](#) at the heart of these systems so that decisions are more transparent and traceable to the people behind the systems. It is not killer robots who are at the heart of the problem, but people potentially using huge computing power to manipulate those without it. Instead of being scared of the shadow monsters of our technological imaginations, we should act on the real threat before it is too late. 📧

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