Stakeholder Engagement in Managing Risk

Loosemore, M.
Faculty of the Built Environment, University of New South Wales, Australia
(email: m.loosemore@unsw.edu.au)
Phua, F.T.T.
School of Construction Management and Engineering, University of Reading, UK
(email: florencephua@gmail.com)

Abstract

In the increasingly emotional and regulated business environment, effective risk and opportunity management has become a basic necessity for every organization, as has the ability to communicate effectively with external stakeholders about risk. The potential costs of poor communication with stakeholders during this process are enormous but the potential benefits of effective consultation are even greater. Drawing on research in stakeholder management and multimedia this paper presents an in-depth case study of how multimedia technology was used to help a government health department develop a risk and opportunity management strategy to respond to climate change risk to its infrastructure. This research has revealed the practical advantages of using multimedia to engage stakeholders in the risk and opportunity management process. Future research needs to explore the pedagogical advantages of multimedia in helping organizations develop a risk and opportunity management culture.

Keywords: risk, opportunity, communication, stakeholders, perceptions

1. Introduction

The recent global financial crisis has vividly demonstrated that businesses, institutions and markets are connected in ways which are not fully understood (WEF 2009). This is requiring a paradigm shift from narrow and traditional conceptualizations of risk management which historically have excluded stakeholders to a more inclusive notion of stakeholder engagement in managing risk and opportunity (Barnes 2001). In the future, the implicit question facing any organization will be not just whether it is managing its risks effectively but also whether it is communicating this effectively to its stakeholders. This paper is a response to this challenge. Its aim is to discuss the role of stakeholders in the risk management process and the potential role of multimedia technology as a means to better facilitate this.

2. Risk management from a stakeholder perspective

Stakeholder management theory conceives an organization as a complex, dynamic and interdependent network of multidimensional relationships with a wide variety of stakeholders. Performance and competiveness depend on how well firms manage and nurture these relationships strategically in order to achieve corporate objectives and how they are perceived to manage them by the stakeholders, in their interests (Zsolnai 2006). From a risk management perspective the benefits of consulting with these stakeholders are said to be numerous and include: higher levels of trust with stakeholder groups; stakeholders being able to contribute to decisions affecting their future; higher quality information for making business decisions; a wider understanding in the community of constraints upon firms; stakeholders feeling more involved in decision-making processes and feeling their interests are being considered; stakeholders better understanding their risk and opportunity management responsibilities and; greater collective responsibility in managing risks.

In essence, the stakeholder paradigm is based on the premise that people are not rational when thinking about risk but are influenced by cultural and social networks in which they are imbedded. In other words, people form their own subjective perceptions of risk which often differ from the objective assessments made by managers, experts and scientists and their behaviour reflects these perceptions (Berry 2004). Ultimately, it is argued that there is no other way for managers to interpret risks other than in terms of human values, emotions and networks. This position is supported by Barnes (2002) who points out that while risk managers have become more scientifically and technologically sophisticated in their approach to managing and measuring risk, the majority of the public continue to rely on cultural and social explanations of risk events, leading to significant perceptual differences between the community and the private business sector. Therefore, it is likely that in many companies there may remain significant institutional “blind spots” which ignore the contextual experience of risk and the perceptual issues that are relevant to public concern (Loosemore et al 2005).

3. The power of multimedia in managing risk and opportunity

Multimedia technology can offer a potential solution to stakeholder engagement in the risk management process. Multimedia is a combination of two or more communication mediums such as text, image, sound, speech, video, and computer programs. From a risk management perspective, the main advantage of multimedia compared to traditional mediums of communication is its ability to engage, enthuse and stimulate the stakeholders involved in the learning process which occurs when stakeholder knowledge is effectively integrated (Nonaka 1994). For example, Wright (2004) studied operative and management training in a range of major organisations and found that multimedia offered numerous pedagogical advantages over traditional training methods. Indeed, research indicates that people, no matter what background, retain and understand up to 91% more when using multimedia compared to computer and paper-based management systems (Bailey 2001). While multimedia is used in industries like mining and power transmission to manage risk (Wu and Che 2008) it is used little in construction and even less in a more general corporate enterprise-wide risk management context. Loosemore et al (2005) argue that most approaches to risk management in construction are unimaginative, pedagogically un-stimulating and appear deliberately designed to exclude rather than involve people in the risk management process.

4. Method

To explore the apparent potential of multimedia to involve stakeholders in risk management, this section presents a case study of an organisation that used a new multimedia approach to risk management called ROMS (ROMS 2009) which is currently being used by Australian and New Zealand Health authorities to develop a national adaptation strategy to enable hospitals to cope with the health impacts of climate change (Carthey et al 2008). This is the first attempt in Australia at developing such a strategy, and ROMS was used because of its ability to bring together a wide variety of health sector stakeholders which are notoriously difficult to manage because of the highly complex political and organisational and cultural characteristics of the health sector (Chandra 2009). Data was collected in a focus group workshop over two-days which involved stakeholders from clinical, health policy, health sector management, asset and facilities management, government architect and emergency services backgrounds. The aim of the ROMS process was to bring to integrate and synthesize into a coherent risk management strategy, the risk perceptions and occupational aims and objectives of all of these stakeholders in managing potential climate change risks. The ROMS workshops involved eight simple steps and are the focus of this case study. The names of stakeholders have been changed for confidentiality reasons.

4.1 Step one - project information

Step 1 involves identifying different types of stakeholders using a simple stakeholder analysis tool which is provided by ROMS and based on Freeman's (1984) classic stakeholder classification model. Only key stakeholders are invited to the workshop, other "important" and "minor" stakeholders being consulted in different ways. Figure 1 illustrates the interface in step one for the climate change adaptation strategy without interactive background information which can be accessed by selecting various column and row headings.

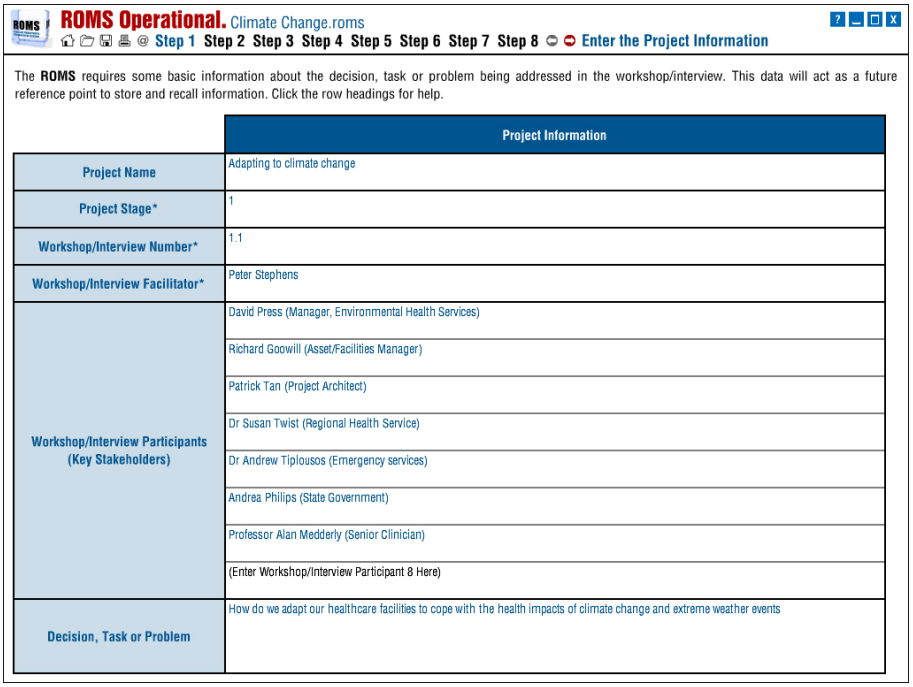


Figure 1: Interface for step one of ROMS

4.2 Step two – level of complexity

Step two involves selecting a level of risk management complexity (there are four) which suits the experience of the stakeholders in risk management, the quality of data available, familiarity of the problem, time available etc. Sophisticated users dealing with complex financial issues where there is an abundance of reliable quantitative data can operate at "Level 4" which provides access to a wide range of sophisticated techniques such as simulation and probabilistic analysis. In contrast, a user with no experience of risk management dealing with a routine problem for which there is no data can chose "Level 1". Figure 2 illustrates the interface in step two with some background information which can be accessed by selecting various column and row headings.

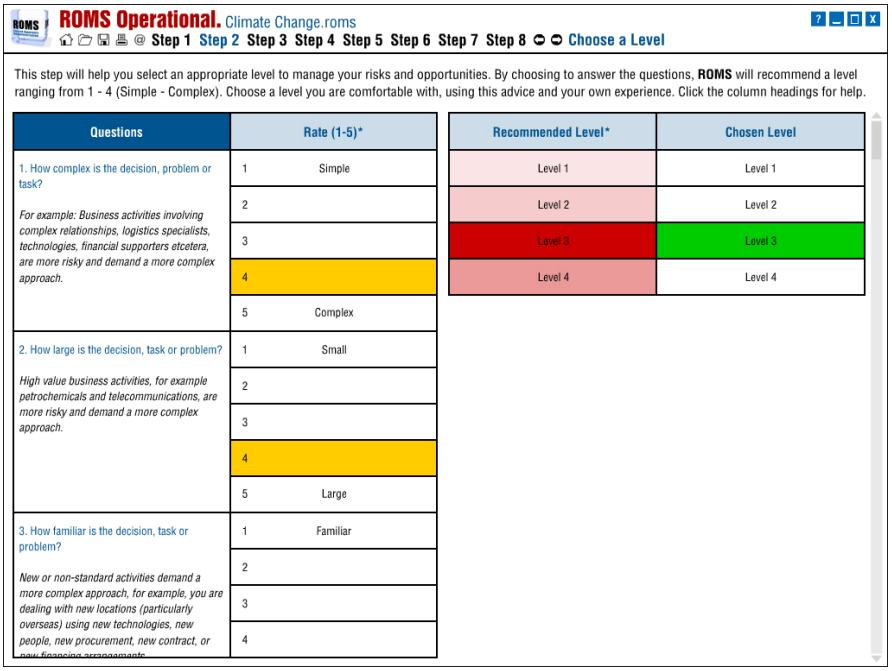


Figure 2: Interface for step two of ROMS

4.3 Step 3 – stakeholder consultation

In Step three stakeholders have to identify their individual objectives, select five common objectives and define them using measurable KPIs (Key performance indicators). The process of identifying common objectives is critically important to overcome the silo mentality, to enable stakeholders to emerge with a new appreciation of other stakeholder interests and in fostering a sense of collective responsibility and collaboration in managing risk and opportunity. Figure 3 illustrates the interface in step three.

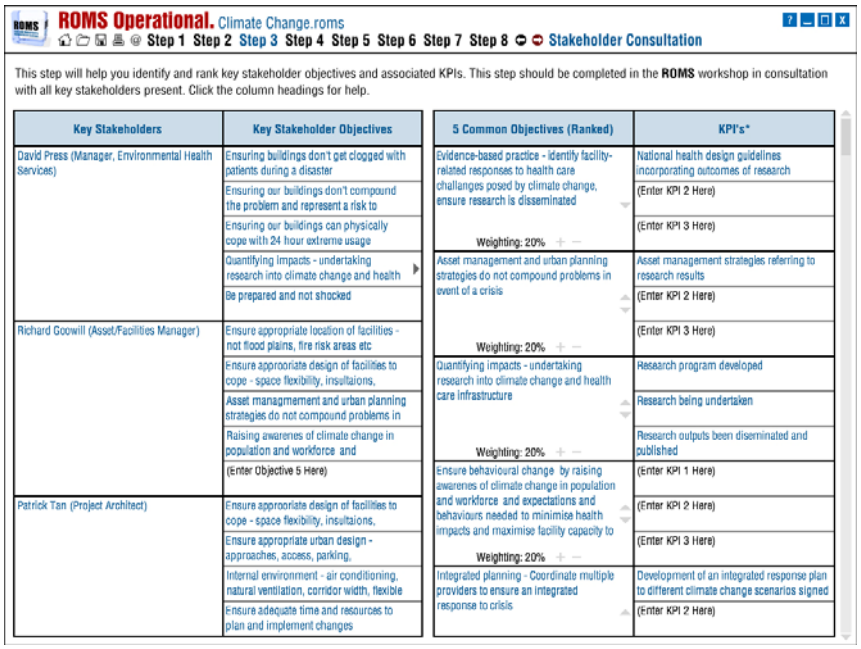


Figure 3: Interface for step three of ROMS

4.4 Step four – identify risks and opportunities

Step four assists the key stakeholders to collaborate in identifying both risks and opportunities which could adversely or beneficially affect their ranked objectives. ROMS provides a range of techniques which correspond to their chosen level of complexity in step 2. At level 1, simple checklists and work breakdown statements are used to identify risks whereas at level 4 more sophisticated users can use techniques such as soft systems analysis and simulation to identify risks and opportunities. Figure 4 illustrates the interface in step four.

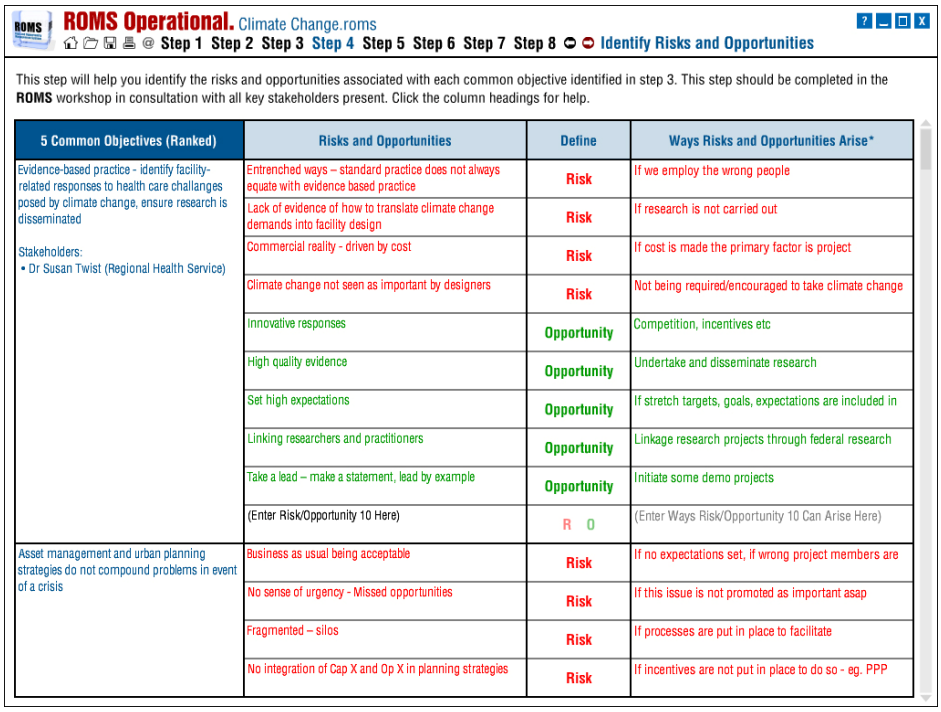


Figure 4: Interface for step four of ROMS

4.5 Step five – assess and prioritise

Step five involves key stakeholders collaboratively assessing the magnitude (considering existing controls) of each risk and opportunity associated with each ranked objective. ROMS has an in-built risk matrix which can be adapted to reflect any organisation's risk appetite and assessment process simply involves selecting predetermined risk and consequence labels referring where necessary to definitions, advice and guidance provided by the multimedia system. Recognizing the dangers of ranking risks and opportunities on probability and consequences alone (Williams 1996), ROMS provides a three-dimensional ranking process on "risk level", "urgency" and "controllability". Figure 5 illustrates the interface in step five with some graphical information which can be accessed by selecting various column and row headings.

ROMS Operational. Climate Change.roms

Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Assess and Prioritise

This step will help you assess the magnitude of the risk and opportunities identified in step 4 and prioritize them accordingly. This section should be completed in the **ROMS** workshop in consultation with all key stakeholders present. Click the column headings for help.

Risks and Opportunities	Existing Controls	Probability	Consequence	Level	Urgency*	Controllability*	Rank
Evidence-based practice - identify facility-related responses to health care challanges posed by climate change, ensure research is disseminated	Excellent (E) Good (G) Adequate (A) Inadequate (I)	Rare (R) Unlikely (U) Possible (P) Likely (L) Almost Certain (A)	Insignificant (I) Minor (Mi) Moderate (Mo) Major (Ma) Extraordinary (E)	Low (L) Medium (M) High (H) Very High (V) Exceptional (E)	Low (L) Medium (M) High (H)	Low (L) Medium (M) High (H)	Click Here To Rank
Entrenched ways – standard practice does not always equate with evidence based practice	Inadequate	Likely	Major	Very High	High	Medium	8
Lack of evidence of how to translate climate change demands into facility design	Adequate	Likely	Major	Very High	Low	High	16
Commercial reality - driven by cost	Inadequate	Possible	Minor	Low	Medium	Low	42
Climate change not seen as important by designers	Adequate	Possible	Minor	Low	Low	Medium	44
Take a lead – make a statement, lead by example	Adequate	Likely	Major	Very High	Medium	High	12
High quality evidence	Good	Likely	Major	Very High	Medium	Medium	13
Linking researchers and practitioners	Inadequate	Likely	Moderate	High	Medium	Medium	23
Set high expectations	Adequate	Likely	Minor	Medium	High	Medium	26
Innovative responses	Adequate	Possible	Moderate	Medium	Medium	High	30
Asset management and urban planning strategies do not compound problems in event of a crisis	Excellent (E) Good (G) Adequate (A) Inadequate (I)	Rare (R) Unlikely (U) Possible (P) Likely (L) Almost Certain (A)	Insignificant (I) Minor (Mi) Moderate (Mo) Major (Ma) Extraordinary (E)	Low (L) Medium (M) High (H) Very High (V) Exceptional (E)	Low (L) Medium (M) High (H)	Low (L) Medium (M) High (H)	Click Here To Rank
Political constraints – public opinion	Inadequate	Likely	Major	Very High	Medium	High	12

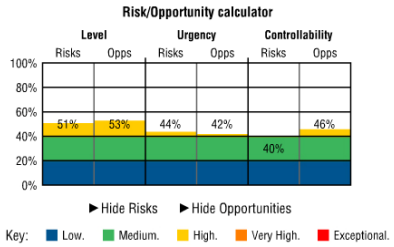
ROMS Operational. Climate Change.roms

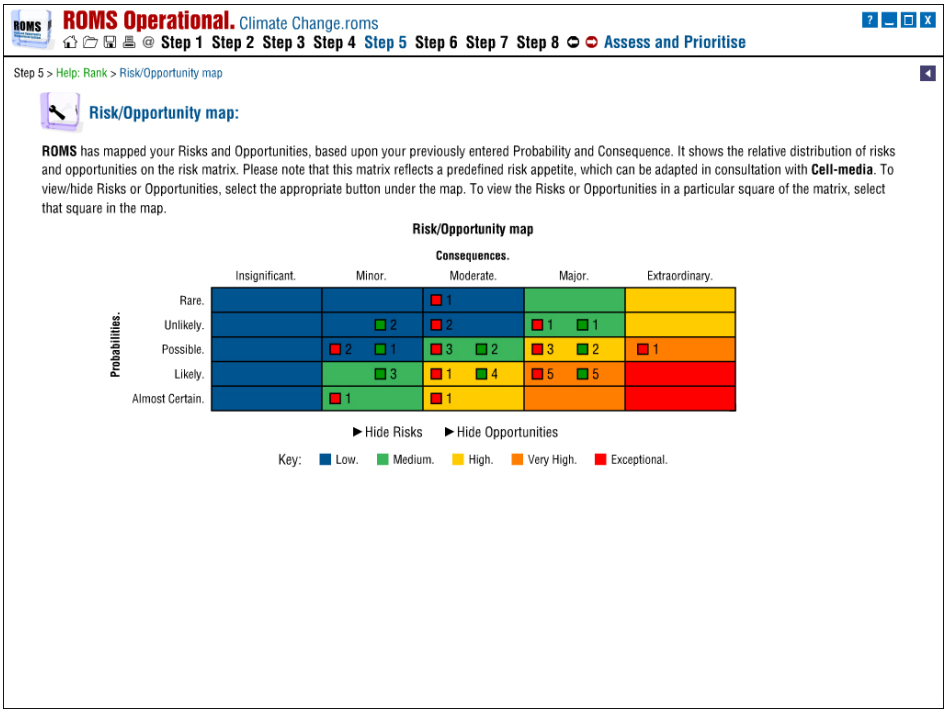
Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Assess and Prioritise

Step 5 > Help: Rank > Risk/Opportunity calculator

Risk/Opportunity calculator:

ROMS has calculated your Risks and Opportunities score, based upon your Level, Urgency and Controllability for each. In each case the score indicates the level as a proportion of the total possible, taking into account the impact on your weighted objectives in step 3. For example, more high level risks against an important objective will increase your risk score, etc. Please note that this matrix reflects a predefined risk appetite, which can be adapted in consultation with **Cell-media**. To view/hide Risks or Opportunities, select the appropriate button under the map.





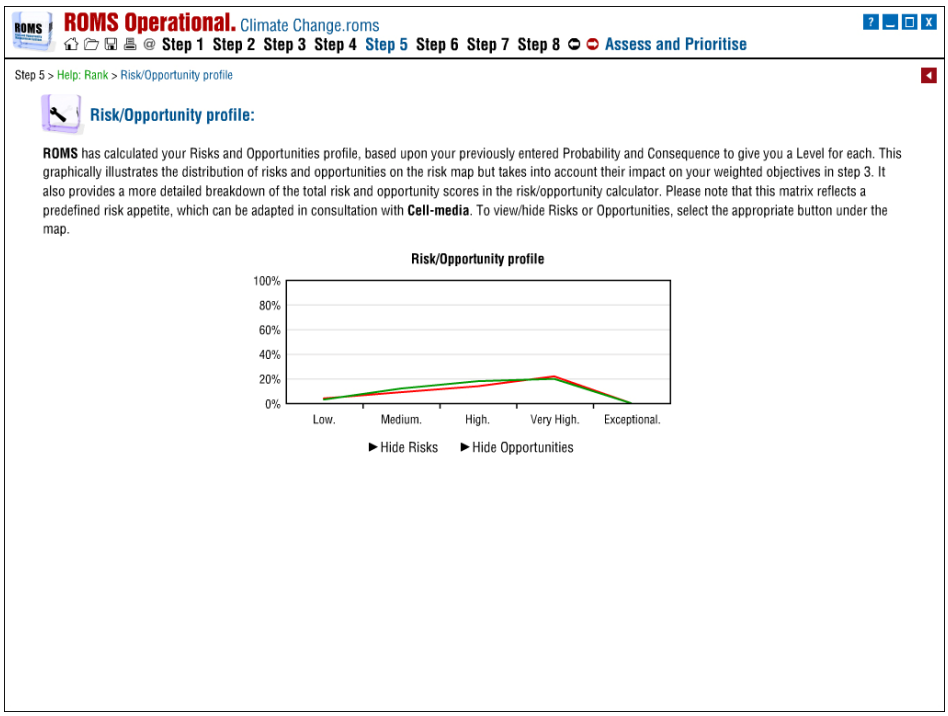
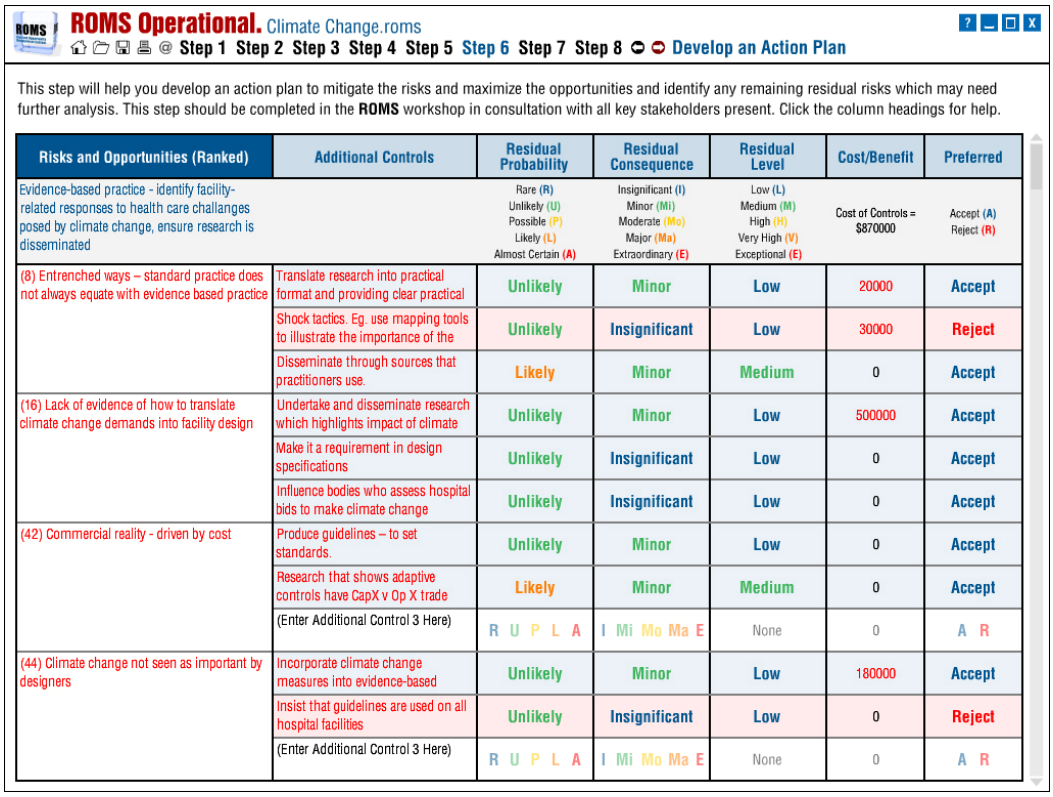


Figure 5: Interface for step five of ROMS

4.6 Step six – action plan

Step six involves taking forward the ranked list of risks and opportunities into an "action plan" where control strategies to mitigate risk and maximize opportunities are identified and selected using cost/benefit analysis. The impact of different combinations of strategies on existing risk and opportunity profiles can be compared graphically using a variety of tools contained in ROMS.

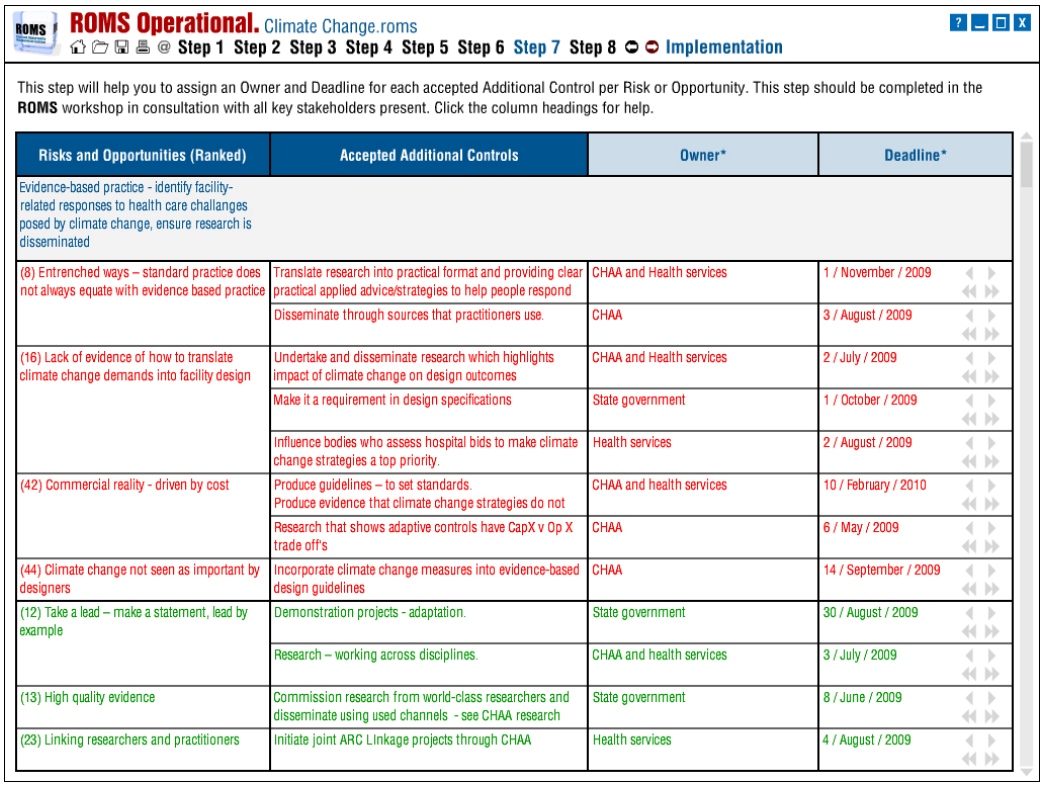


Risks and Opportunities (Ranked)	Additional Controls	Residual Probability	Residual Consequence	Residual Level	Cost/Benefit	Preferred
Evidence-based practice - identify facility-related responses to health care challanges posed by climate change, ensure research is disseminated		Rare (R) Unlikely (U) Possible (P) Likely (L) Almost Certain (A)	Insignificant (I) Minor (Mi) Moderate (Mo) Major (Ma) Extraordinary (E)	Low (L) Medium (M) High (H) Very High (V) Exceptional (E)	Cost of Controls = $870000	Accept (A) Reject (R)
(8) Entrenched ways – standard practice does not always equate with evidence based practice	Translate research into practical format and providing clear practical	Unlikely	Minor	Low	20000	Accept
	Shock tactics. Eg. use mapping tools to illustrate the importance of the	Unlikely	Insignificant	Low	30000	Reject
	Disseminate through sources that practitioners use.	Likely	Minor	Medium	0	Accept
(16) Lack of evidence of how to translate climate change demands into facility design	Undertake and disseminate research which highlights impact of climate	Unlikely	Minor	Low	500000	Accept
	Make it a requirement in design specifications	Unlikely	Insignificant	Low	0	Accept
	Influence bodies who assess hospital bids to make climate change	Unlikely	Insignificant	Low	0	Accept
(42) Commercial reality - driven by cost	Produce guidelines – to set standards.	Unlikely	Minor	Low	0	Accept
	Research that shows adaptive controls have CapX v Op X trade	Likely	Minor	Medium	0	Accept
	(Enter Additional Control 3 Here)	R U P L A	I Mi Mo Ma E	None	0	A R
(44) Climate change not seen as important by designers	Incorporate climate change measures into evidence-based	Unlikely	Minor	Low	180000	Accept
	Insist that guidelines are used on all hospital facilities	Unlikely	Insignificant	Low	0	Reject
	(Enter Additional Control 3 Here)	R U P L A	I Mi Mo Ma E	None	0	A R

Figure 6: Interface for step six of ROMS

4.7 Step seven - implementation

Step seven involves allocating the selected additional controls from step six a "risk owner" and a "deadline". Figure 7 illustrates the interface in step seven.



Risks and Opportunities (Ranked)	Accepted Additional Controls	Owner*	Deadline*
Evidence-based practice - identify facility-related responses to health care challanges posed by climate change, ensure research is disseminated			
(8) Entrenched ways – standard practice does not always equate with evidence based practice	Translate research into practical format and providing clear practical applied advice/strategies to help people respond	CHAA and Health services	1 / November / 2009
	Disseminate through sources that practitioners use.	CHAA	3 / August / 2009
(16) Lack of evidence of how to translate climate change demands into facility design	Undertake and disseminate research which highlights impact of climate change on design outcomes	CHAA and Health services	2 / July / 2009
	Make it a requirement in design specifications	State government	1 / October / 2009
	Influence bodies who assess hospital bids to make climate change strategies a top priority.	Health services	2 / August / 2009
(42) Commercial reality - driven by cost	Produce guidelines – to set standards. Produce evidence that climate change strategies do not	CHAA and health services	10 / February / 2010
	Research that shows adaptive controls have CapX v Op X trade off's	CHAA	6 / May / 2009
(44) Climate change not seen as important by designers	Incorporate climate change measures into evidence-based design guidelines	CHAA	14 / September / 2009
(12) Take a lead – make a statement, lead by example	Demonstration projects - adaptation.	State government	30 / August / 2009
	Research – working across disciplines.	CHAA and health services	3 / July / 2009
(13) High quality evidence	Commission research from world-class researchers and disseminate using used channels - see CHAA research	State government	8 / June / 2009
(23) Linking researchers and practitioners	Initiate joint ARC LInkage projects through CHAA	Health services	4 / August / 2009

4.8 Step 8 – monitor, review and learn

Step eight provides an automated monitoring, review and learning mechanism. This enables the manager in charge of the process to monitor the action plan to ensure it is implemented as planned, to review it if progress does not go as planned and to learn from the process

5. Conclusion

The aim of this paper was to explore the relationships between stakeholders and risk management and to discuss the potential role of multimedia technology as a means to better engage stakeholders in the risk management process. Experience of using ROMS across numerous sectors and contexts has shown that a multimedia approach can be valuable in achieving this aim for both large and small organisations involved in simple routine type activities or complex one-off activities. Multimedia can facilitate an unintimidating yet rigorous and consultative approach to risk management which highlights interdependencies and common interests between organizational stakeholders, which recognizes and considers the interests of different stakeholders and which effectively captures and harnesses the knowledge, experience and creative capability of stakeholders in an interactive, engaging and stimulating way.

References

Bailey, B (2001) Multimedia and Learning, http://www.webusability.com/article_multimedia_and_learning_11_2001.htm.

Barnes, P (2002) Approaches to community safety; risk perception and social meaning, Australian Journal of Emergency Management, 15 (3), 15-23.

Berry, A J (2000) Leadership in a new millennium: the challenge of the “risk society”, The Leadership and Organisation Development Journal, 21 (1), 5-12.

Berry, D (2004) Risk, communication and health psychology, Open University Press, Maidenhead. UK

Carthey, J, Chandra, V and Loosemore, M (2009) Adapting Australian health facilities to cope with climate-related extreme weather events, Journal of Facilities Management, 1 (7), 36-51

Chandra, V (2008) An investigation of cultural learning during the hospital briefing process from a facilities management perspective, Unpublished Phd Thesis, UNSW, Sydney, Australia

Freeman, R E (1984) Strategic management: A stakeholder approach, Pitman, Boston, USA.

Loosemore, M, Raftery, J, Reilly, C and Higgon, D (2005) Risk Management in Projects, Taylor and Francis, London, UK.

Nonaka, I (1994) Dynamic theory of organizational knowledge creation, Organization Science, 5 (1), 14-37

ROMS (2009) Risk and Opportunity Management System, www.risk-opportunity.com, Cell-Media, Perth, Australia.

WEF (2009) Global Risks Report 2009, World Economic Forum, Davos, Switzerland

Werther, W B and Chandler, D (2006) Strategic corporate social responsibility, Sage, London

Williams, T M (1996) The two-dimensionality of project risk, International Jjournal of Project Management, 14 (3), 185-186

Wu, Li-Xin and Che, De-fu (2008) Developments of spatial information-based Digital Mine in China, Journal of Coal Science and Engineering, 14 (3415-419

Zsolnai L 2006 Extended stakeholder theory, Society and Business, 1 pp 37 -44