Actuaries Summit
get involved, get ahead
20-21 May 2013
Hilton Sydney

Actuaries Institute

Board leadership in a complex world- optimising value from risk and opportunity

Prepared by Sean McGing and Andrew Brown

Presented to the Actuaries Institute
Actuaries Summit
20– 21 May 2013
Sydney

This paper has been prepared for Actuaries Institute 2013 Summit.
The Institute Council wishes it to be understood that opinions put forward herein are not necessarily those of the Institute and the Council is not responsible for those opinions.

Institute of Actuaries of Australia
ABN 69 000 423 656
Level 7, 4 Martin Place, Sydney NSW Australia 2000
t +61 (0)2 9233 3466 **f** +61 (0)2 9233 3446
e actuaries@actuaries.asn.au **w** www.actuaries.asn.au

Abstract

The paper explores and demonstrates how leadership at Board level can enable an organisation to be a leader in its industry by developing a mature risk culture. A mature risk culture includes both managing risks to mitigate major negative consequences, as well as focusing on maximising the opportunities that risks bring.

It recognises that at the core of Board Leadership is instilling a culture that reflects the organisation's mission and values, and that those elements feed into its strategy, its governance and the risk management of the total enterprise.

We explore the relationship between the strategy of the business and risk. How can an effective response to risk accelerate the achievement of an organisational strategy? When might new or emerging risks shape or refine an organisation's strategic direction?

We look at the Board's roles and the needs of the individual directors to meet these challenges. What skills and personal attributes help and how can they be best developed?

We examine how these leadership skills are applied in a practical way to achieve longer term sustainable growth for companies, aligned to a company's strategic intent.

We present examples of the practical implementation of good leadership, including effective culture to illustrate the benefits of such an approach.

We explore the relationship between the Board and the company's risk structures and major risk stakeholders. We examine the importance of the dynamics of Chair / CEO interaction.

The paper considers how actuaries can apply and improve their skills in a practical way to contribute to the leadership and risk management of the enterprise.

We draw conclusions and make recommendations on Board composition, working dynamics, effective leadership and risk governance, reflecting that these all contribute to embedding a mature risk culture.

Keywords: Leadership, enterprise risk management, Board, strategy, risk, opportunity, culture, change, actuary.

Table of contents

1 Board leadership, risk& culture

"If you're in an environment where you don't take risks and don't push innovation you will get left behind very quickly"

John Chambers, Chair & CEO, Cisco[1]

1.1 Objectives of paper

The key objective is:

1. To explore and demonstrate how leadership at Board level (or its equivalent in Government and other entities) can enable an organisation to lead their industry by fully integrating active consideration of risk and in particular by developing a mature risk culture.

A secondary objective, which emanates directly from the first, is:

2. To identify the strengths and development opportunities for actuaries if they are to apply their skills in a practical way to the leadership and risk management of the enterprise. In particular, applying this at the Board level.

1.2 The role of the Board

As the Australian Institute of Company Directors (AICD) simply states: the Board of Directors acts on behalf of shareholders in supervising the company[2].

The key roles of the Board are:

- Setting the organisation's strategy to achieve its objectives
- Setting its policies
- Hiring a CEO to implement that strategy and supporting policies
- Continuously assessing the organisation's performance against its objectives
- Setting the organisation's risk appetite and overseeing that risk after mitigation is contained within that appetite.
- Setting the tone (culture) and monitoring its continued adoption

These roles apply in the governance of all organisations including government and not-for-profit. For the latter, strategic objectives, risk appetite and the consideration of a wider range of stakeholders may be quite different to that of a private or listed company, but the core responsibilities are the same.

The views of the Directors interviewed were consistent with these roles. Some commented that ultimately the Board's role is to make decisions that empower the CEO and the organization to deliver its strategic goals and imperatives.

1.3 Defining Risk and Enterprise Risk Management

Different people in different organisations can have quite different understanding of risk and risk management. It is important for a board to ensure that it clearly articulates throughout the organisation what it understands by risk to its objectives and its appetite for such risk. This allows responsibilities to be allocated and the appropriate actions taken to minimise the down side of risk and maximise the value that can be obtained from the opportunities that risk brings.

The future is always uncertain. Standards Australia's ISO 31000 is one of the most common and well respected risk management frameworks in the world. It defines risk simply as:

- ***Risk*** is the effect of uncertainty on objectives.

The AS Corporate Governance Council defines risk management in Principle 7 - Recognise and manage risk - of its Corporate Governance Principles and Recommendations[3] as:

- ***Risk management*** is the culture, processes and structures that are directed towards taking advantage of potential opportunities while managing potential adverse effects.

In the past 10 to 15 years the concept of considering and managing all the risks across an organisation has emerged as a means of reducing downside risks and increasing potential upside value to stakeholders, initially in large financial services organisations but now much more widely. This has led to a distinction by some between risk management in general and enterprise risk management specifically. For clarity, we define enterprise risk management (ERM) as:

- ***Enterprise risk management*** actively considers all of the potential risks and opportunities to an organisation in a holistic way and integrates this thinking into its decision making and other processes at all levels of the enterprise.

A good example of the value of an ERM mindset is the high importance rating agency Standard & Poors[4] attaches to ERM for assessing the creditworthiness of a financial institution and more recently other corporates.

James Lam, the person who first coined the term Chief Risk Officer, states[5] that risk management is firstly "about balancing risk and reward" and that "the challenge for leaders is to take intelligent risks". It is "about balancing processes and people." "It is more important to ensure that the right people are in place to begin with, and that they are motivated by the right culture and incentives."

1.4 What is culture?

Our definition of culture is based on the work of Ed Schein[6], possibly the best known global expert on organisational cultures. Ed identified three levels of culture in an organisation. We have adapted these to a Board's culture as follows:

1. **Artefacts**- the characteristics of the organisation which can be easily viewed, heard and felt by individuals.

   At a Board level these may include directors' behaviors between each other and towards third parties such as presenters, formality of language, dress code, Board room layout and furniture. Most importantly it is the manner in which Board members actually live the mission and vision of the organisation and how they actively set and enforce Board governance, policies and procedures through the CEO and the organisation.

2. **Espoused values** – what the organisation states that it stands for at the Board level.

The officially stated values may be different to those observed and implicitly communicated across the organisation by the above artefacts. This includes vision, mission, values statement and strategic plans.

3. **Tacit assumptions**–the underlying or unconscious assumptions across an organisation – often described as "what really goes on around here".

The tacit assumptions about the Board and the organisation will be formed through the myths and stories about what the Board are "really like". In particular, where the actual behaviours and observable artefacts of the Board are inconsistent with the espoused values, people will infer what the real values are, based on the Board's actions. As Ralph Waldo Emerson once wrote "your actions speak so loudly that I cannot hear what you are saying".

How the organisation's senior executives relate to the Board will be heavily influenced by their tacit assumptions about the Board. How the Board members interact will be driven by their tacit assumptions about each other and about the Chair (Chair) and CEO.

1.5 What is a risk culture?

An organisation's risk culture describes the degree to which its culture encourages or limits the taking of risks and the opportunities that arise from those risks. This risk culture can vary from everyone in the organisation operating intuitively and blindly unaware of risks, all the way through to culture where attitudes and behaviours demonstrate careful consideration of risks and opportunities in advance of their potential occurrence.

1.6 What is a mature risk culture?

Culture is pervasive. It influences the way that everything is done. Schein says[7]"We tend to think we can separate strategy from culture, but we fail to notice that in most organisations strategic thinking is deeply colored by tacit assumptions about who they are and what their mission is."

What this implies about a mature risk culture in a Board is that risk will be part and parcel of each and every conversation and decision. When the Board is considering strategy, it will look at the risk appetite necessary to deliver the strategy and how and what risks will drive the business forward. When the Board observes and interacts with the CEO and senior management, directors are considering how the risk appetite of these individuals align to the risk appetite of the Board.

In a mature risk culture, processes and Board mindset drive the management of immediate risk, the understanding of new and emerging risks, and an ongoing exploration that increases the resilience and adaptive capacity of the organisation to future (unknown) risks.

1.7 What influences culture at a Board level?

According to Ed Schein[8], "If you set out to change the culture, you end up in fog. If you set out to change behaviours, then you'll change the culture."

Schein's top seven influences on culture, in descending order, are:

1. What a leader attends to, measures, rewards and controls is the main factor affecting culture
2. How leaders react to critical incidents (do they get defensive, go on the attack, support, blame?)
3. Leader role-modelling and coaching
4. Criteria for recruitment, promotion and retirement
5. Formal and informal socialising
6. Recurring systems and procedures
7. Organisational design and structure.

The first four all relate to leadership. The major determinant of a mature risk culture will be the Board's leadership.

1.8 What is Board leadership?

By Board leadership, we mean the mindsets, beliefs and actions of the Board that moves the organisational system towards greater health. By greater health, we mean increasing resilience and capacity to adapt, and an increasingly positive influence on the markets it operates in, the communities and individuals for which it provides products and services and the stakeholders it partners with or serves.

While leadership has many definitions, there are three key characteristics that permeate the literature – leading by example, leading through strategy and leading people:

1. Leading by example

   The Board culture must role model the aspirational organisational culture. If the aspirational culture is proactive risk management, then the Board needs to role model this through taking a proactive stance to risk management - risk / return optimisation - as demonstrated through Board discussions, decisions and supervision of follow through.

2. Strategy

   Providing the organisation with an outside-in perspective, challenging the organisation's thinking based on what the Board is seeing emerge in other companies or communities they are part of.

3. People

   Above and beyond guidance for executives, creating space for the Board and those executives to interact, both socially and professionally, providing opportunity for potential successors to be involved in Board presentations and other interactions.

In the context of creating a mature risk culture, Board Leadership must integrate risk consideration into each of these aspects:

1. Leading by example – Board members with clear individual beliefs, values and mindsets around risk, and demonstrating behaviours, competencies and the language of careful risk consideration. Leading discussions and advocating for decisions aligned to the risk appetite and strategic aspirations of the organisation.

2. People – shaping the organisational culture through selection of senior executives with aligned risk appetite and approach. Helping shape what people believe really happens in the organisation in relation to risk, what is acceptable and not acceptable about risk, how risk taking gets rewarded or penalised.

3. Strategy – setting the strategy in alignment with the organisation's risk appetite. Seeking out new opportunities that arise and assessing the uncertainty (potential upside and potential downside) to proactively develop the organisation's future.

While leadership is a critical function, management is also extremely important. In a mature risk culture, management processes will include:

- Organisation structures, processes and policies around risk - governance, delegated authorities, operation of Board Audit and Compliance Committee (BACC), internal control registers, reporting lines of senior risk people, job descriptions and inclusion of KRIs (key risk indicators).

- Risk decision making processes - taking acceptable risks, transferring risks, mitigating risks and avoiding inappropriate risks.

- In the case of larger or more complex organisations with significant core risks, ensuring a central risk function independent of business functions is in place with appropriate power.

2 Challenges and Opportunities

"Not everything we face can be changed.
But nothing can be changed until it is faced."

James Baldwin[9]

2.1 Aspiration

Section 1defines an aspirational mature risk culture. This is an emerging field and for organisations to move towards this aspiration will mean developing new capacities, overcoming challenges and taking opportunities as they arise.

Section 2 explores what are the key challenges and opportunities for Board leadership around risk. From this, we distil the key questions to explore in our research on:

- How are Boards currently coming to grips with the challenges of optimising the risk / return balance, in pursuit of their stated strategic objectives?
- What further opportunities are there to support Boards to continue to evolve to risk maturity?

2.2 Challenges and Opportunities

2.2.1 Board leadership in a complex world

The business environment in which entities operate is becoming more complex.

COSO - the Committee of Sponsoring Organisations of the Treadway Commission — reported in 2009[10]"the complexity of business transactions, technology advances, globalisation, speed of product cycle, and the overall pace of change have increased the volume and complexities of risks facing organisations over the last decade." Other examples of increasing complexity include increased legislation and risk of legal action against organisations and directors, heightened consumer awareness, ever growing expectations and reduced time frames.

The culture of an organisation needs to continuously adapt to how it deals with risk to keep pace with this changing world. This includes recognising new types of risks that may not be included in existing risk frameworks.

Key questions that arise are:

Q1 How do Boards bring in external perspectives on emerging risks?

Q2 How do Boards consider and prepare for Black Swan[11] (highly improbable) events?

Q3 How do Boards shape their organsations to have the adaptive capacity to deal with, and profit from, this environment?

2.2.2 Increasing governance

In the aftermath of the global financial crisis (GFC), there is an increasing regulatory focus on compliance and governance, particularly overseas. This has a direct effect on Australian organisations which are active, listed or have parents overseas. While monitoring of current and emerging risks is critical, it is even more important for the Board to focus its attention on strategic initiatives. Good information on which to make decisions takes time, effort and cost. Boards to a greater or lesser extent are short on all these ingredients.

Key questions that arise are:

Q4 How do Boards balance overseeing the operation of risk frameworks and processes with strategic processes including the assessment of opportunities and risks?

Q5 What is the Board's perception of the current regulatory regime and whether it helps or hinders developing a mature risk culture?

Q6 How does / should governance and compliance focus shift depending on type of entity and level of risk maturity?

2.2.3 The evolving nature of leadership

One of the reasons there are so many definitions of leadership, is that leadership is by its nature an evolving concept. As the world changes, the mindsets, beliefs and actions (i.e. the leadership) of the Board must evolve to adapt to the new world.

The following are attributes of leadership that must continue to evolve to effectively shape a mature risk culture. The stronger these attributes are in a leader the greater chance of optimising value from the opportunities inherent in most risks.

(a) Developing trust in the entity[12]

As risk enters the drink water of the organisation, the central control functions need to shift from a policing to a supporting role; for that to happen, managers and teams need to be trusted - and to be trusted they also need to demonstrate trust.

Trust means being available, reliable, attentive and authentic. This doesn't mean that every risk taken will lead to a positive or successful outcome. Therefore the culture should encourage transparency, people trust that they won't be penalised for raising problems or issues. The dark side of a "no surprises" culture is that surprises often get suppressed. The culture should also encourage appropriate risk taking; people trust that if they take an appropriate risk and it is not successful, then the first question asked is "what did we learn?"

Organisations need to be trusted by their customers and other stakeholders. Trust improves brand value and loss of it reduces value and diminishes reputations. Reputational damage can be severe both for the organisation and its leaders.

(b) Acceptance of ambiguity and uncertainty[13]

With increasing complexity comes increasing uncertainty, and therefore increasing risk.

Organisations and Boards have often tried to address this by focussing on what is certain, or demanding of the business commitment to certainty of outcomes. What is required is to accept the uncertainty, yet in the face of this uncertainty explore options and agree a pathway forward. This is where we believe the focus needs to be in mature risk cultures.

(c) Adaptive leadership / dialogue based / collective leadership[14]

With greater complexity and greater uncertainty comes a greater need for diversity of thinking and for being able to access that diversity through dialogue and building shared understanding[15,16] . That means the traditional nature of presenting needs to shift towards an interactive round table, cross functional approach.

Questions that arise from this are:

Q7 How do Boards encourage and embody these required leadership attributes?

Q8 What are the leadership attributes necessary for Board members in this environment?

Q9 How does the Board instill this culture across the organisation's senior people?

2.2.4 Our interconnected world

In the modern world, very little exists in an isolated or independent form. Everything appears connected to a multitude of different things. Everything exists and makes sense only within a context, or specifically in relation to other things.For organisations, the impact of their products and services on their communities can be enormous.

Questions that arise from this are:

Q10 How do Boards take into account the impact of risks on their broader stakeholders and the associated reputational or brand challenges?

Q11 How do Boards take into account risks associated with increasing systemic risks and risks of contagion brought about through interconnectedness?

2.2.5 Integrating risk leadership into strategic leadership

Historically, risk has been perceived as being separate or outside of strategy. More generally risk was considered as a separate end of process consideration and more often than not relegated to a compliance and legal aspect of risk.

However, in recent years assessing risk as an integral part of board strategy - both its determination and overseeing its implementation has become the preferred approach in the minds of many. E.g. Sheehan[17], McGing[18]. McGing concluded "Integrating a continuing risk consideration in tandem with the implementation and ultimate monitoring of strategies, will give the organisation an improved awareness of value adding opportunities while reducing the downside risk of reduced growth or loss of sustainable advantage."

We explore the relationship between risk and strategic direction of the business. When might new or emerging risks shape or refine an organisation's strategic direction?

We look at the Board's roles and the needs of the individual directors to meet these challenges. What skills and personal attributes help and how can they be best developed?

Questions that arise from this are:

Q12 How do Boards go about integrating risk and strategy?

Q13 How does risk appetite shape strategy and strategic decisions?

Q14 How can an effective response to risk accelerate the achievement of an organisational strategy?

Q15 What gets in the way of risk being integrated into strategy?

3 Research and Findings

"A lot of what we think is risky is actually unfamiliar"

– Orit Gadiesh, Chair, Bain & Co[19]

3.1 Evolution of risk culture in organisations

Society attitudes change with time as circumstances and influences change. Organisations continuously strive to find better ways of achieving their objectives in response to this changing world. Risk management as a holistic and integrated approach across an enterprise has also been evolving in the last 20 years. Table 3.1in the form of a rubric sets out how the different elements of risk culture relating to enterprise risk management evolve from simply operating intuitively to the ideal of a mature risk culture.

Table 3.1 Risk culture evolution

	Operate intuitively	*Reactive*	*Mechanical*	*Pro-active*	*Mature risk culture*
Beliefs / mindsets	Unaware of risks	Risk management received with cynicism, a management whim	Importance of risk management accepted	Actively aware of and considers risk as part of work	Risk = opportunity
Organisat-ional attitudes	Low trust, individuals blamed when risks eventuate	Must eliminate losses; very top down approach	Workforce more involved but with limited understanding	Workforce involvement promoted, though team leads still organise / take responsibility	Partnership between management and workforce; shared responsibility
Individual behaviours	Takes many risks without realising it, blissful ignorance	Meets minimal legal or compliance requirements; Ignores until reporting time	Day to day risks are managed effectively	Regular discussions on risks, active prioritising to manage risks	Workforce drives risk assessment, shares insights across business
Systems / structures	None, no communic-ation or training	Compliance reports, detailed reviews of failures	Performance management systems. Risk dashboards	Active feedback loops, actions beyond reporting	Culture reviews. Employee perception surveys. Behaviour based training
Risk function	None	Compliance function	Function accepted, carries out organisation reviews, focus on improving procedures	Partnership with management, compliance done at business line	Risk function co-operative and supportive as managers and teams take responsibility

Source: A. Brown and material provided by S. Bennett (Enhance Solutions). This is adapted from a method by Patrick Hudson[20] applied to safety cultures.

3.2 Research – Board interviews

Board members from a range of organisations were interviewed. The interviews explored the key questions identified in section 2. Section 3.2 is a summary of the key responses from the Board members.

3.2.1 Board leadership in a complex world

Q1 How do Boards bring in external perspectives on emerging risks?

Q2 How do Boards discuss and manage or prepare for Black Swan events?

Q3 How do Boards shape their organisations to have the adaptive capacity to deal with this environment?

Responses

- Be aware that the risks that get you won't be the ones you have documented; they will be the ones you haven't documented. The way to deal with this is through developing the capacity in organisation executives to think on their feet in times of stress.

- One aim of regular risk review / business continuity planning / scenario planning is to increase the capacity of an organisation to act effectively when a risk occurs. Even if a different risk occurs, this training and practice often helps to address the new risk. Boards need to encourage this to build risk resilience in businesses.

- Scenario planning and external perturbation challenging and alternative views are important to assess both risk and opportunity; it may be appropriate for a Board to get their own perspective, so they are not unduly influenced by the business.

Further commentary

Taleb's view[21] is that in most organisations the scenario planning or sensitivity testing typically has a very narrow lens on possible risks. That can mean that many risks are ignored or not considered. For these methods to be effective, they must have a broad lens.

3.2.2 Governance and Operational risk management

Q4 How do Boards balance the operational risk processes with strategic risk processes?

Q5 What is the Board's perception of the current risk regulatory regime and whether it helps or hinders developing a mature risk culture?

Q6 How does / should the governance and compliance focus shift depending on type of entity and level of risk maturity?

Responses

- Be clear on which risks you accept, which you want to mitigate and which ones you remove
- Deep understanding of the business you are operating in, so you have a practical understanding of the risk
- Assess materiality all the time – focus on the most material risks.
- Assess organisation capacity for risk management and leadership. What resources are available, what is the priority of risk management relative to "other initiatives", whether people perceive risk as separate or something that is part of every initiative
- One size doesn't fit all - Recognise that each business will be in a different stage of maturity in its own development and in its risk management processes. The ERM programme of work must reflect this, including governance structures, level of prescription etc
- Focus on what *should be* on the risk agenda rather than what is on the agenda – explore why certain items have been excluded that you may feel are important
- Encourage risk specialists to view best practice as constantly evolving; continue to evolve practice year on year

Further commentary

In relation to models, mature risk cultures in Boards can look at the proposals and information provided by management, yet reach their own independent conclusions based on a sensible / practical challenge of what model results and conclusions are being presented. It is important not to get "sucked in" to the model.

3.2.3 The evolving nature of leadership

This covers the elements discussed in section 2:

i. Developing trust in the entity
ii. Acceptance of ambiguity and uncertainty
iii. Adaptive leadership / dialogue based / collective leadership

Q7 How do Boards encourage and embody these required leadership attributes?

Q8 What are the leadership attributes necessary for Board members in this environment?

Q9 How does the Board instil this culture across the senior people?

Responses

- A culture where Board members can share their own perspectives, challenge each other, and ultimately engage in a rich dialogue with the intention of moving the business forward. When necessary, having the courage to make a stand.

- The Chair's role in setting the tone is crucial

- The composition of the Board is critical; diversity of thinking is the fundamental driver. This means diversity primarily of professional experience but also of gender and other reflections of society's mix in the organisation's markets

- Trust in the CEO and executive team by the Chair and all board members is paramount. There also needs to be healthy discernment. This means access to managers at least one level down on issues of strategy or materiality, not on the day to day running of the business

- Openness to the possibility of failure and accepting that is part of the risk agenda (relative to the organisation's risk appetite)

- Assess how the CEO and executive team work together, how transparently they share information, how open they are to dialogue rather than scripted presentations, whether they demonstrate a common sense approach and how they respond under pressure

- Assess risk culture of organisation through observation, possibly through engagement or risk culture surveys that focus on key attributes of an effective risk culture (is it safe to speak up, are concerns that are raised addressed adequately, what are people's attitudes to importance of compliance / following the rules)

- The Board appreciates that you can have all process in the world operating beautifully and still have problems. The Board and senior executives need to not get seduced into a false sense of security. They need to stay focussed on the human elements and cultural aspects of risk.

Further commentary

A mature risk culture would not tolerate an aggressive, dominant Chair or CEO.

3.2.4 Our interconnected world

Q10 How do Boards take into account the impact of risks on their broader stakeholders and the associated reputational or brand challenges?

Q11 How do Boards take into account risks associated with increasing systemic risks and risks of contagion brought about through interconnectedness?

Responses

- Some interdependencies are well understood and discussed - how certain risks relate to each other, to the broader strategy and how the broader culture influences the risk culture

- Boards need a mechanism to step back from the brink; to be able to change direction before it is too late

- Boards should assess how well the business partners with external stakeholders, e.g. suppliers. Supportive business partners are critically important in a crisis.

Further commentary

The degree of interconnectedness varies by industry e.g. banking has certain systemic risks due to the high degree of interbank lending which can evaporate quickly as it did in the GFC when the credit crunch rapidly followed loss of confidence in some banks.

Every organisation has increasing level of risks from the degree of interconnectedness within and outside the organisation from IT&T including the use of digital media. Risks include potential operational, strategic and reputational losses, happening at speed.

The Global Risks Report 2013[22] also considers the connections between emerging global risks.

3.2.5 Integrating risk leadership into strategic leadership

Q12 How do Boards go about integrating risk and strategy?

Q13 How does risk appetite shape strategy and strategic decisions?

Q14 How can an effective response to risk accelerate the achievement of an organisational strategy?

Q15 What gets in the way of risk being integrated into strategy?

Responses

- Boards should dedicate regular agenda time to strategy, to ensure balance of strategic and operational considerations.

- Keep out of the weeds – focus the agenda on strategic opportunities as much as possible. For example, have fewer Board papers but have them explore an opportunity to a deeper level.

- Risk should be part of every conversation; it should inform every decision.

- The risk is what makes you the money – having a real sense of risk appetite and the opportunities that emerge from risk means risk must be embedded within the organisation strategy, not something that is done separately.

4 Anecdotes and examples

"A board gives permission for the CEO/organisation to do things either explicitly by its approval or implicitly by what it ignores"

Graham Rogers
Former Director of AWM, ARIA, PHIAC, RACV Financial Services, & other boards; past president of Actuaries Institute

4.1 Learning from our mistakes

Back in 1915 Winston Churchill said "Those that fail to learn from history are doomed to repeat it. Unfortunately when it comes to risk management - in financial services at least - we are poor learners. The series of losses arising from lack of control and supervision of financial traders stands testimony to this failure of leadership and management. Metallgesellschaft, 1993, US$1.3 bn; Orange County,1994, US1.7bn; Barings, 1995, GBP 0.8bn; Societe Generale, 2008, Euro4.9bn; UBS, 2011, US2bn; AIB US$0.7bn; NAB, 2004, A$0.4 bn. These are well documented as a Google search will reveal[23], [24].

Kimberley D. Krawiec in her 2009 paper[25] "The Return of the Rogue" makes the link to risk culture when she says "More broadly, the debilitating losses at many financial institutions in the wake of the current credit crisis – while not specifically attributable to rogue employees – have been blamed to a large extent on lax internal controls and oversight, combined with an industry culture that sacrificed prudent risk management in the pursuit of superior profits."

Part of the mature risk culture that Board leaders need to instil in their organisations is a willingness to learn from their own and other organisations' failures. This requires a mindset shift from seeing failures as poor leadership, to seeing failures as opportunities to learn.

This section 4 considers a range of events which had enormous effect on enterprises and what lessons we can learn that are relevant to Board leadership including enterprise risk management and the place of risk culture.

The large losses or failures in strategy, leadership or management are much better known than the successes, particularly in avoiding losses through sound leadership and risk oversight. First we look at a number of those positive stories and then the loss examples.

4.2 Positive examples of Board leadership

4.2.1 GFC for some US businesses

Table 4.1 Risk Culture Example – GFC for some US businesses

Organisation	*Some US businesses*
Situation	Post GFC in 2010 the Ivey Business School ran a series of candid discussions with 300 C-suite executives to find out if better leadership could have made a difference in preventing financial meltdown that led to the global economic crisis.
Resolution & outcome	"We found out that good leadership could have and certainly did make a difference especially with respect to risk management. Many of the business and public sector organisations which emerged unscathed from the meltdown did see the dangers looming on the horizon. It was apparent that their people understood the potential impact and wider implications of these problems and took immediate steps to circumvent them.
Reasons	"Essentially these organisations had cultures attuned to potential risks with the ability to manage dynamics effectively."
Risk culture influence	"It is the leader's responsibility to manage risk effectively." "Business leaders achieve effective risk management"… by doing "three simple things well: 1. They ask the right questions 2. They consult with a mix of people, with different perspectives, backgrounds and knowledge. 3. The most effective leaders during the global financial meltdown were people who had integrity, courage and compassion. There were careful, prudent and aware of their limitations.
Sources	"The Role of Leadership in Managing Risk", Carol Stephenson, Ivey Business School, November / December 2010

4.2.2 Aetna Health

This example illustrates how culture can be changed from dangerously risky to the company's viability to a positive one that enables taking advantage of market opportunities from the strengths of the a number of the elements of what we define as a mature risk culture. It highlights the key leadership role of the Managing Director and President.

Table 4.2 Risk Culture Example – Aetna Health (U.S.)

Organisation	*Aetna Health Insurance (U.S.)*
Situation	2000 Aetna was losing $1m per day. Blamed on culture aligned to 150 year history, steadfast had become risk averse, tolerant of mediocrity, suspicious of outsiders and intransigent.
Resolution & outcome	New MD involved long standing Aetna staff in developing a "New Aetna Strategy. This identified Aetna's significant cultural strengths including deep seated concern for patients and pride in the history and purpose of their company. Without describing their efforts as "cultural change", top management began with a few interventions. These led to small but significant behavioural changes that revitalised Aetna's culture while preserving and championing its strengths. By 2006 operating income had recovered from a US$0.3 billion loss to a US$1.7 billion gain.
Reasons	"Match strategy and culture. Culture trumps strategy every time."
Risk culture influence	Be open to the risks that poor culture can bring. "Cultural intervention can and should be an early priority in way to clarify what your company is capable of, even as you refine your strategy."
Sources	"Change for the better" – Article in AFR Boss Magazine Sep 2012 from Harvard Business Review

4.2.3 APRA

The APRA experience provides a great example of what can be achieved by learning from the past.

Table 4.3 Risk Culture Example – APRA

Organisation	*APRA*
Situation	APRA learnt its lessons from its lack of preparedness to identify emerging problems at HIH. In the years between then and 2007/2008 when the GFC hit, it had raised internal expectations of the level of professional performance internally and enterprise risk management expected in the banking and insurance services sectors. As APRA member Charles Littrell[26] said in 2011 "There is no good prudential regulation without good supervision. There is no good supervision without a culture of effective intervention."
Outcome	A better protected community from the potential excessively risky behaviour of banks and insurance companies.
Reasons	Improved understanding of institutions' risks and improved implementation of risk based and "face to face" supervision.
Risk culture influence	Leadership drove change in the organisations' culture within APRA and in its external communication.
Sources	McGing & Brown

4.2.4 Centro restructure

This case study is a useful assessment of the benefits of moving to a mature risk culture. The AICD article on further lessons from Centro by then director Susan Oliver[27] is instructive.

Table 4.4 Risk Culture Example – Centro restructure

Organisation	*Centro*
Situation	"Directors faced the demise of the company and decided courageously … that the company … could be saved"
Outcome	The company was restructured and saved from complete loss of value, with the related repercussions for the wide range of further stakeholders and the economy.
Reasons	Structure simplification, culture change. Courage and determination of the directors.
Risk culture influence	Restructure brought change from a "deal driven culture – perhaps even a 'hero' culture" to one of the board and management team worked closely, cooperatively and respectfully". Susan Oliver raises the question: "Can a Board put in place the processes that provide foresight to avoid the types of issues that affect Centro?" Her answer is that "risk-based approach conducted at board level may have helped the risk that a board may not be able to make quick decisions". She suggests that boards "should make time in the annual board agenda for [a] risk session"… "where the board spends the time doing a risk analysis of its decision-making processes and abilities."
Sources	AICD article by Susan Oliver

4.3 Examples of Board leadership failures

4.3.1 Financial services entity failures

Table 4.4 summarises the nature of the failures in a number of financial services entities. Three of those listed in section 4.1 are included.

Table 4.4 Risk Culture Examples – financial services *entity failures*

Organisation	*Equitable Life*	*Barings*	*NAB*
Situation	World's oldest mutual life insurer offered guaranteed annuity rates to policyholders. Did not hedge or take proper risk mitigation actions as interest rates fell raising the liabilities.	London's oldest merchant bank. Head Trader Nick Leeson in Singapore speculated way beyond his authorised limits on arbitrage with Tokyo markets.	Foreign Exchange on authorised trading losses incurred in the years up to Jan 2004by the NAB currency options team.
Outcome	Closed to new business 2000. Reduced benefits long for over a million policyholders.	Collapsed 1995 – trading losses GBP0.8bn.	Loss of value of $0.4bn. Reputation damaged. Share price decline. Board upheaval.
Reasons	Poor financial management; Concentration of power – CEO was also the Appointed Actuary.	Lack of monitoring of trading controls. No separation of trading and settlements.	Loss positions concealed, poor supervision, inadequate or non-existent controls and procedures, poor responses to warning signs.
Risk culture influence	Arrogant management culture. Not open to diversity of views.	Lack of control governance. Short term focus on profits and related bonuses. Lack of challenge and independent thought.	Per PwC Report[28]: "Excessive focus on process, documentation and procedure manuals rather than on understanding the substance of issues, taking responsibility and resolving matters." "An arrogance in dealing with warning signs". "Bad news was suppressed." Other: short term bonus incentives.
Sources	Wide Web range, Brown & Balasingham[29]	Wide Web range, Sweeting[30]	Wide Web range, PwC Report

4.3.2 HIH

HIH is another classic case study where the culture of the organisation was a critical factor in its failure. Key learnings from a risk culture prospective are set out as quotes in the table below.

Table 4.6 Risk Culture Example – HIH

Organisation	*HIH Insurance*
Situation	Poor governance and management including under pricing and under reserving for future claims over many years prior to 2001 leading ultimately to the $5.3bn collapse.
Outcome	Collapse in 2001
Reasons	Mismanagement - "a failure of culture". Over confident, dominating CEO.
Risk culture influence	The direct quotes from the Royal Commission speak loudly: "The problematic aspects of the corporate culture of HIH—which led directly to the poor decision making—can be summarised succinctly. There was blind faith in a leadership that was ill-equipped for the task. There was insufficient ability and independence of mind in and associated with the organisation to see what had to be done and what had to be stopped or avoided. Risks were not properly identified and managed. Unpleasant information was hidden, filtered or sanitised. And there was a lack of sceptical questioning and analysis when and where it mattered."
Sources	HIH Royal Commission[31]

5 Obstacles to developing mature risk cultures

"Most success springs from an obstacle or failure. I became a cartoonist largely because I failed in my goal of becoming a successful executive."

Scott Adams (Creator of Dilbert)

Key risks and obstacles that we identified through the research which get in the way of effective risk cultures include:

- *Death by regulation* - Undue emphasis on compliance and non material risks that takeup a huge amount of time. This can increase risk, because it potentially hides the major issues or limits the capacity for the Board to focus on strategy and the big risks that might derail achievement of the strategic objectives.

- *Drinking the kool-aid* – Everyone goes along with the popular stories – groupthink, acting as a herd. Board and management culture punishes differences or voices of dissention. This greatly discourages people from thinking on their feet which would assist in organisation being better able to cope under stress and bouncing back – a resilient organisation.

- *Rubber bands* - Behaviours revert under stress and *people don't even realise it.* There is a natural human focus on individual survival, not the greater good of the organisation.

- *Sterility*- Senior team only show things that are perfect. Such filtering may ensure no surprises for a while but the risks increase as the board's information for decision making and related risk assessment is misleading. A similar situation can arise if the CEO is too polished and selectively feeds the more positive information to the board.

- *The Great Dictator* - Charismatic, aggressive Chair or CEO dominating the Board and driving their own agenda. Majority owned companies are particularly vulnerable where the CEO might be the owner or hand-picked by the owner, making it difficult for the full board to act in the best interests of all shareholders.

- *Starving child* - Insufficient resources (particularly in not for profit). Improving the risk culture of an organisation is both challenging and time-consuming which equates to need for more people and more money to make it work. To find such resources can be a huge challenge particularly when more tangible and better understood opportunities are the alternative.

- *Modelamania* – Confusion of models with reality, undue reliance on models and assumptions. It is easy for board members who have not used models extensively in their previous careers to misjudge the degree of reliability of the assumptions and model used. This is compounded by not appreciating the wide range of potential errors and variability of results, and hence the risk of placing too much reliance on the specific model or results presented.

- *Night blindness* – Lots of navigation for known risks, little time or emphasis given to the unknown risks and how to respond. To avert this, board members need to become consciously aware of how emotions and stress can take over and endeavour to put space between stimulus and response.

- *Messenger mortality* – Those raising the alarm and/or whistleblowers are "punished" even if they turn out to be right. Such a culture inhibits the free flow of information vital to allow early recognition of risks building in the business. The situation is self perpetuating as those people supportive of an open culture will tend to leave the organisation or not join.

- *Unconscious biases* – CEO or senior executives are trusted (based on past good performance) even though warning signals are saying that there are problems. Board members are unaware of the extent of their bias to the CEO - See Brown[32]. This can give rise to real danger if for example a chair chooses a CEO too much in their own likeness, which is a natural tendency in all recruitment.

- *Gut feel is good enough* –Boards understand risks and have a sense for them, but are not always disciplined in managing them. Intuition is a very important element of risk consideration but the reality is it is does not cover everything. It is not a complete substitute for wide ranging analysis. Survival of the fittest requires more than an emotional instinctive response.

- *The Yin and Yang*- Balance the yin and yang of risk compliance and opportunity. Both are essential. Balance realism and optimism. Balance conservatism and aggression.

- *The "A" team* - The new CEO brings in the new team, new approach, broom through the organisation. This often creates much greater risks, through limited knowledge of the organisation and the sudden and radical change in corporate culture it can bring.

6 Challenges and opportunities for actuaries

*"There are 3 stages in the education of a professional man......
The first is when he is learning the meaning of the technical terms in order to be initiated into the mysteries of his profession.
The second is when he has learned to use these freely and can thus freely exchange ideas with professional colleagues.
The third is when he has learned not to use them and can thus communicate freely with the layman.
Only at the third stage can he claim to be a professional man"*

Jim Peglar, 1969, President, Institute of Actuaries

To explore the challenges and opportunities for actuaries in leadership on Boards and in risk, we first reviewed Incept Labs' research on the professional attributes that actuaries and others display. We then considered the attributes we observed in our interviews with Directors who are actuaries and finished by considering our own experiences and observations of actuaries we've met during our careers.

6.1 Incept Labs

Incept Labs conducted surveys of various professional groups in 2009[33] in relation to their attitude to risk and risk management. Notwithstanding the limitations from the small sample size (three actuaries), the key findings in relation to actuaries were that the actuaries they interviewed displayed three key attributes that influence their role in ERM:

1. A lower risk appetite than other professional groups, so more likely to see risks as threats rather than as opportunities

2. The actuarial group were more likely to reduce uncertainty through gathering further data, while other sub groups were more likely to take an experiential approach

3. Other sub groups such as the operational and strategic sub groups may discount the actuarial methodologies as being irrelevant.

In follow up research in 2010[34], the findings were similar. One additional observation was that actuarial methodologies are more likely than other groups to analyse historical data and project risks based on this information. The actuaries surveyed (sample size of seven actuaries) acknowledged the limitations of these methods in rapidly changing times, and advocated a more responsive approach. The observation of Incept Labs was that the actuaries who advocated a more responsive approach did not frequently enact such approaches.

6.2 Our Director interviews

Where the Directors we interviewed were actuaries (six out of nine), we also asked how useful has their actuarial heritage been to the Boards on which they serve or have served in the past. We also asked what attributes did they see in actuaries that would be effective or ineffective in risk and risk management at Board level (either as Directors or reporting to the Board).

The responses indicated that many actuaries reporting into Board level do appear to balance the deep rational capability of the profession with a practical wisdom. The Board directors we interviewed who were actuaries strongly exhibited this balance.

Q What are actuaries' strengths in relation to Board and risk leadership?

- An important contribution by any member of a profession on a Board is to act as an interpreter of issues relevant to her or his professional experience. For an actuary this is interpreting issues relating to the future.
- The greatest contribution by an actuary is to guide as to what questions and assumptions about the future are relevant and how to interpret them.
- The capacity to stand back from the models and see what is really going on; actuaries have enough experience of building models that they know the limitations (as well as the strengths).
- A broad understanding of commercial considerations, and a deep understanding of businesses they operate in.
- Risk is in the actuarial blood stream.
- Actuaries have a good appreciation of what can go wrong.

Q What areas may actuaries need to do better at?

- Being clear about how to navigate through the uncertainties.
- Speaking our minds.
- Actuarial approach to risk management may give insufficient emphasis on the human aspects of risk.

6.3 Our experience and observations

Over our careers as actuaries, and as individuals involved in Actuaries Institute activities, in a variety of roles in and outside financial services, we have observed other actuaries with wide ranging experience and seniority. We have observed that actuarial professionals go through stages of development of their professional practice.

The first stage is learning the actuarial principals and practices and applying them in a very specific context. At this stage, the young actuary is unlikely to have had sufficient exposure to thinking or methods outside of the profession or their education to that point.

In the second stage, the actuary has developed a holistic view of the industry in which they operate and an understanding and appreciation of the business applications of their actuarial toolkit, and the requisite uncertainty that goes with those tools and the data being used.

There is a third and last stage which we do not believe all actuarial professionals attain: the consummate business leader with an actuarial core. This requires the development of:

- An easy ability to see the world from non-actuarial stakeholders' perspectives.
- The application of business acumen.
- A truly holistic perspective of the environment and issues at hand.
- Ability to communicate in the language of the stakeholder, with both respect and influence.
- An ability to blend actuarial and other approaches to forge a clear path forward.

We believe that for actuaries to be effective at Board level when in relates to risk and risk management, level three maturity is necessary. Table 3.1 and attributes necessary for a mature risk culture support this.

However, for many people in actuarial roles there may be no urge to get to the third level. It may not be attained by everyone because:

- The third stage is likely to be well beyond qualification, as it is only learned through real life experience (and is only lightly covered in the education system).
- The third stage requires stepping outside of our own professional tools and techniques and comfort zones.
- There may not be sufficient reason for people to wish to attain this.
- Often the last stage is the only option to move towards when current techniques and models will not resolve the challenges that an actuary faces.
- People sometimes perceive qualifying as an actuary as the final stop on their educational journey.

Attaining the third stage - full actuarial maturity - leads to trust being placed in that person by owners and principals of business, government, not for profit or other enterprises and results in such persons being appointed to positions of leadership on Boards and in risk, not directly because the person is an actuary but because they have a well balanced portfolio of skills and experience.

The development need for the actuarial profession in expanding further into the field of Board and risk leadership is to combine our deep analytical techniques, processes and understanding with an applied experience of the wider world - i.e. practical wisdom. The good news is that the evidence from the Board directors we interviewed is that there are actuaries already doing this.

Relating back to the Incept Labs research, actuaries need to ensure that the hyper-rational response built in to many actuaries needs to be used judiciously and complemented with practical wisdom to unlock full potential as great leaders.

7 Conclusions & Recommendations

"You can't control people through policies, procedures and policing. You can only do it through a strong risk management culture and absolute integrity in all leaders."

- Leadership on Trial, A Manifesto of Leadership Development – quoted in The Role of Leadership in Managing Risk, Carol Stevenson, Ivey Business Journal - November/December 2010.

7.1 Introduction

After careful consideration of the answers to our questions on board leadership and risk culture, coupled with our analysis of academic and business papers and articles, we have drawn the following conclusions and a related set of recommendations on board best practice on optimising return versus risk from a risk culture prospective.

7.2 Conclusions

1. Board leadership is most effective when risk is considered as an integral element of every decision made by the Board, rather than a second consideration.

2. The Board members and Chair take the critical responsibility in setting the tone for the culture of the organisation. This is reinforced by recruiting a CEO who champions a mature risk culture. A self centred, over confident, bullying Chair or CEO is the antithesis of good leadership and elevates risk levels dangerously while preventing any prospect of a mature risk culture.

3. To develop a mature risk culture is a journey that requires significant investment in building mature leadership capacity. This includes developing a deeper level of trust and greater adaptive capacity.

4. Strong team based Board decisions, with input from a diverse range of Directors, deepens the shared understanding of risks and increases the quality of decision making.

5. When a catastrophe hits, it is the capacity of the senior team to be up to the challenges and be able to develop solutions rapidly in real time that will keep the organisation afloat. This requires organisational resilience. Developing a mature risk culture is the best way to build this capacity.

6. Best practice corporate governance(clear objectives, Chair leading Board, Board as team, independent non executive Directors, diversity, good committee structure, good Chair / Board relationship with CEO, etc), sets the tone for a mature risk culture, minimises downside risks and optimises the upside from the opportunities that come with risk.

7. The transparency that comes with a mature risk culture should extend naturally to an organisation's consumers or members. Over time, this will enhance the value of the brand.

8. To optimise risk, including maximising resilience from any unexpected event, an organisation should be "humming" - that is its leadership at board and at management levels - should be able to concentrate on positively achieving the business objectives without having internal distractions. This increases the resilience of the Board to unexpected events.

Considering actuaries capabilities we conclude:

9. Actuaries have many attributes that can lead to being effective Board members, and supporting Boards in developing effective risk cultures.

10. Actuaries can develop key board attributes that aren't uniquely actuarial- courage, listening etc.

11. The development need for the actuarial profession is to combine our deep analytical techniques, processes and understanding with an applied experience of the wider world - i.e. practical wisdom to unlock full potential as great leaders.

12. This will take a personal and collective commitment from the members and the profession.

7.3 Recommendations

We recommend that boards of all types and sizes apply these conclusions in the most practical way to their organisations to:

- Improve their governance.
- Maximise the returns and achievement of objectives for shareholders and stakeholders, and
- Add to the resilience of their organisations.

A range of specific actions can be taken by Boards and by the CEO, including:

1. Training / coaching / educating of the board and senior management in particular on
    a. the nature of organisational culture
    b. the motivations and behaviours of people
    c. understanding their own potential reactions to stress.

2. Assistance from external experts on behavioural change on potential programs to lead to positive culture change towards a mature culture over a realistic period of time - particularly where the gap is large and hence brings greater risk.

3. Adoption by their Board of people diversification strategies at Board and senior management level - to minimise the threat of groupthink and maximise the range of potential solutions to a crisis or challenge. Include by skills, experience, industry and age.

4. Strive to get good Board team dynamics and openness as this will assist the resolution of emerging and unknown risks when they hit.

5. Within diversity of board composition, err on the side of more life and varied work experience. The greater the range of experiences that a board member has had – for example through several recessions in competitive industries - the more self-aware that person is of their own limitations but also of their own capabilities to get through a big challenge.

6. Greater use of intense "for real" workshop scenario planning, including some extreme scenarios, to push board members beyond their comfort zone in a stressed environment by time and challenge. So that when the real crisis hits, board members have been there before to some extent and have more confidence in their ability to quickly address the new problem that might arise. I.e. practice which builds flexibility and resilience, based on measured optimism.

7. Actively promote the importance of speaking out on potential concerns and risks and demonstrate that the board and senior management by their actions do not punish this but instead listen and follow through positively.

8. The Board and its Chair must ensure through its dealings with the CEO that it is in charge. This is greatly aided by having well documented formal processes for determining strategy and decision-making by the Board based on quality information provided by the CEO and the management team.

9. Take up Susan Oliver's suggestion that the Board does an annual risk analysis of its decision-making processes and abilities.

8 Acknowledgements

Thanks to each of our Board interviewees for their time and insight. Thanks to Sally Bennett for her input on the organisational development of risk culture. Finally a special thanks to Graham Rogers for his sharing of thoughts and peer review of this paper.

9 Appendix – Original set of questions asked of Directors

The following were the original questions asked to each Board member. Conversations also extended into other areas of board leadership, culture and oversight of risk.

First set - Context and Board leadership interaction with risk

Q1 What Boards/Councils etc do you currently, or have you in the past, sit/sat on?

Q2 What level of importance does the Board ascribe to enterprise risk management?

Q3 How is risk overseen at Board level?
Framework? Risk appetite? Risk process? Risk monitoring?

Q4 Is there a Central Risk Function?

Q5 To what extent and how is risk actively considered within
Strategy? Business as usual? Projects? Operations?

Second set - Board and risk culture

Q6 (a) What are examples of the attributes of Board members in a mature / effective risk culture?
(b) What are examples of behaviours and attitudes of Board facing personnel - CEO / CFO / Senior management?

Q7 (a) What are examples of attributes of Board members in an immature / ineffective risk culture?
(b) What would be examples of derailing behaviours or attitudes from Board facing personnel- CEO / CFO Senior management?

Q8 Describe examples of relationships between the various stakeholders and the Board in a highly effective / mature risk culture.

Q9 How does the Board prepare for and cope with “Black Swan” events? (highly improbable, unknown, unexpected)

Third set - Only to Board members who were actuaries

Q10 What are actuaries' strengths in relation to Board and risk leadership?

Q11 What areas may actuaries need to do better at?

10 References

[1] Time magazine, February 42013, *The Rewards of Mastering Risk – The Time at Davos Debate*.

[2] Australian Institute of Company Directors (AICD), 2013, website http://www.companydirectors.com.au/Director-Resource-Centre/Director-QA/Roles-Duties-and-Responsibilities/Role-of-the-Board

[3] ASX Corporate Governance Council, 2010, *Corporate Governance Principles and Recommendations with 2010 amendments,* Second edition

[4] Standard & Poors Rating Services, *Enterprise Risk Management website* http://www.standardandpoors.com/ratings/erm/en/us

[5] Lam, J., 2003,*Enterprise Risk Management - From Incentives to Controls*

[6] Schien, E., August 2009, *The Corporate Culture Survival*, Guide.

[7] Schein, E., *Edgar Schein's Ten Change Steps,* website http://www.theleadershiphub.com/files/EdgarScheinsTenChangeTips.pdf

[8] Schein. E., August 2010, *Organizational Culture and Leadership*, Jossey-Bass,

[9] Baldwin, J. http://www.goodreads.com/author/quotes/10427.James_Baldwin

[10] COSO, 2009,*Effective Enterprise Risk Oversight - The Role of The Board of Directors* http://www.coso.org/documents/COSOBoardsERM4pager-FINALRELEASEVERSION82409_001.pdf

[11] Taleb, N., 2007, *The Black Swan: The Impact of the Highly Improbable*, Random House

[12] Covey, Stephen M 2006, *At the Speed of Trust*, Simon and Schuster

[13] Heifetz, R., Linsky, M., Grashow, A., 2009, *The Practice of Adaptive leadership,* Harvard Business School Press

[14] Heifetz, R., Linsky, M, Grashow, A., 2009, *The Practice of Adaptive leadership,* Harvard Business School Press

[15] Diversity Council Australia, *Business case for diversity* http://www.dca.org.au/why-diversity/business-case-for-diversity.html

[16] Stacey R, 2005, *Experiencing Emergence in Organizations*, Routledge

[17] Sheehan, N., 2009, *Making Risk Pay: The Board's Role,* Journal of Business Strategy

[18] McGing, S., 2012, *Weaving Enterprise Risk Management into Strategy,* Risk Management Today

[19] Time magazine, February 4 2013, *The Rewards of Mastering Risk – The Time at Davos Debate*.

[20] Hudson, P., 2013, *Safety Culture – Theory and Practice*, http://ftp.rta.nato.int/public//PubFulltext/RTO/MP/RTO-MP-032///MP-032-08.pdf

[21] Taleb, N., 2007, *The Black Swan: The Impact of the Highly Improbable*, Random House

[22] World Economic Forum, 2013, *Global Risks 2013 - Eighth Edition*, http://www.weforum.org/reports/global-risks-2013-eighth-edition

[23] Time magazine website, 2012, Top *10 Trading Losses in History* http://newsfeed.time.com/2012/05/11/top-10-biggest-trading-losses-in-history/

[24] Corrigan J., Luraschi, P., 2013,*Operational risk modelling framework*, Milliman Research Report

[25]Krawiec, K., 2009, *The Return of the Rogue Trader* - Arizona Law Review,

[26] Littrell, C, March 2011,*Responses to the Global Financial Crisis: the Australian Prudential prospective,* APRA

[27] Oliver,S., February 2013, *Further lessons from Centro,* Company Directors Magazine, Australian Institute of Company Directors

[28] PricewaterhouseCoopers, March 2004, *Investigation into foreign exchange losses at the National Australia Bank.*

[29] Brown & Balasingham, 2013, *Leadership and Life Insurance Failures – What can we Learn About Financial Leadership*, Actuaries Institute

[30]Sweeting, P, 2011, Financial Enterprise Risk Management - Cambridge University Press - Institute and Faculty of Actuaries

[31] Owen, N., 2003, *HIH Royal Commission*, Australian Government http://www.hihroyalcom.gov.au/

[32] Brown, A., April 2013, *Risk Leadership - Facing Emerging Risks*, Actuaries magazine, Actuaries Institute

[33] Kay,R., Goldspink, C., and Dyson, S., Incept Labs, December 2009,*Do Actuaries Have a Larger Role to Play in Enterprise Risk Management?*, Actuary Australia magazine, Actuaries Institute

[34] Kay,R., Goldspink, C. and Hills, B., Incept Labs, June 2010, *Risk practitioners' theories of risk and organisational vulnerability*, Keeping Good Companies magazine, Chartered Secretaries Australia