

Knowledge Management and Whole of Life Risk Management

Executive Summary

*Recent industrial accidents and corporate collapses are the symptoms of Corporate Governance built for the INDUSTRIAL AGE, **NOT THE ELECTRONIC AGE.***

*This article uses a case study to explore a new, whole of life, Corporate Knowledge Management Control System (KMCS). A system assisting executives to, as far as reasonably practical, eliminate any contractual litigations and OHS hazards at the conceptual/specification stage **before** the contract is tendered for the design stage. Executives gain huge benefits by preventing the importation of life long OHS problems into the workplace via the Design Stage.*

Corporate Knowledge assists executives to better manage the collection, storage, and availability (at the place of use in life cycle), information to prevent accidents and disasters in the operations stage. Furthermore they can increase the Intellectual Property of the company.

A Case study

Columbia Space Shuttle Disaster: The sheer size of it, involving anybody that had anything to do with Columbia, will cost \$100's of millions of Dollars. The wider consequences of the inquiry are that it is also an inquiry into corporate governance of:

- NASA
- US Defense Departments
- Defense budgets with a critical focus on Safety.

The inquiry will report on all the activities of people and infrastructure, covering NASA, all Government Departments, all tracking stations, all of the supply chain and all hi tech electronic sensing, controlling and data logging devices specific to the Columbia Space Shuttle. Reverse-engineering a disaster is very expensive indeed and shows that **current management systems are back to front.** Furthermore experts in Knowledge Management agree that current management technology is built **upside down** ^[1]

- The IT industry developed information management technology without due consideration of people issues and their intellectual property.
- The IT industry **will not** enter into knowledge management until the people issues are resolved.

If that is the case it will never happen, people and technology go hand in glove in this hi-tech electronic age. In the mean time there is a dilemma for People, Corporations, Commerce & Industry, and Government. What should be the next step? Corporations/Business cannot stand still. The outside business environment drives the executive team and recent major corporate collapses and industrial accidents demand action, but what action?

What is needed is a management system that overcomes and eliminates OHS hazards at the conceptual/specification stage **before** the contract is tendered for the design stage so that OHS problems are not imported into the workplace. In this case the Columbia Space Shuttle.

Such a system must be based on 'cost of consequence of failure' and make use of all the overall knowledge within a company. A Knowledge Management Control System (KMCS) is required to assist executives in making the right decisions.

Fully integrated knowledge management, of the life of the Columbia, covering the performance of the overall functions of the Columbia space shuttle, its people on board, and the ground support teams for every mission would reduce the inquiry to the last events that occurred before the disaster. It's about sharing of knowledge, transformation of data into decision-making information, monitoring and measuring the performance of each and every part of the infrastructure, its control system and the performance of the management systems.

The immediate benefits of a KMCS in this case would be:

- Reducing the size and cost of the Columbia inquiry
- Keeping the remaining Shuttle Fleet operational
- No delay to the space program

The cost saving would be in the billion dollar range.

What was the weakest link in this disaster?

Can Australian Commerce and Industry, Government and Legislators learn from it and put into place strategies to reduce this type of incident to ALARP level of risk.

The disaster shows that there were un-identified "weakest links", but **what were these weakest links?** Were they People, Design, Manufacture,

Construction, Contractors, Operations, Automation, Processes, Tools and in which phase of the project did they occur, **or was it the systems used by managers that failed to provide adequate measurement and control of the weakest links?**

Our research found there are deep underlying problems in current 'BEST MANAGEMENT PRACTICE'. Corporate Governance Practices were developed for the 'industrial age' NOT THE 'electronic age'.

Current management practices fail to protect Governments, Commerce and Industry from a disaster and also inhibit the change needed to reach the full business potential of Commerce and Industry, Government and Regulators.

Current organisational structures, policies and procedures inadvertently contain horizontal and vertical knowledge barriers. These obstacles make it difficult for executives to achieve corporate cultures that are more transparent and, empower the right people throughout the organisation to achieve a corporate competitive management team, top down bottom up.

These facts have gone 'un-noticed' by Executives:

- 1) In recently well-publicised industrial accidents such as: Victorian Gas crisis, Westralia ship fire, Water Quality Scares, Salmonella Scares The courts have ruled MANAGEMENT FAILURE and Management feels cheated?
- 2) Failure statistics of hi tech electronic business solutions are very bad indeed.
 - 80% of failures of hi tech electronic business systems, where death or serious injury occurred are caused by management failure ^[2]
 - 67% of these failures are undetected by current risk assessment techniques and are therefore.....**hidden until failure**

Large-scale disasters have a flow on affect in this global competitive market place.

KMCS allow Commerce and Industry, Government and Regulators to leapfrog over these problems by making use of the collective memory of all human resources, whom literally hold tens of thousands of little items essential to the performance and dynamics of a particular commerce or industry. Collecting, storing and the availability of life cycle knowledge at the place of use, has become essential to prevent accidents.

A KNOWLEDGE Management Control System must be an umbrella that integrates, enhances and safeguards the integrity of all current management systems. Systems Commerce and Industry, Governments and Regulators have

spent significant amounts of money on. It must build bridges so knowledge and communication can flow across organisational boundaries and human resources all the way up the supply chain and specialist companies. Governments, Regulators, CEO's, Managers and Employees need the assurance that current management systems will improve to meet the challenges of this electronic age.

There is a bonus. Corporations now value the combined knowledge of its people at 70% of total corporate value. Unfortunately Governments, Commerce & Industry has no means of collecting and utilising this wealth building knowledge. **It is not anyone's fault.** There has been no better way of doing business. A KMCS captures all human resources and supply chain knowledge specific to any Commerce and Industry and applies it locally, nationally and internationally.

Regulatory Corporate Governance and the independent auditing process have already come to grief. Knowledge gaps have consequences that reach into the community where simple failures have caused injury and death. Media attention causes red faces and does not make it any easier. Governments are already dealing with recent corporate events that have resulted in overall consequential cost escalations. There is a vicious and expensive circle that can only be broken by leadership from within Commerce and Industry.

There is an urgent need for governments and regulators to work with the business community and other stakeholders and visa versa.

Good Governance is Critical, but discovering good governance is not as simple as it seems ^[3]

But Murphy's Law is still with us. There will always be some remaining risk that requires better management. Lets take it one step at a time.

- 1) J. Ash and Knowledge Management Luminaries from IBM, Pfizer, World Bank, Xerox and others – Developing Quality system in Knowledge Management - Paper presented at QSA Asia Pacific Forum October 2002
- 2) 2) R Bell Health and Safety Executive UK / Chairman: IEC/SC65A Working Group 10, - IEC Workshop V, based on 34 incidents (IEC= International Electrotechnical Commission)
- 3) Washington Post, After High-Profile Corporate Busts, Governance Consulting Rooms 17/1/2003