

## **Creative leadership within the cyber asset market: An interview with Dame Inga Beale**

### **Introduction:**

As organisations modernise by digitally transforming themselves (Westerman et al., 2014), they tend to become nimbler by moving physical into cloud-based cyber assets (Mitra et al., 2018). In the event of cyber-attacks, the need for security of these cloud assets as well as the need for insurance to ensure survival of the organisation, is increasingly becoming a critical challenge. After all, consumer confidence and trust in an organisation's business potential is a composite of various indicators (Corbitt et al., 2003; Pappas, 2016) like the type of underwriting of risk that the enterprise might have acquired. While cloud-based capacity brings about ready access for customers, at the same time organisations are struggling to cope with vulnerabilities to cyberattacks as well as escalating risks of maintaining intangible assets.

Dame Inga Beale who is the CEO of Lloyd's, the world's specialist (re)insurance market, has been at the forefront of the insurance sector's role in underwriting assets of individuals, organisations, and states around the world. The uniqueness in focus of Inga's approach is the primary articulation of the social purpose of insurance - changing lives, making people feel secure by protecting their assets, helping to build resilience in communities by mitigating risks of loss of their assets. As organisational wealth is assessed by the data that it holds of its customers and stakeholders – the nature of such asset management becomes both complex and fluid. Right after Inga was appointed the CEO of Lloyd's in January 2014, she had advocated the need for insurers to take on consequences of climate change (Kollewe, 2014). Unlike typical leaders, Inga's approach is unique as it addresses a composite of social challenges, recent trends in cybercrime, risk and complex threats in an international context.

The latter is particularly important to bear in mind as the online world is one that is uninhibited by geographical limits.

At a time when value of an organisation is determined by the quality and quantity of data that it possesses, there has been a sea change in the way we estimate organisational asset value (Mitra et al., 2018). Over the last three decades we have experienced the abiding transformation of organisations by their need of converting physical into digital assets. So, organisations of today in a digitally connected context, have a key challenge in ensuring security of such assets as well as have adequate insurance cover in place to make sure that they can survive when they lose digital assets or when their digital assets are compromised in any way. The insurance sector has had to reorient itself in keeping with the advent of the digital organisation as it needs to provide cover for digital assets.

It is also a worrying reality that the spate and sophistication of attacks on digital assets has been on the rise (von Solms and van Niekerk, 2013) over the last decade like never before. Consequently, every business needs to protect its resources such that it can trade as well as garner competitive advantages in a market that is reliant on digital trust as the most important driver for its survival (Knapp and Boulton, 2006). This type of trust building would mean that the organisation's value proposition would need to be defined differently from that of the past. As organisations hold data mainly of its customers and stakeholders, the valuation of such data assets is usually higher than physical assets. Further, the valuation of such assets can fluctuate as customers express their opinions on their experiences in consuming products and services of organisations (Grover and Kohli, 2012). Therefore, losses of digital assets can do lasting damage to organisations in comparison to losses of physical assets. The insurance sector therefore has a key role in underwriting digital assets in such a way that organisations are able to survive loss of business due to data loss. Change and advances that benefit asset

management is a development that can benefit everyone, but security of our data is a dimension that has become much more important than in the past.

In this interview, Inga outlines her views between leadership and the opportunities this promises for the transformation of the insurance sector. She draws on a multitude of experiences and macro developments like climate change, globalisation, cyber vulnerabilities, uniqueness of Lloyds as an international business. For instance, Inga's experiences have spanned over several decades of anchoring varying responsibilities starting in 1982 working for Prudential Assurance Company, then heading divisions in Paris and Munich of General Electric, followed by a significant turning around of Swiss company Conventum. Before joining Lloyds Inga was a member of the Group Management Board of Zurich Insurance Group. How cyber vulnerabilities have gradually outweighed losses due to natural disasters is another perceptive dimension that comes out through Inga's interview.

The interview begins with her observations on the historical dimensions of Lloyd's business and how it has changed over the previous three centuries. She also comments on the nature of complexity of the insurance market brought about by globalisation, and the wider need to help people who are disadvantaged by climate change and other natural calamities. The paper concludes with a brief commentary, identifying key themes and their relationship to present day issues within extant literature.

### **Dame Inga Beale DBE: Background of Lloyds**

Lloyd's was formed in Edward Lloyd's coffee house in 1688 and is still operating not far away from that original beginning in the London's financial district. While operating globally, Lloyd's is no ordinary insurance company. In fact it is not a company at all but a unique market. Its uniqueness is reinforced by the failure of others to replicate the model. Lloyd's insures insurance companies from around the world with a truly global reach. They

do business in over 200 countries and territories across the world and they have been doing this for 330 years. They use the mantra that it is enabling human progress along the centuries. Lloyd's insured the first of anything starting with ships and supporting merchants as they were shipping cargos all around the world. But then when the vessel went on land for the first time, i.e. the car was born, they insured the first car. Lloyd's insured the first airplane when it took off, and the first satellite as it was launched. And nowadays Lloyd's are still taking on new risks such as insuring cyber assets and new artefacts of the sharing economy. An interesting thing about the Lloyd's market is some of the world's largest insurance companies set up in Lloyd's. They have syndicates, share risks with other syndicates in the market and use Lloyd's as one of their platforms because it has access to all the specialists risk.

Lloyd's have almost 60 insurance businesses operating in the market and about 80 syndicates. Syndicates are supported by individual investors and at one time Lloyd's had in excess of 400 syndicates. In recent times the market has changed due to increased regulation, controls and of course unlimited liability is no longer allowed. The syndicates between them have revenues of about £30 billion with general insurance being the core activity. Lloyd's market is unique in that sometimes the syndicates are competing head to head, and sometimes they collaborate. It is that collaboration that's enabled Lloyd's over the years to take on new risks. Every day over 4000 brokers visit Lloyd's to negotiate million dollar deals with underwriters. In addition to London, Lloyd's have offices in Dubai, Singapore, China, Brazil, and Mexico City.

There are 74 Lloyd's syndicates writing cyber insurance, thus enabling Lloyd's to take on this new risk because it gets shared amongst them all. And there is different capital supporting each one of those syndicates from around the world. So that it diversifies and

shares the risk right across the world. And that's the uniqueness of Lloyd's which means it can keep moving forward and taking on those new and complex risks. Lloyd's operates a central fund of about £3 billion as a backstop for any of those individual syndicates. If they can't fulfil their liabilities towards any of their policy holders and the capital is not there to pay the claim, Lloyd's manage a central fund - this gives everyone a lot of security that Lloyds is going to be there. And Lloyd's has paid every single valid claim for 330 years so far – a fact that is unlikely to change.

*Question: You mentioned that Lloyd's has enabled human progress along the centuries. Is this still the case?*

Dame Inga Beale:

Insurance has an incredibly important social purpose. We change the lives of millions for the better by protecting them, strengthening and helping communities to build resilience. And particularly when we think about the rising complex world of risk, we are there helping to mitigate those risks in the first place, working with businesses to help them be more resilient and we help build resilience into cities and indeed economies. And we have been around through all those disasters, through world wars and some of the biggest natural disasters in the world. And we are renowned for our ability to absorb risk through crisis after crisis. And right now across the world when we look at the risks that are out there, there is certainly business and governments and individuals that are confronted with some enormous change and challenges which some of us have never faced before. And I think what's very interesting is while the world is always changing and moving forward, it's the pace of change that's so dramatic now and that's what technology in a digital revolution is bringing to all of us.

*Question: What other changes do you foresee in the market place?*

Dame Inga Beale:

The other mega trends that cannot be ignored include climate change. Another is the shift in economic powers that's happening as China becomes the biggest economy in the world – it is

already home to the largest insurers in the world. Another trend is urbanisation in countries like China where they have got cities that we have never heard of with bigger GDP than entire countries in the world. This is quite staggering when one also thinks of the enormous concentration of risk that was never there before. And these are the things that challenge us as we are trying to take that risk off businesses and off governments.

*Question: How does Lloyd's keep abreast of these trends?*

Dame Inga Beale:

Fundamentally we want to move along as the world moves along and enable that human progress to move forward. While there is no magic formula, we do our best to try and understand trends/changes and grapple with them. I attended the World Economic Forum in Davos, Switzerland. The most recent event in 2018 was also one of the most high profile. And it had an unprecedented amount of government representation, government leaders and business leaders.

Lloyd's attended Davos as it puts us at the heart of the important debates that are going on between business and government around the challenges that are facing the world. We can then determine our response based on many of those conversations that we have in Davos.

Now that annual meeting began 47 years ago and the world, I can say, has changed dramatically since then and we have seen so much progress as a global society but what we are also seeing right now is a growing disparity that has emerged between those fortunate enough to benefit from globalisation and those who feel let down and left out. And particularly left out by many of the institutions that of course promised to work in their favour. And this globalisation was at the heart of what people were talking about in Davos and some leaders were saying globalisation is good and some were saying globalisation is very bad.

*Question: How can you reconcile geo politics and globalisation?*

Dame Inga Beale:

There is a lot of uncertainty and unrest in the world and many ponder how its going to end up. Brexit is one example as the UK prepares to exit from the EU. In 2017 the US president was being inaugurated and consequently did not attend Davos. President Xi from China stepped in and talked about how globalisation is so good – this seemed unusual given the barriers to entry to the Chinese marketplace. In 2018, Prime Minister Modi from India talked about the benefits of globalisation – again a country known for being very protectionist and having various barriers to do business there. So it's very interesting when we think about what's happening in the world today and India and China are not the only ones talking about the need for globalisation. You have Canada, France, Germany and others with the same message. Then President Trump spoke of America first.

But when we look at what's happening, we know that there are more restrictive trade measures coming in all the time and if you look at what the World Trade Organisation monitors, there have been in the past 2 years, 200 new trade restrictive measures that have come in to play.

*Question: Is Lloyd's affected by these changes?*

Dame Inga Beale:

For a global business like Lloyd's, that is a serious threat to our model and it's also a serious threat to the ecosystem. If you think about what I talked about, about the syndicates sharing the risk, this means we can take on risks from Japan and from Chile because we know there is limited correlation and therefore it enables us to spread risk. That's why we are proponents of the globalised world and proponents of moving those barriers. But we have enormous challenges against a backdrop of anti-globalisation going on in many parts of society and countries.

*Question: Can anti-globalisation succeed given the extent of digital connectedness?*

Dame Inga Beale:

Digital connectedness is significant and while we might think that globalisation is bad, we are connected, and we can't break those connections. I don't see those connections breaking now. They are there and it means we are living in an ever connected world.

The digital revolution is having a profound impact on the way we are communicating and doing business. It is not a new thing. It's just the pace of change that is so new. And instead of posting letters, we use emails – a concept that is likely to become outdated for the next generation. And instead of consulting books and writing stuff down, we turn to the World Wide Web. And instead of getting out music on vinyl or even CDs, it's now all digital. And we are even being told what we want to listen to, it is being streamed automatically to us. There are so many, so many examples.

*Question: The only certainty is change?*

Dame Inga Beale:

Change has been incredible. Most jobs have been or are being transformed beyond all recognition. We live in a world that if you are not paying for it, you are the product. And what I mean by that is everything we do on our phones, everything we do on our computers is being captured somehow in the form of data. And your age, your location, your interests, your spending habits, your political bias, these are all really valuable data points that companies are collecting through apps, through social media platforms and so on. And all of these organisations need to prove that they are behaving responsibly with the masses of data they are collecting and that they are protecting it from those who could be out to misuse it. This is just one of the consequences of the digital world. The huge advancements we have seen in technology but importantly what is going to be happening to your data that you are giving out freely most of the time. And we in the insurance sector, need to understand all of that because its putting new risks out there that we, if we want to enable human progress, have to grapple with. We have to find solutions and products to make sure that the world doesn't stop progressing.



Driverless cars are one example of the use of advanced technologies and how things are going to change. Autonomous vehicles are around the corner. We know they are already developed and they will be on our streets. Last year alone the number of self-driving cars that were being tested in Silicon Valley increased to 180 and the number of companies building and investing in them has gone up to 27. So that was more than twice as many as a year ago.

In 2021 it's estimated that there will be 22.5 billion internet devices – all connected, for a world population of 6.6 billion [2016 figures]. So there are going to be many more mobile devices than individuals on the planet and we have also seen things like the sharing economy taking off. There are now 17 companies worth more than a billion dollars with 60,000 employees and \$15 billion in funding just from the sharing economy.

Airbnb and Uber are obviously the most prominent that we know of very well in this country but there are many more. And then we have got things like Crypto Currencies going on, a particularly fast-moving area – this could be the *wild west* if you like of financial markets. But there are now 1100 different cryptocurrencies and a total market cap of about \$150 billion circulating today in cryptocurrencies. All of these advanced technologies have one thing in common, whatever they are. And that is that they are susceptible to a cyber-attack.

*Question: Are cyber-attacks common?*

Dame Inga Beale:

Yes, and I will give an example of a recent attack. One morning an employee in a chain of opticians received an email saying she had been caught speeding on camera. She clicked on the link and it offered to show her a photograph of her being caught in the act of speeding. This was a cyber-attack as the email was not genuine. By clicking on the link she triggered a virus that infected all the files on her company's servers. Then she received the email that said, your files are all encrypted and we need a fee from you, payable in bitcoin to unlock the

encryption. The files contained sensitive patient records as well as the software to run the business. Without access to them the business couldn't operate. They had no choice but to pay up to these hackers, whoever they were. The company's insurer, a Lloyd's syndicate, paid for the ransom and provided the reimbursement for the entire costs for getting up and running.

But of course, it didn't end there because the encryption key that the hackers then released only covered 90% of the files and the company needed an IT contractor to come in and rebuild and recover the remainder of them. The company eventually got up and running again but it was a traumatic experience for everyone involved. And I am afraid that is a typical story that we hear a lot because Lloyd's is the leading insurer of cyber in the world. We have premiums of about £1 billion just on cyber insurance, it's our fastest growing line. So we see a lot of cases like this. And that's why we know it's so real. And that's why I personally talk a lot about it and we take it very seriously.

It doesn't matter how small or how large a company is, it is not immune from attack. Just for the central corporation of Lloyd's we restrict 98% of our email traffic from even coming in. And that's the extent to which people are constantly battering all of the businesses out there just with email traffic that could be infected.

*Question: What are the economic consequences of cyber-attacks?*

Dame Inga Beale:

Forbes suggest that cyber-attacks can cost approximately \$6 trillion per year on average through 2021. In 2017 there were almost 1 billion victims of cyber-crime with over \$175 billion stolen from consumers. That was just what they stole from individuals and did not take into account the costs for organisations in reconstructing their systems. Cyber-attacks are estimated to cost \$450-500 billion a year for the global economy. Our research at Lloyd's, suggests that a major global cyber-attack has the potential to trigger over \$50 billion of

economic losses, a figure that dwarfs some of the big natural catastrophes such as hurricanes, earthquakes and floods. One of the largest events of recent years was super storm Sandy which hit lower Manhattan in New York – a cyber-attack will easily make that look small in economic loss terms. So cyber crime is the new risk, the biggest risk.

*Question: Why do you see cybercrime as so dangerous?*

Dame Inga Beale:

A cyber attack is one of the biggest threats that is there now and also one of the most complex threats. We are confronting this challenge head on by fully understanding it.

Today's world is so interconnected, there are no geographic boundaries to this threat and it really becomes an impossible threat that not one single government can solve it on their own. It can only be overcome with collaboration. And it could strike a blow to the global economy equivalent to some of the biggest and costliest natural disasters that have ever happened in history.

A discussion at Davos unanimously agreed that that a cyber-attack has the potential to be the biggest risk for the financial sector and create a financial crisis similar to that of 2008. The number of strong economies across the world, and the widespread diversification means that the risk of a 2008 type crisis is not as likely whereas a cyber-attack is more likely.

Many firms are still complacent believing that their firewalls are adequate and accepting the assurances from IT departments that their systems are robust. Firms should not be complacent and neither should individuals. Everyone needs to be careful about opening emails – as many look like they are genuine.

Under the new GDPR regulations, every business is going to have to show they are acting properly. There are fines of €20m or 4% of global turnover for data breaches and if firms have not taken the appropriate action. Hacking into a company to access customer data will

inevitably have an impact on the Chief Executive and their team – and it is not unknown for the CEO to resign.

*Question: Has company asset structure made a cyber-attack more likely?*

Dame Inga Beale:

Interestingly the asset structure of the FTSE 100, and the S&P500 companies has completely changed. The S&P 500 companies in the 1970s, had physical asset values comprising 83% of the total asset value. Lloyd's used to insure against damage to buildings, it was all tangible. Fast forward it to today, 84% of the asset value of the S&P 500 companies are intangible – see companies like Uber and Airbnb. The whole essence of what's forming these companies is totally intangible.

Lloyd's recently looked at how connected everything is. Much of the information is stored in the Cloud provided by a few firms. Our research suggests that if one of those cloud providers came down because of a cyber-attack for 3 days, it would affect 12.5 million business users just in the US alone. And that is the kind of threat we are confronted with. We are moving to cloud, we are going to store our data in the cloud so I am not saying you shouldn't do it but we have to understand what these threats are. And the only way we really believe that we can combat these threats is to work collaboratively together.

*Question: How can you mitigate this risk?*

Dame Inga Beale:

The Geneva Association of the largest insurers of the world, are working governments, Interpol, US Homeland Security and others to understand how can we get mitigate this risk. The issue is that some of the players, are state actors. So who can you trust? Who can you work with? How can you work with government agencies in countries where they may be at the heart of this warfare? It's the most difficult thing to contend with right now. We also are working with the World Economic Forum to understand this and the interconnectedness of

the world and trying to think about how we can build resilience into the whole global ecosystem.

Business leaders should take this seriously bearing in mind that the insurance sector is helping businesses to understand their own cyber security safeguards. Business should adopt the 10 cyber security elements that the government is encouraging as well as investing in people training, and discussing with the head of IT the adequacy of current systems.

**Commentary:**

Dame Inga Beale's interview provides us with a snapshot of how creative leadership reliant on synthesising (Sternberg et al., 2003) existing paradigms of Lloyds is necessary to address technological and social expectations of a rapidly changing global environment. Given that accurate estimation of risk is central to Lloyds' ability to grow market share, the synthesising view of leadership needs to factor in changes to customer experience, alterations in the value proposition as a result of opting for different business models, as well as cope with the sheer scale of online transactions driven by customer data (Westerman et al., 2014). In a world where the variety and scale of cyber attacks are forever on the rise (von Solms and van Neikerk, 2013) the business of Lloyds is likely to be adversely impacted if the apprehension of such attacks don't translate into the need for insurance protection among its clientele. Effectiveness of Inga's leadership seems to be predicated on a clear connection to a social contract that is a driver in building trust within the insurance market. The social purpose of Lloyds' seems to be borne out through the quest for building resilience within the community:

‘Insurance has an incredibly important social purpose. We change the lives of millions for the better by protecting them, strengthening and helping communities to build resilience.’

The assimilation and connectedness of the strategic view of creative leadership that Inga advocates seems to be characterised by continuously discovering and defining new problems, solving them, and implementing new solutions (Basadur, 2004). While admitting that Lloyd’s has helped mitigate risk of individuals, countries and groups over world wars, natural calamities, and other crises, Inga has also highlighted the changing milieu of progress where such rapid pace of change has hitherto never been seen before. Features of the new challenges of markets, Inga mentions include climate change (Kollewe, 2014). Climate change accompanied by urbanisation which implies concentration of risk within city boundaries. Among Chinese cities the role of insurance is significant as the budgets of these cities can be larger than countries. China as the biggest economy being home to the largest insurers in the world. With vast swathes of urbanisation of Chinese cities Inga points out the high concentration of risk and in this the enormous challenges to the insurance sector in general and Lloyd’s in particular when there is need to take risk off businesses and off governments. By being involved in conversations that are simultaneously going on in for a like the World Economic Forum in Davos Lloyds has tried to keep abreast of new elements in the engaging new world order. Reiterating that Lloyd’s does not have a magic formula, Inga points out that, Lloyd’s tends ‘to move along as the world moves along enabling human progress to move forward.’ Participation in the Davos summit at the start of 2018 seems to have brought to the fore a cross section of leadership views between those who support globalisation and those who are against it. Inga touched upon the contradictions she has noticed in the Davos speeches of Jin Xi Ping of China in 2017 and Narendra Modi of India in 2018 when both

leaders talked about the advantages of globalisation when both countries are fairly protectionist in allowing international businesses to operate within them. According to Inga trade restrictive measures are on the increase with Canada, France, Germany, USA and others harping on similar points of view. This need to operate with a widened dual approach to dealing with opposite constructs of globalisation and anti-globalisation is also a facet of Inga's creative leadership which conforms to taking the conversation forward to make others think creatively (Basadur, ibidem).

Given the widespread advent of such restrictive trade practices, leadership vision at Lloyd's led by Inga is also being altered as there is a threat to its business model. In the Lloyd's model, where syndicates share risk for instance in the case of Japan and Chile, there may be limited correlation leading to arrangements that would spread the risk in more favourable market environments. While globalisation promoting markets actually support trade restrictive measures there are also many anti-globalisation movements that are going on around the world. So it is a combination of a variety of strategies that enables Lloyd's to successfully propose value through their dynamic syndicate-based business model. Inga mentions digital connectedness to be an abiding feature that automatically enables the realisation of a more globalised world while at the same time it is being challenged in pockets by groups that vouch anti-globalisation. This is likely to lead to a new kind of business environment which is characterised by the disappearance of the middleman. For instance, the use of block chain technologies could lead to the need for redistribution of trust (Siedel, 2018) as traditional intermediaries become unnecessary. In a commerce that is mediated by block chain technology there is disintermediation of traditional intermediaries such that the role of financial intermediaries could become irrelevant.

Elaborating on the profound changes that are being witnessed, Inga alludes to the, ‘cost of free online services debate,’ when she says, ‘We live in a (data) world that if you are not paying for it, you are the product.’ In this milieu, Inga believes the insurance sector has special responsibilities given the magnitude of new risks that needs to be carefully considered to ensure that the world doesn’t stop progressing. Cyber-attacks are another sphere that is the focus of Inga’s creative leadership strategy. While an inter connected world of 22.5 billion internet enabled devices along with the advent of some 1100 different crypto currencies creates unprecedented susceptibilities to cyber-attacks. Inga considers cyber crime to be dangerous as it cannot be limited by geographical boundaries as well as the fact that no one government or agency can solve it on their own. It can only be overcome with collaborations.

The complexities of the inevitable growth of the sharing economy (Cohen and Kietzmann, 2014) is one that is being keenly followed by the insurance industry. Inga points out that there is going to be more mobile devices than human beings on the planet. It is remarkable to note that the funding from the sharing economy alone has enabled 17 companies that are worth more than a billion dollars with 60k employees and \$15 billion in funding. Lloyd’s currently has premium of about £1 billion on cyber insurance which is the fastest growing sector of Lloyd’s business. The fact that Lloyd’s considers the menace of cyber-attacks seriously, is borne out by the fact that 98% of email traffic is restricted from even coming into the organisational systems. Dame Inga considers cyber vulnerability and cost of cyber attacks are likely to far exceed those of natural disasters like storms and hurricanes. Alluding to discussions in Davos, Inga mentions that a cyber attack has the potential to be the biggest risk for the financial sector in bringing about a similar crisis like that of 2008. Given the number of strong economies around the world, a 2008 type crisis is not likely whereas a cyber attack is more likely.



Modification of the asset structure of organisations is an important development that seems to be adding to the embedded risks in different industries. In particular this conversion requires a sea change in the way an insurance company like Lloyd's needs to operate. Inga pointed out that:

‘The S&P500 companies of the 1970s, had physical asset values comprising 83% of the total asset value. Lloyd's used to insure against damage to buildings, it was all tangible. Instead today 84% of the asset value of S&P500 companies are intangible – for instance, companies like Uber and Airbnb.’

Today much of the information is stored in the cloud by a few firms. Lloyd's own research has revealed that, ‘if any one of those cloud providers came down as a result of a cyber-attack for 3 days, it would affect 12.5 million business users just in the US alone.’ Moving to the cloud is an inevitable part of the modernisation process for organisations (Brynjolfsson and McAfee, 2014) however, according to Inga working collaboratively is the only way forward given such vulnerability of cloud-based asset management. Addressing social needs by building resilience in communities through insurance products that redistribute trust (Colquitt et al., 20-11) is a model that could disrupt (Bolden and O'Regan, 2018) thinking in the insurance industry.

Given that there are many unknowns in managing intangible assets, Lloyd's is part of the Geneva Association which is a body of the largest insurers in the world, working governments, Interpol, US Homeland Security and others. A key challenge with regard to trust building in this context is that some of the players are state actors, who may be at the heart of building some of the warfare themselves.

Inga Beale has been one of the distinctive thought leaders of her generation. Her ability to delineate the broader picture punctuated by micro and macro concerns ensures an abiding legacy in both the theory and practice of innovative leadership within the cyber asset management space in the UK and beyond. Interconnectedness of issues like climate change, urbanisation, globalisation on the one hand and the digital connectedness brought about by the widespread use of internet enabled devices and crypto currencies on the other, point to vulnerabilities that need addressing through a creative visualisation of leadership as enunciated by Inga in this interview.

**References:**

- Basadur, M. (2004). Leading others to think innovatively together: Creative leadership. *The leadership quarterly*, 15(1), 103-121.
- Bolden, R., & O'Regan, N. (2018). Leadership and creativity in public services: An interview with Lord Michael Bichard, Chair of the National Audit Office. *Journal of Management Inquiry*, 27(1), 45-51.
- Brynjolfsson, E. & McAfee, A. (2014). *The second machine age: work, progress, and prosperity in a time of brilliant technologies*. New York, NY: Norton & Company
- Cohen, B., & Kietzmann, J. (2014). Ride on! Mobility business models for the sharing economy. *Organization and Environment*, 27(3), 279-296.
- Colquitt, J.A., Lepine, J.A., Zapata, C.P., & Wild, R.E. (2011). Trust in typical and high-reliability contexts: Building and reacting to trust among firefighters. *Academy of Management Journal*, 54(5), 999-1015.
- Corbitt, B.J., Thanasankit, T., & Yi, H. (2003). Trust and e-commerce: A study of consumer perceptions. *Electronic Commerce Research Applications*, 2(3), 203-215.
- Grover, V., & Kohli, R. (2012). Co-creating IT value: New capabilities and metrics for multifirm environments. *MIS Quarterly*, 36(1), 225-232.
- Knapp, K.J., & Boulton, W.R. (2006). Cyber-warfare threatens corporations: Expansion into commercial environments. *Information Systems Management*, 23(2), 76-87.
- Kollewe, J. (2014). Lloyd's calls on insurers to take into account climate-change risk. *The Guardian* [online] 8 May. Retrieved from: <https://www.theguardian.com/business/2014/may/08/lloyds-insurer-account-climate-change-extreme-weather-losses>
- Mitra, A., O'Regan, N., & Sarpong, D. (2018). Cloud resource adaptation: A resource based perspective on value creation for corporate growth. *Technological Forecasting and Social Change*, 130 (May), 28-38.
- Pappas, N. (2016). Marketing strategies, perceived risks, and consumer trust in online buying behaviour. *Journal of Retailing and Consumer Services*, 29, 92-103.
- Seidel, M-D. L. (2018). Questioning centralized organizations in a time of distributed trust. *Journal of Management Inquiry*, 27(1), 40-44.
- Sternberg, R.J., Kaufman, J.C., & Pretz, J.E. (2003). A propulsion model of creative leadership. *The leadership quarterly*, 14(4-5), 455-473.
- von Solms, R., & van Niekerk, J. (2013). From information security to cyber security. *Computers & Security*, 38, 97-102.
- Westerman, G., Bonnet, D., & McAfee, A. (2014). *Leading Digital: Turning technology into business transformation*. Boston, MA: Harvard Business Review Press