



**PSYCHOLOGY
OF RISK**

**WHITE
PAPER**

**EXECUTIVE
EDUCATION**

 **ACU**
AUSTRALIAN CATHOLIC UNIVERSITY

**OLD VERSUS NEW
EMBRACING A NEW
RISK PARADIGM**

KEY FINDINGS

November 2017

INTRODUCTION

SHIFTING GLOBAL LANDSCAPE

The shift in the risk environment over the last decade has changed the landscape globally. In the context of this White Paper we have focused on the practices and processes that make up risk, from old risk and new risk.

The disruptive environment encourages us to embrace the rapid changes within the risk environment by looking at new models of research in the risk field and to look deeper into the effect that psychology has in this disruptive landscape.

The Black Swan Theory, or Theory of Black Swan, is a metaphor describing an event that comes as a surprise, has a major effect, and is often inappropriately rationalised after the fact with the benefit of hindsight. The term is based on an ancient saying which presumed black swans did not exist, but was rewritten after black swans were discovered in the wild.

The theory was developed by Nassim Nicholas Taleb (2007) to explain:

- The disproportionate role of high-profile, hard-to-predict, and rare events that are beyond the realm of normal expectations in history, science, finance, and technology.
- The non-computability of the probability of the consequential rare events using scientific methods (owing to the very nature of small probabilities).
- The psychological biases that blind people, both individually and collectively, to uncertainty and to a rare event's massive role in historical affairs.

FACING THE BLACK SWAN

ACU Executive Education recently facilitated four breakfast events involving more than 220 risk leaders from organisations across Australia.

These events explored the topic “Facing the Black Swan”, specifically looking at what is considered Old Risk and, more importantly, what we now need to consider in a New Risk context.

Events took place in Brisbane, Canberra, Melbourne and Sydney, across the months of September and October 2017. The discussion covered the key themes:

1. Black Swan Event—A Definition
2. VUCA
3. Old Risk and New Risk
4. Approaching Risk
 - The social psychology of risk
 - Leadership and the psychology of risk
 - Communicating and consulting about risk
 - High reliability organisations and achieving dynamic risk equilibrium.

This white paper captures key findings from this discussion.

THANKS

The document reflects the input from participants attending one of the four executive breakfast events across Brisbane, Canberra, Melbourne and Sydney.

We thank all those participants for their candour, integrity, humour, thoughtful discussion and input. We are grateful for their time and valuable professional contributions.

Special thanks to our Graduate Certificate in Psychology of Risk alumni attending and contributing to these events.

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LEADERS FROM A DIVERSE RANGE OF ORGANISATIONS PARTICIPATED

ACRRM
ACT Government
AGL
AI Group
AIPIO
ALIV
Alleviate Risk Pty Ltd
AMEB Ltd
Anglicare Australia
Arnold Bloch Leibler
Arts Project Australia
Arup
Attorney-General's Department
Ausgrid
Australian Association of Gerontology (AAG)
Australian Catholic Bishops Conference
Australian Federal Police
Australian Multicultural Community Services
Australian Risk Policy Institute
Australian Sports Commission
BaptistCare
BOQ
Bric Housing Company
Bridge of Hope Foundation
Brotherhood of St Laurence
BUPA
C5 Technology
CANSYNTH
Canberra Contractors
Caroline Chisholm Catholic College
Catholic Archdiocese of Melbourne
Children's Cancer Foundation
CHL
CHBS Health Fund
City of Gold Coast
Concern Australia
Cross River Rail Delivery Authority
CS Energy
CSIRO
CSL Behring
Deloitte
Department of Defence
Department of Economic Development, Jobs, Transport and Resources
Department of Health
Department of Human Services
Department of Industry, Innovation and Science
Department of State Development
Department of Transport and Main Roads
DFAT
Diabetes NSW & ACT
DXC Technology Pty Ltd
EACH Social and Community Health
eNurse
Energy Queensland
Euler Hermes
Family and Community Services
Genworth Financial
Gordian Business
GPT Group
HaRt People
Heathrow Airport
Help Enterprises Ltd
HPS
InConsult
Infobase Systems Pty Ltd
Institute for Professional Standards
ISEC
Joss Services
Kaufmann Realty Pty Ltd
KPMG
L'Arche Brisbane
Liberty Financial Pty Ltd
Liberty International Underwriters
Macquarie Bank
Macquarie University
Mary Mackillop Aged Care
Marist180
Mater Misericordia Limited
Mates4Mates
Max Employment
Metro North Hospital and Health Service
Monash Health
Montrose Therapy and Respite Service
Munich RE
NAB
National Heart Foundation of Australia
National Transport Commission
NEXTDC Limited
North Western Melbourne Primary
Health Network
NSW Crime Commission
NSW Police Force
NSW Rural Doctors
Network NTC
Oxfam Australia
Pallion Group
Parramatta Mission
Perpetual Limited
Playgroup Victoria
Princess Alexandra Hospital
PWB Anchor Limited
PwC
QANTAS
QELi
QCEC
Queensland Ambulance Service
Queensland Health
Queensland Museum
Queensland Performing Arts Centre
Queensland Police Service
QPS Protective Services
RaboBank
REA Group
Real Capacity
Red Ark
Red Cross NSW Advisory Board
RED (Resilience, Emergency, Disaster) Consultancy
Roads and Maritime Services
Royal Far West
Saint Ignatius' College
Safework Australia
Saltbush
Security Solutions Magazine
SeQual Association Inc
Specialised Career Solutions
Spendlove and Lamb
St John of God Health Care
St Paul's Primary School
St Vincent de Paul (Victoria)
St Vincent de Paul Society QLD
St Vincent's Private Hospital (MELB)
Stadiums Queensland
Starlight
State Insurance Regulatory Authority
Strata Community Australia
Streeton Consulting Pty Ltd
Sunrice
Surf Life Saving Queensland
Sydney Children's Hospital
Foundation
TAL
Thales
The Big Paddle Company
The Scots College
Theta International
Toowoomba Catholic Schools Office
Transport NSW
University of Melbourne
University of Sydney
VACRO
Victorian Commission for Gambling and Liquor Regulation
Victorian Managed Insurance Authority
Virgin Australia Airlines
Volunteering QLD
Wabtec Control Systems
Watpac Construction
Wesley Mission
Westpac
Williams Road Family Therapy Centre
Willowma
Windhaven Investments
Zentivo

VUCA WORLD

The world we live in is volatile, uncertain, complex and ambiguous (VUCA). You only need to review the daily news reports for verification:

- ⇒ **Artificial Intelligence** - Saudi Arabia just made a non-human woman a citizen, making it the first country to grant a robot the right to citizenship, at least as far as we know. *Source: The Times.*
- ⇒ **Radicalisation** - A driver ploughed a pickup truck down a crowded bike path along the Hudson River in Manhattan on Tuesday, killing eight people and injuring 11 before being shot by a police officer in what officials are calling the deadliest terrorist attack on New York City since Sept. 11. *Source: NY Times.*
- ⇒ **Politics** - South Korea fears Donald Trump more than North Korea as World War 3 threatens to breakout. *Source: The Guardian.*

These news story headlines were captured on a single day and demonstrate the VUCA trend (captured on 1st November 2017).

VUCA¹ is not a new phenomenon - it started being used by the military in the late 90s - however, when we look at the term within the context of contemporary risk management and leadership it provides us with a new perspective on how we approach risk and manage uncertainty.

Accepting we live in a VUCA world is the critical first step towards 'updating the operating system' of how we view the conditions under which we make decisions, plan forward, manage risk, foster change and solve problems in the business world today.

The emerging and current landscapes include: -

- Social age (service focused)
- Millennial (workforce)
- Holacracy (business models).



Update the operating system of how we view ... the business world today.

OLD RISK V NEW RISK

Leadership and the psychology of risk focuses on how we need to manage the realities of a volatile, uncertain, complex and ambiguous (VUCA) world to ensure we can capitalise on opportunity while being able to manage downside.

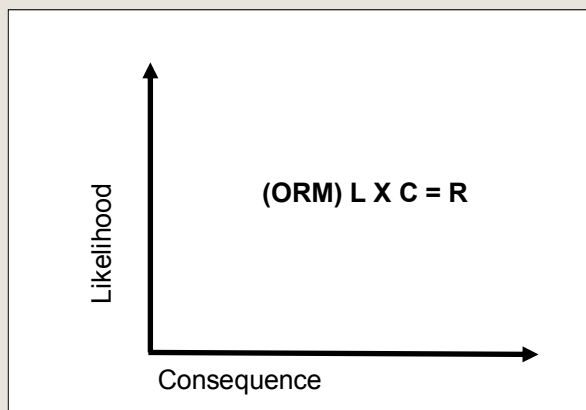
Focusing only on reducing the 'danger' reduces the potential for upside. And the upside of risk is opportunity, innovation and new possibilities. On the other hand, chasing opportunity without an honest understanding of the downside and managing for it, can increase the danger of bad things happening, and leave organisations poorly prepared when they do.

A consistent finding across the workshops was that many Australian organisations find themselves stuck. In general, many Australian businesses tend to focus on avoiding possible negative outcomes. As one attendee stated:

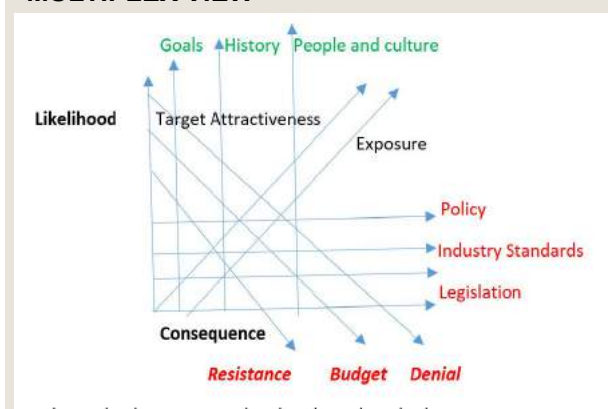
“In response to our risk aversion, we have become process and procedure-obsessed and paper-driven in the effort to avoid loss or damage.”

Don't worry ... the Risk Register is up-to-date — great example of ORM!

OLD RISK MANAGEMENT



NEW RISK MANAGEMENT (NRM) MULTIPLEX VIEW



WHAT IS CONSIDERED THE OLD RISK MANAGEMENT (ORM) PARADIGM — PRE VUCA?

We asked workshop participants to highlight what they thought defines the old risk management paradigm. The following is a summary of their findings:

- Organisations were top down, based on hierarchical structures
- Likelihood and consequence is the summary of “what risk management is”
- Linear approach to business processes
- Rigid risk management approach
- Quantitative measures that are Matrix-use focused
- Relying on history and past experiences
- The idea that we have a risk register is over-arching and HEAT maps are critical
- Very command and control decision making processes
- Systematic responses were inward looking
- Compliance driven
- Very negative focused
- Expectation that its auditable - focus on ticking boxes, risk registers
- Tight and restricted response program to each and every event e.g. SOP documents
Risks were easy to define
- Most organisation were risk naïve, it wasn't in their thinking, behaviour or make up
- Linear approach to business process (building and manage) - what controls are missing
- Rigid risk management NOT holistic
- Risk appetite of organisation not aligned with risk management
- Up-front risk assessments
- Based on historical information/trends and scenario analysis backward focused
- Infrequent intervals / static
- Focus on safety / financial related
- Risk avoidance VS risk management
- Discrete distance from the “Real Business”
- Key management risk
- Risk management stops at back door not aligned to building people
- Prescriptive and Top Down driven
- Remote from front line directors
- Fails to address biases / context

WHAT IS CONSIDERED THE NEW RISK MANAGEMENT (ORM) PARADIGM — MANAGING VUCA?

We then asked workshop participants to highlight what they thought defines the new risk management paradigm. The following is a summary of their findings:

- A way of thinking rather than a self-procedure
- Living process throughout the organisation in real time
- Too many people want to provide input
- Requires leadership to engage the whole organisation to embrace risk
- More person centred
- Agile and Fast - training and trust
- Evolving risk approach - part of culture
- "Degree of Judgement"
- Risk leadership VS Risk management
- Work to a range of inputs and outputs
- Content VS Document
- Contingency resilience - built in
- Dynamic with real time information
- Focus on behaviours / culture of staff / public
- Investing in people to make better decisions - timely / strategically / dynamically at all levels of the organisation
- Living documents and concise reports
- Timeliness / social connectedness
- Agile in response and dynamic and adaptable/ holistic
- Embedded risk culture / how do people think
- Front line involvement
- Assurance of effectiveness
- Balance prevention and recovery
- Focus on what if (Black Swan)
- Deference to expertise
- Open with no secrets

- Complex multi-layer, multi-variance scenarios
- Risk acceptance - realisation ROI - Risk management is an investment
- Strategy - innovation linked to risk as opportunity
- Linked across business
- Way of thinking
- Multi-lapse, multi-aspect
- Outward looking strategic
- More integrated risk thought
- Risk as opportunity (innovation)
- More outward-looking strategic focus (leaders)
- Agile and responsive (real time) principle base
- Now more of a culture and expectation of responsibility
- Risk appetite used to guide response (scenario thinking)
- More inter-connected and global focus (complex)
- Proactive and ongoing monitoring and evolving response
- Tools used for management (caution)
- Higher likelihood of exposure and concern with reputation
- More emerging risks - new world
- Bigger consequences (social media)

The upside of risk is opportunity, innovation and new possibilities.

NEW AND CONTEMPORARY RISK APPROACHES IN BUSINESS

People, not process, are the heart of effective risk management. People skills, or often termed 'soft skills', are the foundation for success as an individual, a leader and as an organisation. This is also true for effective risk management, as a risk intelligent individual, a risk leader and as an organisation with a risk culture.

New risk management requires leadership maturity. Leadership maturity involves understanding how social arrangements in the workplace (such as hierarchy, power, unwritten ground rules, dialogue and discourse) affects decision-making and judgement under uncertainty.

HOW DO SOCIAL ARRANGEMENTS (I.E. THE ACTUAL, IMAGINED OR IMPLIED PRESENCE OF OTHERS) AFFECT JUDGEMENT AND DECISION-MAKING?

The four key points underpinning leadership maturity in risk are:

1. Understanding the nature of motivation and why people do what they do.
2. Leaders need to understand that human fallibility and risk creates a 'wicked problem'.
3. If leadership is to be mature in risk, it must understand how goals compete and how risk creates meaning.
4. The acceptance of Dynamic Risk Equilibrium (DRE) and how the need to constantly change, adapt and balance people, process, opportunities and threats is an ongoing living reality.

New risk management requires mindful organising (Weick & Sutcliffe, 2015). Mindful organising involves awareness of collective mindfulness and collective enactment particularly relating to how we create shared goals and coordinate groups to solve problems.

This requires a Risk Intelligence (RI) approach which, we believe, can be defined as:

RI is a living skill and applied attribute that enables better decision making to proactively embrace opportunity and manage potentially negative outcomes.

- By definition, RI actively incorporates agility and resilience.
- People with a well-developed RI are able to:
 1. Manage self
 2. Lead and empower those around them to achieve
 3. Drive High Reliability Organisation (HRO) performance.

RISK INTELLIGENCE IS A UNIVERSAL BUILDING BLOCK FOR PERSONAL AND ORGANISATIONAL SUCCESS IN A VUCA WORLD

New risk management requires reliability and adaptability at an organisational level. Reliability and adaptability involves managing the unexpected through anticipation and containment:

1. Preoccupation with failure: to avoid failure we must look for it and be sensitive to early signs of failure.
2. Reluctance to simplify: labels and clichés can stop one from looking further into the events.
3. Sensitivity to operations: systems are not static and linear but rather dynamic and nonlinear in nature. As a result, it becomes difficult to know how one area of the organisation's operations will act compared to another part.

Containment has two elements:

4. Commitment to resilience: the organisation must maintain function during high demand events. Resilience has three components:
 - I. Absorb strain and preserve function despite adversity.
 - II. Maintain the ability to return to service from untoward events.
 - III. Learn and grow from previous episodes.
5. Deference to expertise: This includes deference downward to lower ranking members of the organisation. Expertise defers from the expert from its relational knowledge with greater emphasis on an assembly of knowledge, experience, learning, and intuition. Credibility, a necessary component of expertise, is the mutual recognition of skill levels and legitimacy.

DYNAMIC RISK EQUILIBRIUM (DRE) IS A KEY ASPECT THAT LEADERS OF THE FUTURE MUST MANAGE IN ORDER TO THRIVE!

The output of all of this is to strive to create what we refer to as a Dynamic Risk Equilibrium (DRE).

DRE means we have the ability to innovate and adapt, to take calculated and educated risks so we can seize opportunities. It means we can adjust our risk baselines to match the environment and our people, based on the opportunities and threats we must manage.

If we can't achieve DRE we will constantly be losing opportunities, fail to innovate and live in a risk averse world where we will steadily see ourselves and our organisations become obsolete.

The challenge is to apply the embedded approach to risk leadership in everyday life at all levels of our organisations so that risk truly becomes opportunity and not just another compliance and governance activity that we "have to do".

The importance of cultivating DRE is reinforced when we consider how today's workforce is faced with increasingly complex environments as well as psychological and physical demands that stem from a fast-paced and volatile economy.

A paper from Harvard Business School on *Building a Resilient Workplace Culture* highlights the particularly harsh toll workplace stress and workforce disengagement has on our mental health (Everly, 2011).

In fact, a 2012 Towers Watson study found that in most organisations, only 35 percent of employees said they were engaged. In other words, 65 percent of employees have mentally checked out, causing productivity, innovation, and creativity to plummet. The study also found that 38 percent of employees felt stress and anxiety about the future, and that less than half of the employees surveyed agreed that senior leaders had a sincere interest in their well-being (Towers Watson Staff, 2012).

In most cases, when viewed through the lens of DRE, the structure of the modern organisation puts people at the heart of business activities. Dr John Medina, author of *Brain Rules* and a developmental molecular biologist, has clearly highlighted that stress impacts people's ability to perform in business (Medina, 2008). There is a growing recognition that good mental health at work is a must, not a nice to have.

This is not simply altruistic, because of the upward trend, mental ill health is a main cause of absenteeism. In fact, the growing recognition that performance and engagement can be affected by a worker's state of mind is now becoming well understood.

Neuroscience proposes the brain is organised to minimise threat and maximise reward (Rock, 2008). Meaning our brain constantly scans the environment for perceived threats, which leads us to acknowledge high performing workplaces are a by-product of two distinct forces that mutually influence one another.

These forces are positive organisations – or environment and culture; and positive individuals – based on mindset and behaviours. It is accepted that it is the mindset of an individual that determines their high levels of productivity, profitability, engagement, innovation and quality of life (Kabat-Zinn, 1993).

This is a double edge sword - we can develop individual resilience through training the person to focus on their thoughts and feelings and examine their actions and responses, however, resilience and agility can be either assisted or disturbed by the environment in which the individuals find themselves.

So what makes some organisations able to not only survive but also thrive in the face of adversity?

This is the challenge we seek to solve through research supporting DRE that highly functional organisations are those who operate not as a transactional network but as an evolved social network.

Failed organisations tend to ignore the people dimension, treating the human resource as simply cogs in the machine which inevitably results in the loss of those resources.

The leaders of industry are those who view their human assets as exactly that: an asset to be maximised, a potential to be utilised, and an investment for return. The higher valued, higher trained, higher engaged your workforce, the greater return on your investment.

Dynamic Risk Equilibrium is thus the output of a strategic and tactical balance between people and process that is constantly evolving – a critical requirement for new risk management!

Have the ability to innovate and adapt, to take calculated and educated risks so we can seize opportunities.

WHAT'S NEXT AND SUMMARY

In a world of increasing complexity and risk aversion we observe a growing dynamic of dehumanising the way people think about risk. The reality is that life, and business, are risky especially for those who want to innovate and achieve. The focus of viewing risk as just another compliance activity and the tendency to drive process risk management, with little thought of people and culture, has created a stifling of innovation and missed opportunities.

The expired precept accounts risk as 'a negative to be extinguished'. Risk leaders of the future need to focus on paving new ways to turn risk into opportunity. The way we identify and manage risk has implications for personal performance, business success and organisational well-being.

The term VUCA shows us the criticality of dynamic thinking and action. It highlights the key underlying factors that face us in every day decision making in the modern age. This also makes sense from a sociocultural evolutionary perspective because VUCA encapsulates our human ancestral nature for adapting to novelty and to change itself.

Research in the field of brain science has shown the human brain is designed to:

1. solve problems
2. relating to survival
3. in an unstable environment; and
4. to do so in almost constant motion.

However, much to the detriment of workplace health, there is a gap between what science knows and what businesses do. This has become increasingly evident through the upward trend in stress and mental health and downward trend in productivity. Business leaders and strategy professionals who were fixated with the 'critical' need for the 'three to five year and longer strategic plan', factoring all variables and striving to minimise uncertainty so that results can be guaranteed, now face frustration due to a VUCA reality.

Risk leaders of the future need to adopt the best of old risk management (ORM) and develop and provide the knowledge, skills and capabilities to thrive in a VUCA world. This assists the transition from the industrial age thinking to the social, networked approach – applied new risk management (NRM).

“Only when we embrace risk in a calculated way that integrates logic and process with empathy and understanding will we innovate in a sustainable manner and turn risk into opportunity.”

Dr Gav Schneider
Program Director

GRADUATE CERTIFICATE IN PSYCHOLOGY OF RISK

Successful companies focus their attention on risk and see it as an opportunity, seeking to better understand it from a psychological and cultural perspective.

Managers and leaders must skilfully interact with the new paradigm of risk, interconnectivity and disruption by mastering topics such as risk psychology, unconscious bias and dynamic equilibrium — vital in today's fast changing business environment.

Standing still is not an option. Propel your learning and make decisions that are empowered, innovative and forward thinking in a VUCA world. Take that critical leadership step forward — redefine the role of risk and focus on growth by understand the Psychology of Risk.

The Graduate Certificate in Psychology of Risk consists of four units:

01

The Social Psychology of Risk—Introduction

Delivery mode: Face-to-Face
Brisbane: 2-4 February
Canberra: 2-4 March
Melbourne: 9-11 February
Sydney: 16-18 February

02

Leadership and the Social Psychology of Risk

Delivery mode: Online
Brisbane: 4-7 May
Canberra: 4-7 May
Melbourne: 4-7 May
Sydney: 4-7 May

03

Communicating and Consulting About Risk

Delivery mode: Online
Brisbane: 6-9 July
Canberra: 6-9 July
Melbourne: 6-9 July
Sydney: 6-9 July

04

Social Psychology of High Reliability Organisations

Delivery mode: Face-to-Face
Brisbane: 5-7 October
Canberra: 7-9 September
Melbourne: 21-23 September
Sydney: 17-19 August

HOW ACU EXECUTIVE EDUCATION CAN ASSIST

ACU Executive Education supports individual and organisational capability development through providing programs for managers and leaders as well as in-house and consortium programs to strengthen team capability.

To discuss how your career can be strengthened by studying the Graduate Certificate in the Psychology of Risk, or for more information about how ACU Executive Education can support you and your organisation, please connect with us:

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REFERENCES

- Daily Mail (2017). http://www.dailymail.co.uk/news/north_korea/index.html . Accessed 1 November 2017.
- Everly, G. (2011 June 24). Building a resilient organizational culture. HBR Blog Network. Retrieved from http://blogs.hbr.org/cs/2011/06/building_a_resilient_organizat.html
- Kabat-Zinn, J. (1993) Mindfulness meditation: Health benefits of an ancient Buddhist practice. In D. Goleman & J. Gurin (Eds.), *Mind/Body Medicine* (pp. 259–275). Yonkers, NY: Consumer Reports Books.
- Medina, J. (2008), [Brain Rules: 12 Principles for Surviving and Thriving at Work, Home, and School](#). Seattle, WA: Pear Press, 2008. [ISBN 978-0979777707](#)
- New York Times (2017). <https://www.nytimes.com/2017/10/31/nyregion/police-shooting-lower-manhattan.html> . Accessed 1 November 2017.
- Potts, R. (1998), Variability selection in hominid evolution. *Evol. Anthropol.*, 7: 81–96. doi:10.1002/(SICI)1520-6505(1998)7:3<81::AID-EVAN3>3.0.CO;2-A
- Rock, D. (2008). “SCARF: A Brain-based Model for Collaborating with and Influencing Others,” *NeuroLeadership Journal*, vol. 1, no. 1, December 2008, 44
- Schneider, G. (2017). *Can I See your Hands: A Guide To Situational Awareness, Personal RiskManagement, Resilience and Security*. Universal Publishers. Florida
- Schneider G. (2016). Challenging Security Paradigms – Bursting the Assumptions Paradigms. *Security & Risk Management – Applying the Multiplex View to Risk Management*. Australian Security Research Centre Monograph Series 1 2016: 63-81
- Schneider, G. & Down, K. (2016). Dynamic Risk Equilibrium – The next wave. *Risk Management Today*. Vol 26 No 10. LexisNexis: 180-184
- Taleb, Nassim Nicholas. (2010) [2007]. *The Black Swan: the impact of the highly improbable* (2nd ed.). London:Penguin. ISBN 978-0-14103459-1. Retrieved 23 May 2012.
- The Times (2017). <http://www.newsjs.com/url.php?p=https://www.thetimes.co.uk/article/citizen-robot-marks-a-world-first-for-saudi-arabia-vjvmtx3s> . Accessed 1 November 2017.
- Towers Watson staff (2012). Global workforce study. Towers Watson. Retrieved from <http://www.towerswatson.com/Insights/IC-Types/Survey-Research-Results/2012/07/2012-Towers-Watson-Global-Workforce-Study>
- Weick, E. & Sutcliffe. (2015). *Managing the unexpected, Sustained performance in a Complex World (Third Edition)*. Wiley. New Jersey