KUWAIT ENTERPRISE RISK MANAGEMENT CONFERENCE

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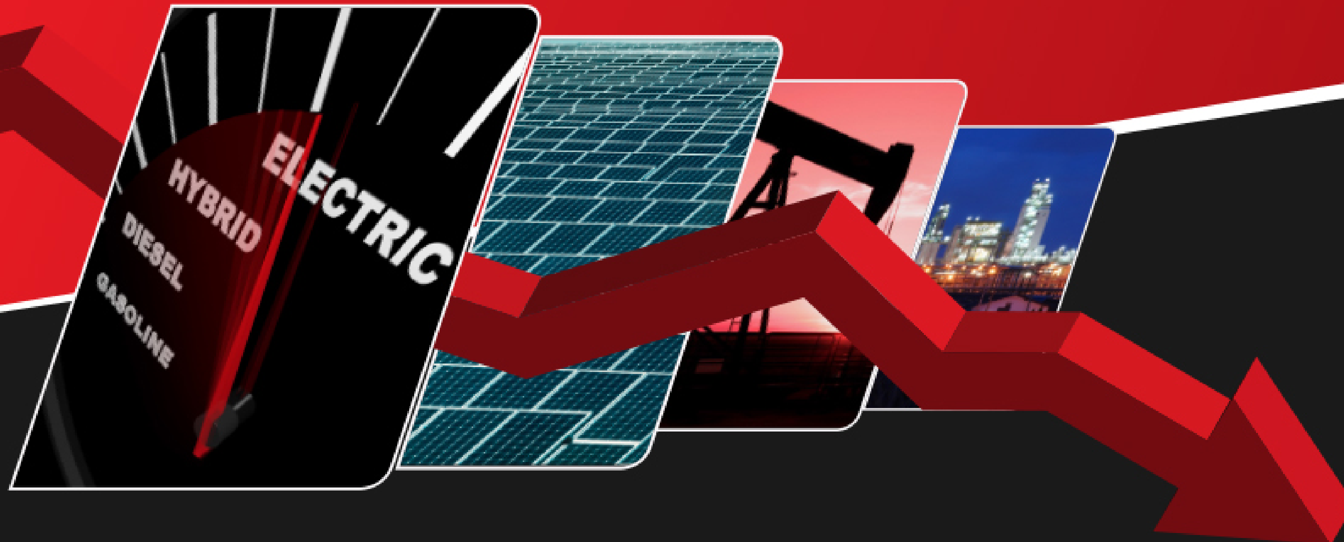
STEPHEN WATSON

Principal, Arthur D. Little

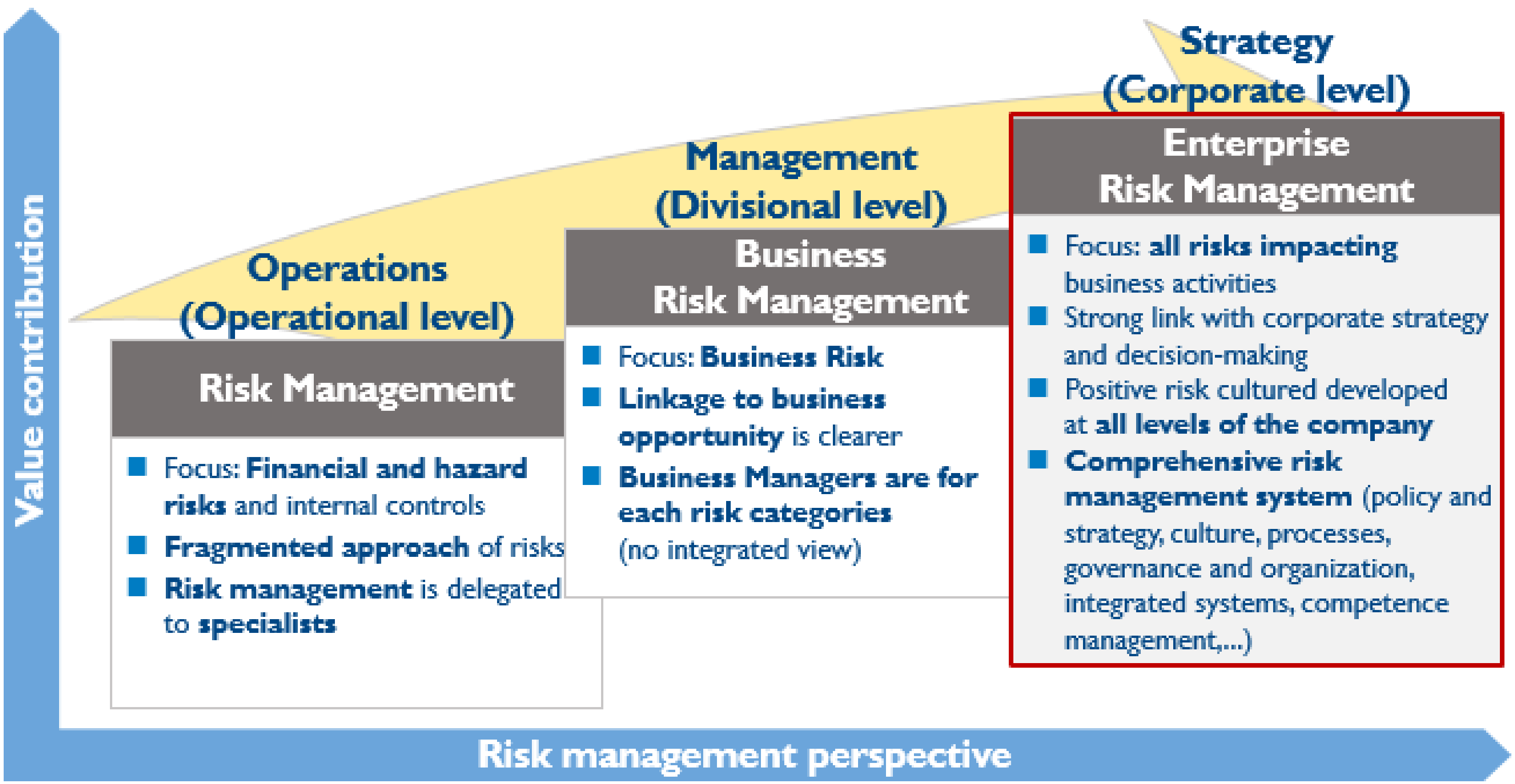


Embracing complexity and uncertainty with value-based risk management

Comprehensive risk management practices are of increasing importance for asset intensive industries to support strategic decision making and embrace uncertainty

- Asset intensive industries are increasingly envisioned as an **integrated system** and in the context of **increasingly complexity**, risks originate from a wide range of sources and can have far reaching impacts
- Organizations must **increasingly take risks proactively into consideration** as additional factors to account for **in their decision making process** and **operational management**
- To that effect, an **integrated risk management** system offers a framework for implementing suitable **strategies** and is seeing a growing recognition for its added value at the strategic level
- Finally, in a rapidly evolving society, risk management systems should not only be perceived as a tool to **mitigate risk**, but also a way to **embrace adversity and uncertainty as opportunities**

Risk management practices have evolved over time from isolated practices to integrated systems focused on all business risks to support strategic decision making



Conventional Enterprise Risk Management (ERM) approaches (dubbed the "Accountant" or "Assurance") are increasingly struggling to deliver real value

The "Accountant" ERM Approach

Focus

- Detailed ERM system based on exhaustive listing and documentation of <u>all risks</u> in the organization
- Heavy effort invested into risk evaluation (impact, probability) and risk ranking
- Detailed upward cascade-based reporting of top risks to management

Drawbacks

- High management effort
- Counter-productive in risk-averse company cultures (hide bad scores)
- Not a sufficiently "practical tool" for top management

The "Assurance" ERM Approach

Focus

- Focus on justifying risk « assurance » and their consequences
- Upward reporting focused on comprehensive action taking for known hazards in order to mitigate risk
- Comprehensive mitigation plans exist for those known areas in focus

Drawbacks

- Little effort is typically made in identifying new risks (due to e.g. change in environment)
- Sometimes viewed as being too "compliance management" focused (not root cause focused)

Arthur D. Little favours a value-based approach to align risk management efforts with strategic objectives and deliver real business value

Value Based Risk Management

« Anticipating change and dynamically focusing risk management efforts where they deliver most value to the business »

Maintaining Strategic Alignment

- Maintaining alignment of risk management with changes in strategic direction.
- Strengthening of the ability to **anticipate the future** and to focus on both **downside risks** and **upside opportunities**

Focus on Vulnerabilities

- **Focusing** risk management **efforts where they provide most value**
- Ensuring not to only consider Codes and Compliance but also factors such as **Competence**, **Culture**, **Complexity** and **Change**

Facilitate Decision-Making

- Designing reporting systems that enable rapid **risk-based top-management decision-making.**
- Build required **agility by empowering risk owners** to adapt management systems and processes as required.

Build a Dynamic Risk Culture

- **Combined deployment of hard and soft aspects** to properly engage and support the organization
- Engaging the organization through **pilot projects**, building a **burning platform** for progressive introduction of a collaborative **risk culture**

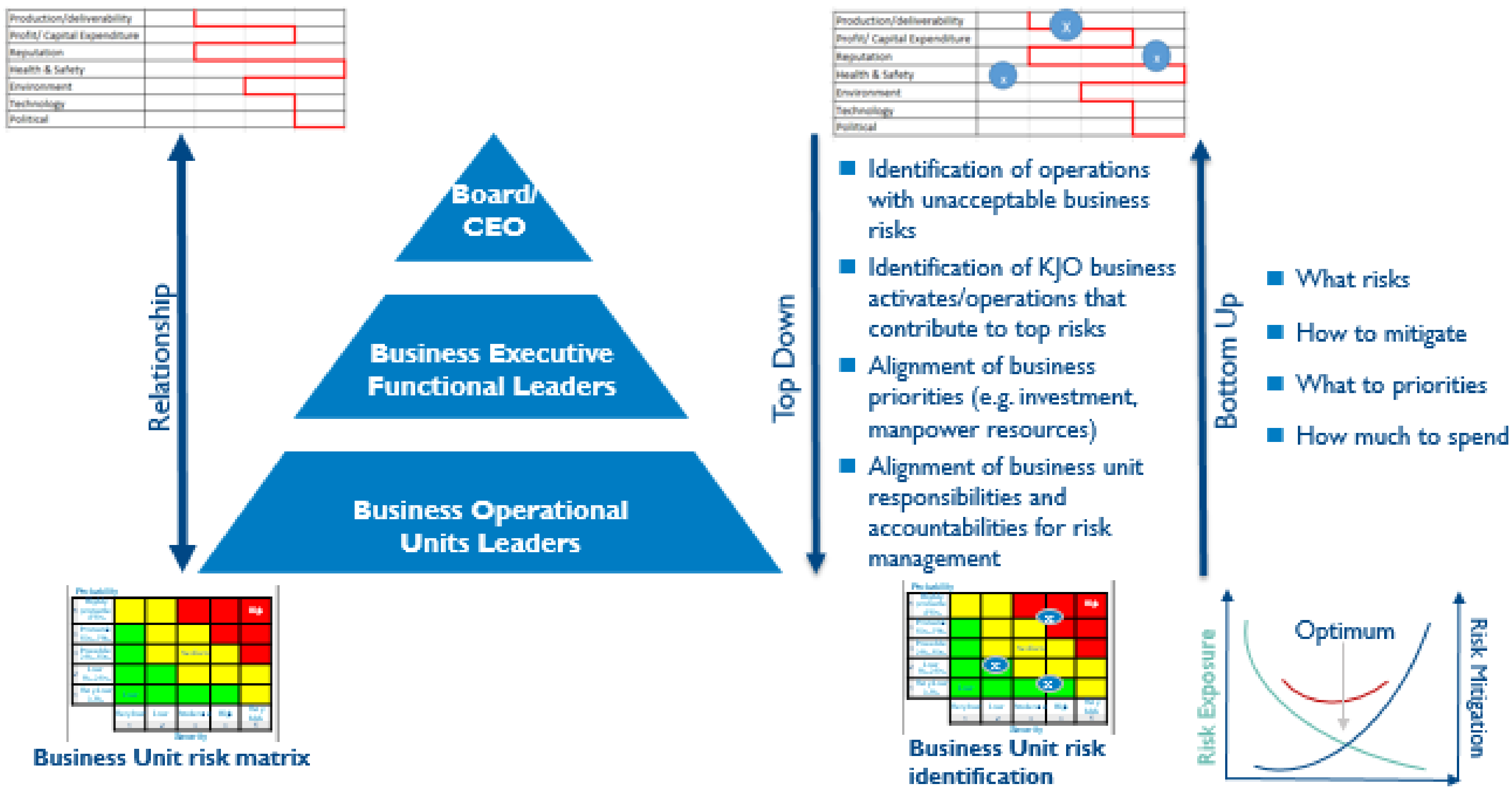
1. Maintain strategic alignment: it is vital that risk management is aligned with changing business strategies

- Progressive integration of all critical risk categories into a comprehensive Enterprise Risk Management system fosters creation of company value and eases realization of corporate risk-based decision making
- Seamless alignment of the ERM system with other key management systems enables a holistic view of the organisation, which support the development of meaningful improvement and mitigation measures

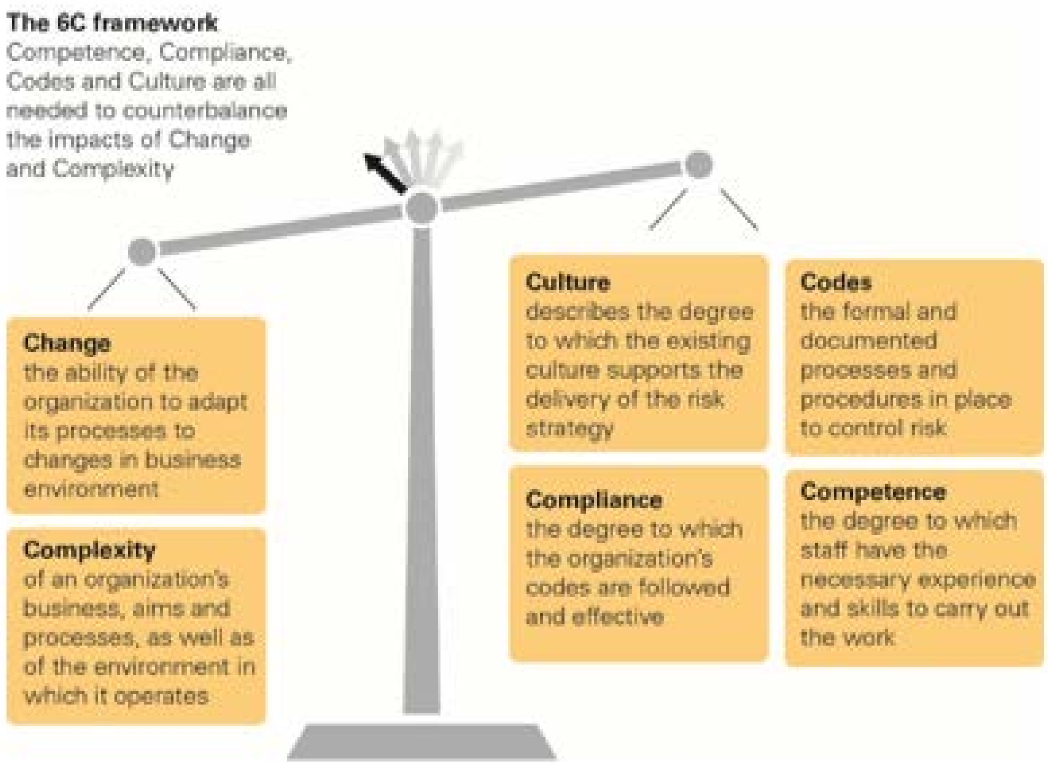
The risk appetite statement and associated corporate risk matrix are important outputs that should be derived from stakeholder expectations, strategic goals and culture

- The **risk appetite** aligns top risks with expectations for business unit activities
- The risk appetite enables the identification of business critical risks, which in turn supports development and prioritization of business unit action plans
- Short, middle and long term business priorities can be considered during the development of the risk appetite statement

Workshops with key stakeholders are typically used to define the risk appetite assessment, risk acceptability regions and plot organizational top risks



2. Focus on vulnerabilities: Use the 6Cs to assess current risk management arrangements, including their maturity and effectiveness in delivering risk reduction



- We use our 6C framework to structure reviews
- Many systems of enterprise risk management place undue focus on an organization's codes and their compliance with them
- This often fails to address key issues. The competencies within an organization, its culture, the change which it is experiencing and the complexity of its processes or the environment in which it operates, are all equally important factors

Effective mitigation strategies should be adopted for each top risk, many companies fail to understand and investigate risks resulting in incorrect analysis and significant exposure

Risk Management Strategies

	Avoid	Mitigate	Transfer	Accept	Investigate
Description	Response that eliminates the risk	Response that reduces risk pprobability or impact **Most common**	Response to transfer to party best placed to analyze and manage the risk	No action response as risk outside of sphere of influence	Response to risks not yet fully understood and no clear solution
Example	Divest by exiting a market or geographic area	Control risk though internal processes to reduce the likelihood	Share risk/rewards by entering into alliances or joint-ventures	Self insure risk using by reserving for losses	Investigate likelihood and consequence estimates
Limitation	May limit the ability to achieve high-level business objectives	Risk control is a time and cost intensive approach	Limits the direct control over the risk	May be cost-effective but not best solution	Can be ignored and can lead to a greater risk exposure

Most effective → **Least effective** | **Not done well**

Effective comprehensive risk identification across all business activities and future investments are critical to reduce potential risk exposure

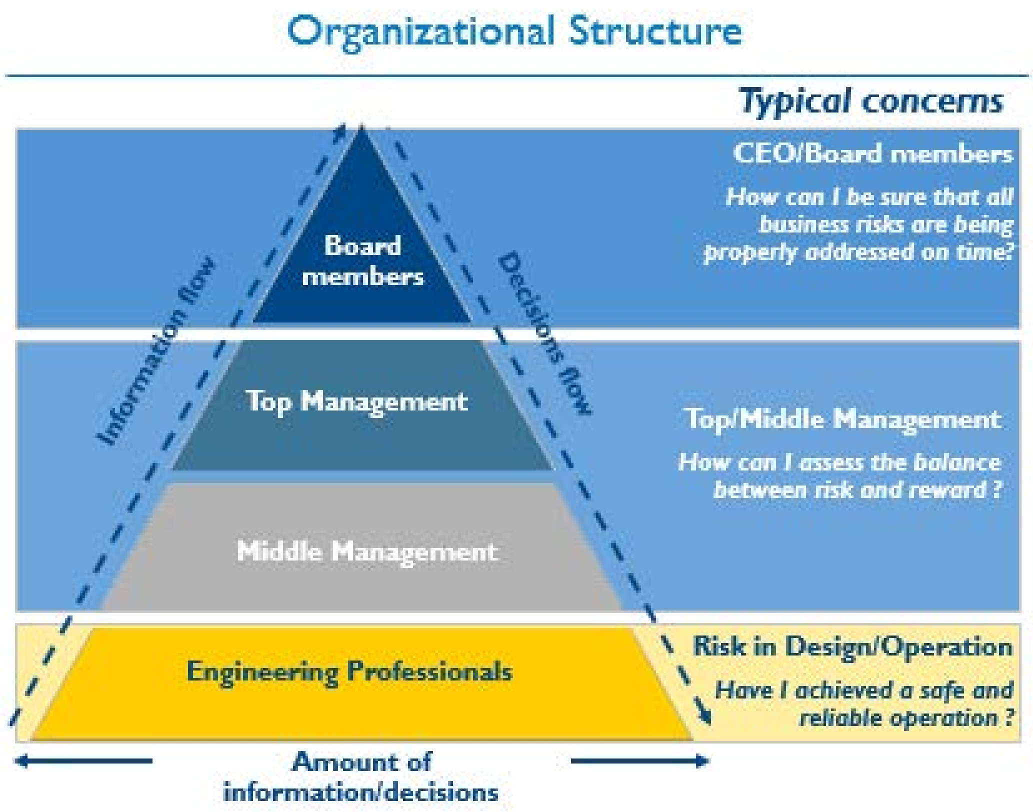
Illustrative, based on case example

Business Risk Exposure Profile

Global Operations
- Projects
- Operating Assets

Capital Project Risks	■ Scope/schedule drift, quality of design basis, contracting strategy ■ Availability of key skills and capability, team alignment & integration ■ Equipment availability, logistics complexity, work fronts/key interfaces
Technical Risks	■ Sub surface complexity, recovery factor, reservoir fluids characteristics ■ Project scale, novel technologies, flawed facility design concept ■ Inappropriate technology/equipment, contractor knowledge/experience
Operational Risks	■ Availability of experienced operations staff (new technology) ■ CAPEX, OPEX, design flexibility, availability, technical integrity ■ Partner alignment, product price and differentials, credit/financing
Country Risks	■ Stability, currency, fiscal policy/tax, etc. ■ Experience of operating locally, local culture ■ Local sourcing expectations, ethical conduct etc.
HSE & Environment	■ Safety of design and construction safety ■ Emissions/spills, environmental sensitivities, waste management ■ Differing partner standards

3. Facilitate decision-making: Design risk reporting top-down for fast decision-making based on the organizational structure and understanding of roles and responsibilities



- Ensure **information flow** from the operational level to corporate level
- **Transfer decision-making** to operational levels to avoid red tape
- Stimulate and exploit risk perception at **all levels of the company**, not only at top management, specific departments, or specialized functions

Development of strong ERM practices, based upon robust structured processes, facilitates risk reduction and provides the ability to anticipate new and/or changing risks

Risk Management Process

Risk Feedback
- Final outcome used to update risk management database
- Regular communication to management and decision makers

Risk Follow-up/Revision
- Iterative process throughout project life-cycle
- Ensure actions are delivered to minimize risk exposure

Risk Control
- Delivering mitigation actions to control the risks
- Then assessing what the risk is once actions are complete

Risk Identification
- Identifying potential risks is key for the entire process
- Several tools are available to capture a comprehensive picture of risks

Risk Assessment
- Qualitative and quantitative assessment of risks
- Translating results

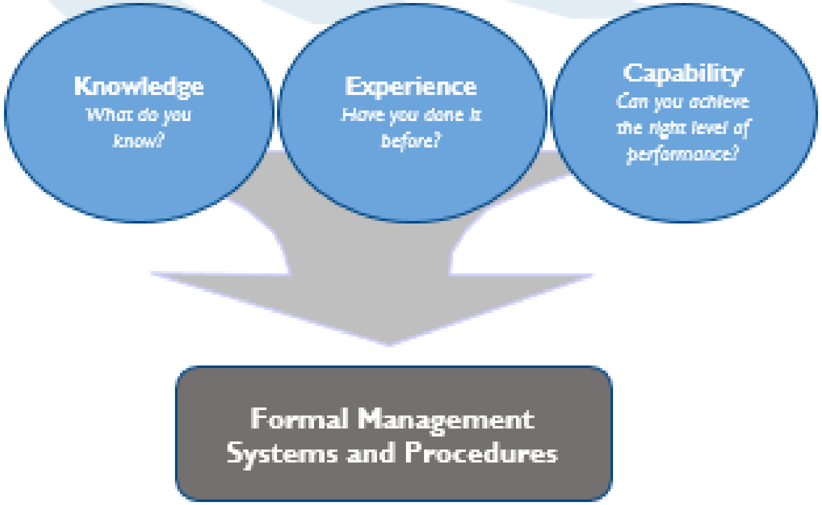
Risk Response & Mitigation
- For all risks to keep them under control, with a focus on higher ones
- Mitigation measures defined for higher (intolerable) risks

4. Build a dynamic risk culture: Develop risk capabilities to enable resilience to change by fostering a risk culture driven by values, attitudes, perceptions, behaviour and competencies

Management levers for risk culture change

"The risk culture of an organisation is the outcome of the individual and group values, attitudes, perceptions, patterns of behaviour and competencies that determine the commitment to, and the style and proficiency of, an organisation's risk management"

	Values	Attitudes	Perceptions	Behaviour
Meaning	Parts of belief systems acknowledged as being important	Positions adopted in relation to events or activities	People's interpretation of reality	What people do and the way in which they do it
Examples	▪ Integrity ▪ Professionalism ▪ No-blame	▪ Pride in work ▪ Carelessness in work ▪ Readiness to bend the rules	▪ "Management are only interested in profits" ▪ "We have an excellent risk management system"	▪ Ignoring a warning sign ▪ Following a procedure ▪ Telling-off a subordinate ▪ Reporting a near-miss

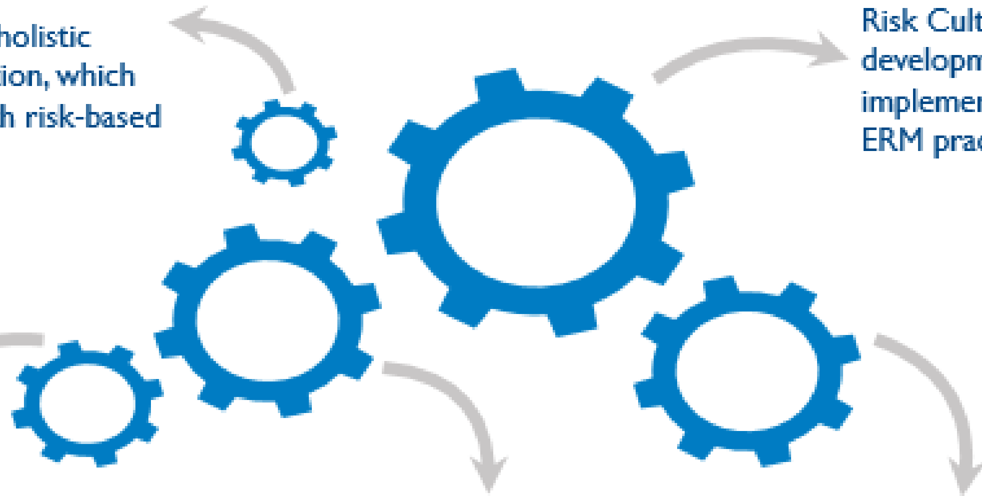


The value-based approach focus on five key success factors that underpin high performing Enterprise Risk Management organizations

Five key success factors are interrelated

ERM Integration
Integrated ERM enables a holistic organisational view formation, which support the corporate with risk-based decision making

Risk Culture
Risk Culture supports the development and implementation of superior ERM practices



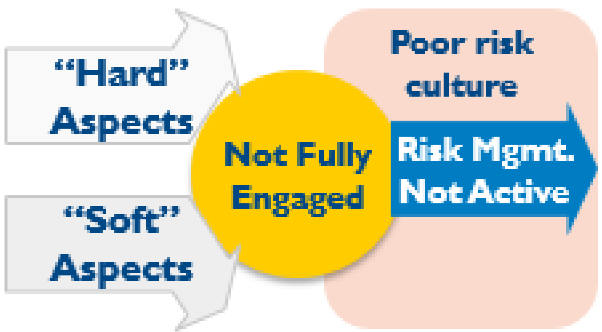
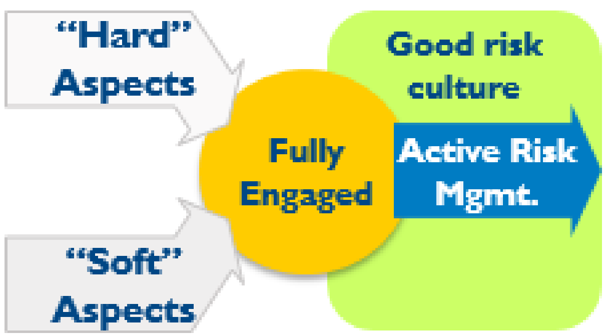
Process
Structured process supports organisational structure and reinforces the risk culture to drive risk reduction and improve risk anticipation ability

Leadership
Strong leadership shapes the organizational risk culture and drives effective ERM practice and implementation

Organizational Structure
Structure also affects culture by reinforcing individual roles and responsibility which in turn allows effective introduction and implementation of ERM practice

Typically development of the paper system is only part of the challenge – formation of a strong risk culture requires sustained effort and will need consideration

Ingredients for Successful Risk Management

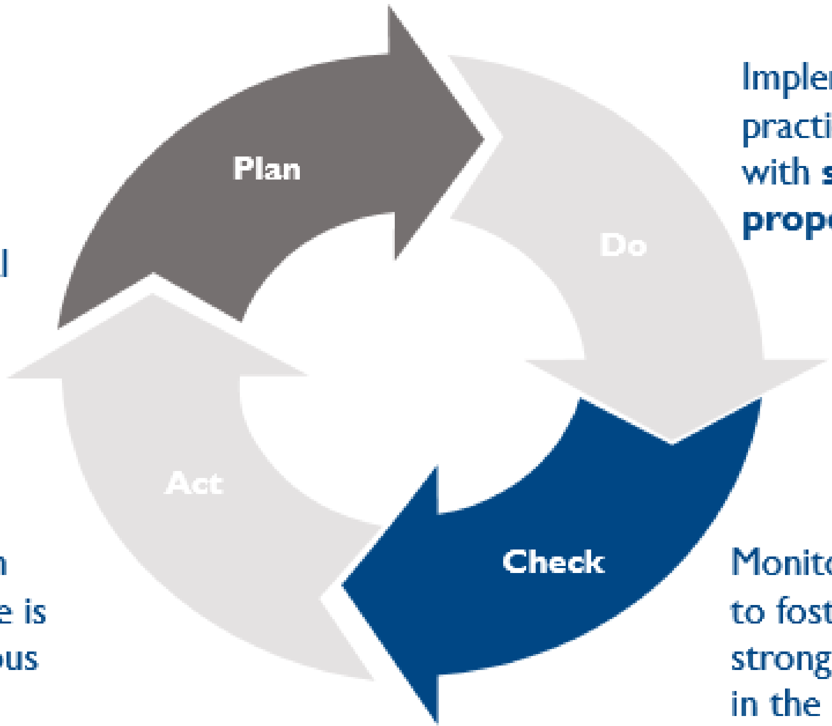
Approach-1 (disengaged)		■ Hard aspects e.g. processes, tools & templates developed ■ Soft aspects to encourage employees, not fully implemented: – Risk **ownership and responsibility** centrally located and not within teams – Risk related efforts are **not incentivised** – Risk **not represented** in key senior leadership meetings and is not part of their decision making process – Not recognised as **functional discipline** – **Not encouraged to innovate** in any way
Approach-2 (engaged)		■ Hard aspects e.g. processes, tools & templates developed ■ Soft aspects to encourage employees, fully implemented – Risk **ownership and responsibility** fully embedded within the respective teams – Targets are set for risk related efforts and **incentivised** – Risk **represented** in all key senior leadership meetings and core element of decision making – **Recognised** as functional discipline by management – **Encouraged to innovate** e.g. techniques & approaches

Strong leadership is critical to shape the organizational culture and drive effective implementation and ownership of Enterprise Risk Management across the organization

Strong Leadership

Set the direction for effective enterprise risk management (i.e. alignment between risk appetite and organizational objectives)

Implementation of ERM system and practices that ensure risks are dealt with **sensibly, responsibly** and **proportionately**



Regular formal boardroom review of risk performance is essential to drive continuous improvement

Monitoring and reporting are vital to foster the development of strong risk culture and engagement in the program

Overall, the successful implementation of ERM practices is highly dependent on the ability to implement effective simple programs supported by risk culture

Key elements for rolling out of ERM practices

Simplicity	■ To be understood and used at all company levels, the system should be sufficiently simple: – Processes and organizations need to be simple, and roles and responsibilities clearly defined – Methodologies and tools in place should be easy to use and a common language used – Risks should only be escalated at enterprise level when appropriate: fit for purpose process and set up rather than looking for academic-type research activities
Flexibility	■ The system should be designed to be changed (flexible), improved (dynamic), and updated easily ■ E.g. the risk matrix should be subject to continuous review and refinement as people gain more experience and/or as the business environment changes
Usage	■ Senior Management and Middle Management should encourage people to use the system and provide resources to them accordingly ■ Implementation of an appropriate IT tool can foster utilization of the system. However, before looking at the tool, it is important to define the processes and the organization of the system (the tool should *support the internal process; and not the other way around)*

Typical Value-Based Risk Management (VBRM) projects combine comprehensive redesign and focused levers in order to demonstrate value through pilots

Comprehensive review

Risk Culture review

- Assessment of **maturity and effectiveness** of current risk management arrangements (codes, compliance, culture, competence, change and complexity)
- Identification of **areas** with highest improvement potential and **key levers of value-added improvements**

Risk Culture Development Programmes

- Development of **value-added and pragmatic risk development program** aligned with strategic directions and focusing on delivering business value
- Design of comprehensive **transformation roadmap** and selective **implementation support and coaching**

Focused levers ("Start now!")

High Level Strategic Risk& Opportunities Assessment

- **Collaborative workshop sessions with top management;** Focus on strengthening of the ability to **anticipate** the future and to focus on both **downside risks** and **upside opportunities**

Piloting on large capital projects

- Focused and hands-on support in risk identification, risk assessment and risk control for **large capital projects**
- Focus on critical risk control and **demonstrating value of VBRM**

Risk Governance and Culture

- Set up **concrete initiatives** to improve **risk governance and risk culture** in selected unit(s)

Risk-Based Decision Making

- Designing **risk-based management decision-making practices** (based – as needed – on existing risk reporting mechanisms)

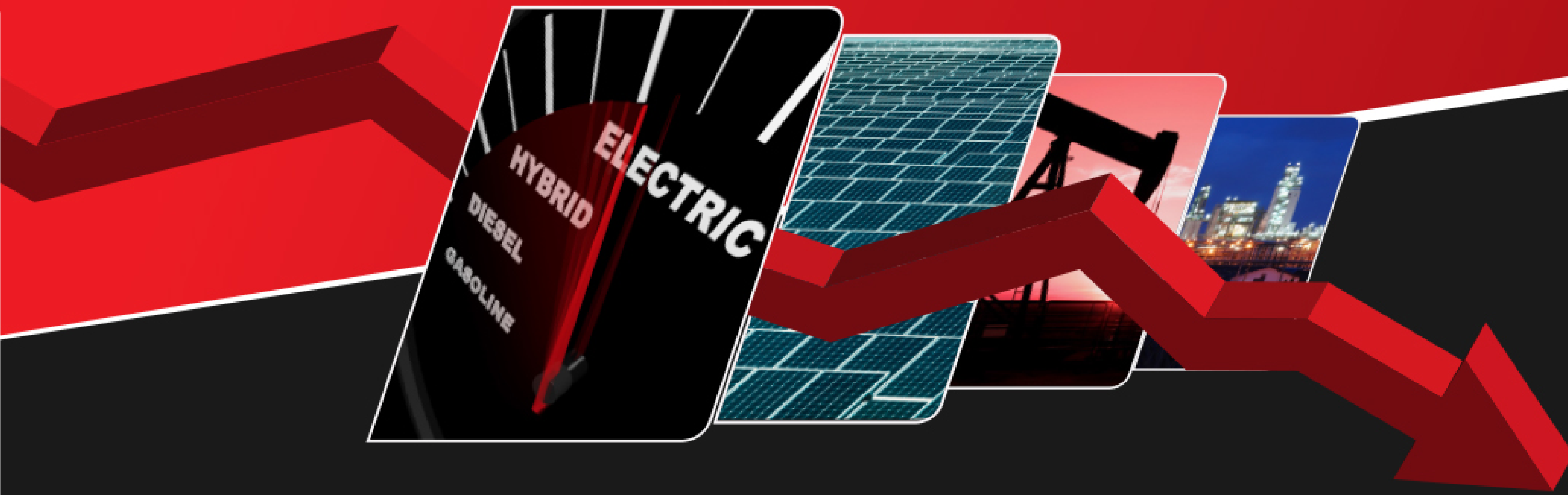
We favour the value-based ERM approach, which is about responding to change and dynamically focusing risk management efforts to deliver business value

Success Factors of ERM

- A combined deployment of "hard" and "soft" aspects to properly engage and support the organization
- Balanced coverage of (slow) corrosion and (swift) explosion
- Dramatic strengthening of the ability to anticipate and create the future
- Upgraded agility
- Cover both downside risks and upside opportunities
- A changed engagement and culture, with open discussion and attitude, where risk ownership is encouraged and used

Arthur D. Little Value-Based ERM

- Philosophy: Smart identification of key risk areas justifying focus. « Anticipating change and dynamically focusing risk management efforts where they deliver most value to the business»
- Pull approach – Risk management initiated based on:
  - Regular assessment of Changes in environment or company Complexity
  - Evolving maturity of existing risk arrangements in place (Codes, Compliance, Competences, Culture)
  - Demonstrating value from risk management via identification of unknown risks and timely implementation of concrete actions to mitigate those
  - Smart deployment and progressive introduction of collaborative risk culture through important & visible pilot areas to demonstrate value



Thanks for Attention