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# Can education and training decision making be improved using a risk management decision making framework?

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**Description**

Current research and literature reviews indicate that Australian organisations do not use consistent and effective decision making processes when undertaking education and training. This paper provides both context and background to underlying training decision making problems in Australia and introduces an innovative training decision making model for research and testing. The model to be tested develops a heuristic training decision making sequence based on risk management theory and is supported by the International Risk Management Standard ISO 3100:2009. The application of risk management logic to training decisions enables the development and testing of a unique decision making sequence that ranks and prioritises organisational training approaches in accordance with perceived levels of organisation risk. A defined series of training matrixes represent the decisions that embody the heuristic training model and facilitate a meta- analysis approach to organisational training needs. The potential effectiveness of the heuristic risk management decision making model will determined by testing data obtained from a stratified sample group of organisational mangers in NSW TAFE institutions and NSW Public Health.

**Location**

Innovation Campus, Mike Codd Building, 1st floor, Room 102

Barry Horton

**CAN EDUCATION AND TRAINING DECISION MAKING BE  
IMPROVED USING A RISK MANAGEMENT DECISION MAKING  
FRAMEWORK**

**Author – Barry Horton**

## **Abstract**

Current research and literature reviews indicate that Australian organisations do not use consistent and effective decision making processes when undertaking education and training. This paper provides both context and background to underlying training decision making problems in Australia and introduces an innovative training decision making model for research and testing. The model to be tested develops a heuristic training decision making sequence based on risk management theory and is supported by the International Risk Management Standard ISO 3100:2009. The application of risk management logic to training decisions enables the development and testing of a unique decision making sequence that ranks and prioritises organisational training approaches in accordance with perceived levels of organisation risk. A defined series of training matrixes represent the decisions that embody the heuristic training model and facilitate a meta- analysis approach to organisational training needs. The potential effectiveness of the heuristic risk management decision making model will determined by testing data obtained from a stratified sample group of organisational mangers in NSW TAFE institutions and NSW Public Health.

## 1. Problem

Both the current research and literature indicate that Australian organisations undertaking training do not use a consistent training decision making framework to achieve effective and successful training outcomes. The failure of organisations to apply logical and structured decision making approaches to training suggests the following structural training weaknesses;

- Difficulty in choosing the most appropriate training structures and methods (structured vs unstructured training, formal vs informal content delivery, stringency levels of knowledge testing/ assessment, frequency of knowledge testing, linking method decisions to available resources)
- Difficulty in deciding on the type of knowledge that should be included in organisational training to ensure employees knowledge and skills remain relevant in changing business or organisational operating conditions
- Difficulties in matching training outcomes to existing organisational objectives (and make forward planning decisions) without a well-reasoned & logical decision making framework
- Inconsistent approaches to organisational training evaluation – i.e. organisations have difficulty proving and determining if actual training used is effective or not
- Difficulties in formulating training outcomes to meet uniform corporate goals – varying tiers of management may find it difficult to justify types of training (resources or methodology) without a structured process that is understood across the management hierarchy
- Difficulties in organisational resource allocation –i.e. hard to judge or justify best strategic use of finite organisation training dollars
- Inability to predict organisational training outcomes – i.e. not possible to judge if training fits purpose
- Difficult to prioritise training options in the context of vast array of legal compliance areas impacting on Australian organisations.
- Communication on training issues – without a logical and well understood decision making process it becomes difficult for managers to communicate about training related issues logically and in a well- reasoned manner

## 2. Research Context

Each year in Australia workplaces train over 5 million workers at a cost of over 3.5 billion dollars (ABS-2002). These organizations expect the return on their investment is justified in time, resources and money and assume that the newly-acquired employee skill and competencies organisations will continue to operate at optimum levels and meet core organisational objectives. Despite the large investment in training there is evidence many organisations in Australia do not have deliberate, transparent and defensible methods of deciding how and why to train, and often no credible method of justifying decisions about training budgets and allocating training resources (Smith, Burke, Long, 2008).

In this context, it will be argued that processes which organisations use to make training decisions are the most important “leading indicator” aspects and are the precursors of the potential success or otherwise of training outcomes. Training decision making is the critical factor in determining successful training outcomes in Australian organisations and it is therefore important to undertake research to understand the context of how & why current training decisions are made and what opportunities exist for improved training decision making approaches.

To address the issues above this research study is proposing a decision making model based on applying risk management principles to selected steps of the training decision making process. The model will be then be tested on a selected levels of managers (including training managers) and trainers in targeted industries (NSW TAFE and NSW Public Health).

The research study will therefore introduce a new training decision making methodology to the participating training personnel and ask them to compare and contrast their existing processes to the new methodology. The new methodology is a risk management decision making framework with a defined set of training related decision principles as initially developed by Horton in 2004 and subsequently developed further into the decision making heuristic of this research (*see appendix B*). This research concept is a heuristic (i.e. a model that works) and essentially it provides a particular decision making logic which can be used by training decision makers at different levels in an organisation. Horton’s heuristic model is premised on the basic principle that training decisions should be made from the management of the assessed risk involved.

It is argued that Horton’s heuristic model provides a logical sequence of decision making process steps that can be applied to all relevant aspects of training decision making in organisations. Using risk management enables a meta- analysis approach to training decision making leading to a higher level of quality in decision making and therefore increased opportunities for successful training outcomes.

### **3. Literature Review**

The literature review undertaken provides both support and context to the research proposal. An initial finding of the review of literature relating to organisational training decision making is that it is not a highly researched area. The leading organisations for gathering data and publishing research about organisational training in Australia are the Australian Bureau of Statistics (ABS) and The National Centre for Vocational Education Research (NCVER). Extensive review of these organisations data bases and publications (including specific formal requests for current data) indicate that Australian organisational training data has not been collected and reported on consistently during the past 10 years. The data that is available has been referenced

below and is inclusive of ABS data that is dated however is relevant in developing a general understanding of decisions relating to training costs and resourcing in Australian organisations (see research profile ABS/NIRS - NCVER/ED/Research 2002 - 2012)

To summarise the reviewed literature a series of findings from published research papers and statistical bulletins is provided below. The emerging evidence from the available literature is that Australian organisations do not have a consistent and effective framework for training decision making. The published data supporting this argument is as follows:

- Training is both an investment in personal and professional development and a contributor to stronger business performance and productivity. Training can be provided through structured or unstructured methods where in either mode of delivery training may or may not be predetermined by a specific plan or content (Australian Bureau Statistics - 2002)
- There is a strong and persistent belief in Australian training policy circles that Australia is a poor performer by international standards in the provision of training – (Smith, Freeland-2002)
- In many instances [policy] attempts have been made to compel employers to undertake more training with little reference to why employees should undertake training in the first place ... This analysis underlines the risk of simple policy solutions ( Smith & Billet 2006)
- While it is recognised that Australian employers invest substantial money and time in training the exact nature and amount of this investment is poorly measured - (Smith ,Long, Burke, Dunbrell – 2008)
- Little is known about how training operates within organisations. National collections of statistics in Australia and overseas have produced evidence of the scale of expenditure on training and what training employers provide for their workers. However how employers make decisions about training remains something of a “black box”. Previous research has shown that reasons are often unique to organisations - ( Smith, Oczkowski, Hill 2009)
- While there are a variety of reasons for employers to provide training to their employees , little is known about how these reasons influence choices about type of training to provide (Smith, Oczkowski, Hill – 2009)
- Factors that affect what training employers provide, why and to whom are varied and complex. Policy responses to the issue of increasing employer

investments in training need to take this complexity into account (Smith, Oczkowski, Hill -2009)

- A more sophisticated and nuanced approach to encourage employers to invest in training and development of their workers is necessary (Smith , Oczkowski, Hill - 2009)

The weaknesses highlighted in the literature above provide the reasons for researching and improving training decision making in Australian organisations and justify the selection of a research model which involves a testing of the heuristic risk management approach to training decisions making. The main research question is premised on the idea that training decision making can be made more effective using risk management techniques. Specifically the heuristic model to be tested has the potential to address the issues discussed above because;

- It bases decision making on the evaluation of risk to the organisation as its underlying premise
- It provides a method for transparent & structured training decision making
- It provides a method for logical and sequenced training decisions
- It provides a method of justification for ranking and prioritising different training approaches
- It provides a method of justification of levels of expenditure (or no expenditure) for training budgets
- It provides a method of developing evidence for legal compliance agencies for verification and justification of training implementation
- It provides a sophisticated and consistent decision making training decision making framework

#### 4. Research Questions

Three levels of questions are posed in this research plan. The first level question is;

***Can the risk management based training decision model as developed for this research enable more effective organisational training decisions leading to more successful organisational training outcomes?***

To answer the first question appropriately a series of lower order questions are developed and tested. Each one of the lower order questions enables the testing of a selected aspect of the above major research question. The second level of questions

therefore identifies and tests selected key decision making aspects that are considered key requisites for effective training outcomes.

The final level of questions applies the second order question directly to targeted managers in the stratified sample group to be tested. **Appendix A** provides details of the question development and the specific questions to be asked in the research process. Table 1 below summarizes the theory base and actions taken so far in this research plan.

**Table 1 Summary of research context, actions and question development**

<b>In the context of identified structural weakness in Australian organisational training implementation the following table summarises a research strategy that proposes to test a heuristic training decision making model that can potentially improve the effectiveness of training decision making leading to more successful organisational training outcomes</b>				
<b>Contributing Theory Base (Note RM= Risk Management)</b>	<b>Subsequent Action Steps Taken in This Research</b>	<b>Major Research Question</b>	<b>Derived First Order Research Questions</b>	<b>Derived Second Order Questions</b>
RM identifies ways of thinking about decisions which lead to more informed organisational decision making	RM Matrixes can be developed and applied to selected steps of training decision process	Can a risk management based training decision model enable more effective organisational training decision making leading to more successful training outcomes	First order sub set questions identifies key decision making factors considered necessary for effective training decision making	Second order sub set questions provide link to key decision making aspects of effective training to stratified managers sample in organisational hierarchy
RM can be applied to the logical sequence of training decisions	A series of decision matrixes can be developed into a profile which represents how organisations decide on training		Identification of key decision making aspects creates a measurement point to develop risk profile	Likert Scale developed to assess managers confidence levels in applying RM to categories in second order questions
RM can be used to justify the outcomes of training decisions	Decisions can be analysed and justified by the risk profile created using both training process items and associated risk outcomes		Identification of key decision making aspects provides a basis for justification of effectiveness of decision making	Measurement of confidence levels in using RM link second order questions to key decision making aspects & used to test hypothesis & leads to risk profile development
RM Best Practice profiles will differ in relevance according to type of organisational decision maker	Stratified sample of management hierarchy chosen from TAFEs and Health Service. Sample will represent different		RM Best Practice training profiles will need to provide data relevant to the needs and interest of each type and level of decision	RM best practice profiles are developed by the comparison of second order questions as developed for each

	levels of decision maker		maker	management responsibility in org hierarchy
RM training profiles analysis sets can be developed for an organisation which reflects its actual practices in risk terms	Sequencing of RM decision making can be undertaken through matrix tables		RM actual training profiles observed (or user reported) represent observational levels of research	Pilot testing of comparison between RM and existing approaches second order questions develops initial profiles and basis for predictive approach

## 5. Research Methodology

The core strategy of the research project is to initially ask the selected sample group of trainers and training managers to assess the levels of confidence they have in the effectiveness of their existing training decision making and then ask them to reassess their levels of confidence after they are taught about and then apply a risk management approach to training decisions (appendix B - using risk management logic). As summarized in table 1 above a range of questions will be asked of the research participants that will focus on the identified key aspect of their training decision making (appendix A - research questions). By asking respondents two sets of questions (confidence before using risk management for decisions compared with confidence after using risk management) the research is essentially undertaking an experimental approach to testing the fundamental proposition that risk management can improve effectiveness of training decisions. The key aspect questions provide the basis for hypothesis testing in each question category. The research strategy is considered to be a quantitative approach with a medium degree of intervention required by the researcher to provide the knowledge required to respondents so they can adequately apply the risk management principles to the second set of research questions. A pilot study using the proposed methodology has been trialled in a public health organisation and the outcomes are summarised on page 8.

### ***Who and What Will be Studied***

The training managers participating in the research will include managers from four NSW TAFE institutions and managers from one NSW Local Health District. A sample group of managers has been identified to represent a cross sections of managers in the organisational hierarchy.

### ***Sample Characteristics***

Training decisions in large organisations are undertaken by different managers depending on their key duties and levels of responsibilities. Successful training outcomes are important to the overall success of an organisation therefore the intended stratified sample group participating in this research will include a cross section of organisational training decision makers. The sample group of managers will include; Senior Executive, Finance Manager, Human Resource Manager,

Training Coordinator and Course Trainer.

The research design will focus on connecting the key training decision making aspects identified in appendix A to the relevant decision making responsibilities of the chosen managers in the organisational hierarchy. The research participants will be asked to rate the levels of confidence they have when making training decisions relating to their areas of responsibility. Using a measurement scale based on a Likert model (1932) the managers levels of confidence can be measured in each of the identified key decision making aspects. The managers will be asked to rate their confidence levels with and without the use of risk management decision making logic. The comparison of scores between each decision making aspect will provide evidence of the confidence levels the stratified sample group has for making effective training decisions.

The tables below provide examples of how the key training decision making aspects have been linked to organisational hierarchy responsibilities.

**Table 2 – Example of developed key decision making aspect questions as developed for Senior Executive level of organisational hierarchy (list of complete hierarchy in Appendix A)**

Senior Executive	Does your org have an effective method of ranking level of training required? Does your org have effective methods of aligning skill development with key org strategies? Does your org have effective methods to defend training decisions at law? Does your org effectively prioritise training decisions to meet org requirements ? Does your org training decision making enable a logical process for auditing requirements? Does org effectively make decisions on allocation of resources? Does org have effective processes to predict training outcomes?
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**Table 3 - Example of key decision making aspect questions as developed for training coordinator level of organisational hierarchy (list of complete hierarchy in appendix A)**

Training Coordinator	Does you org have effective methods that allow you to rank and prioritise your training decision against org training goals? Does your org have an effective process for deciding on types of course structure? Does your org have an effective processes that matches course content to org priorities? Does your org have a logical training decision making frame work that enables effective communication with other depts regarding training decisions ? Does your org have processes available to help you predict results of types of training methods that are being implemented?
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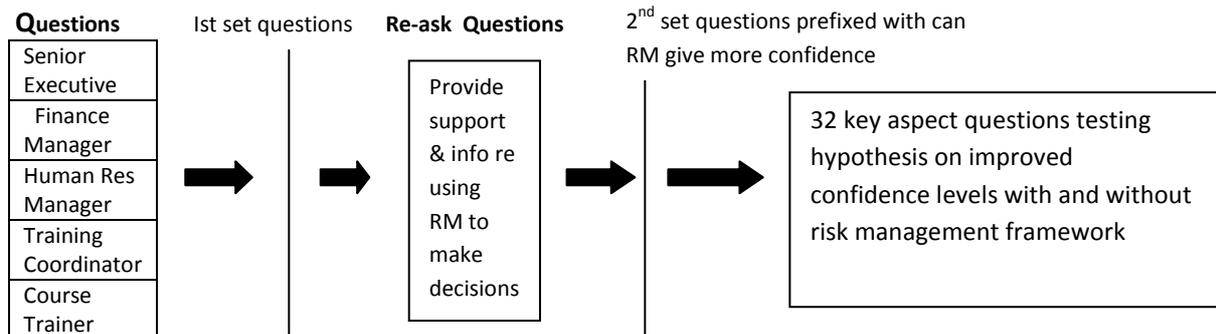
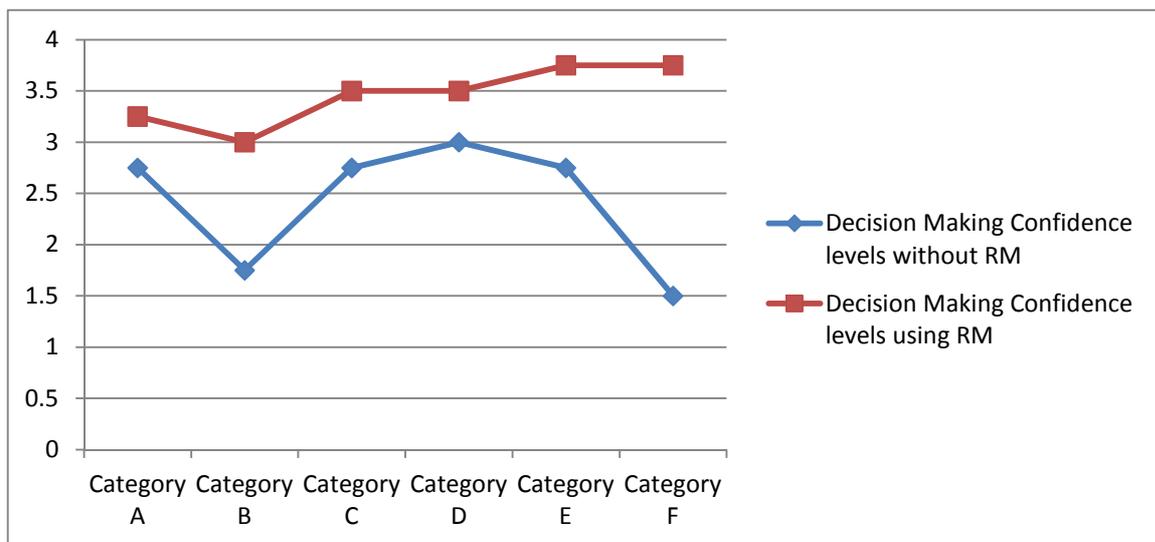


Figure 1 – Summary of Question process

## Pilot Study

A trial of the research methodology has been undertaken in a public health organisation. Two levels of the proposed stratified sample (Trainers & Training Coordinators) were tested using the questions comparing confidence levels of using a risk management framework for decisions to existing decision making processes. The data has been tabulated and developed in graph form below representing the trainers responses. The comparative analysis process enables evidence to be gathered to test the confidence levels of managers applying a risk management framework and to develop profiles within each defined category to be tested.



**Graph 1 - survey of 4 trainers** showing results of trial questions gaining comparative data of confidence levels of making effective decisions with and without applying a risk management decision making framework. The following key decision making aspects were used in the trial questions (all decision making aspects used for question development are listed in appendix A)

Cat A	Prioritising training methods to meet targeted organisation training needs
Cat B	Application of logical and coherent evaluation procedures to decide on training priorities
Cat C	Ensuring course content is structurally linked to identified corporate skill development
Cat D	Justifying on a logical basis structured or unstructured training methods
Cat E	Ability to predetermine training outcomes
Cat F	Common language to discuss training requirements with different levels of a management

**Table 4 Key decision making aspects relating to a trainer**

## 6. Data collection

A questionnaire approach will be used to create and collect data. As the identified sample groups are in widely distributed organisations across NSW a questionnaire approach provides the best opportunity to collect consistent and reliable data.

### Use of Likert Scale

The Likert technique constructs a scale on equal numbers of favourable and unfavourable attitude objects. Respondents can be scored on their responses and the Likert model provides a good diagnostic tool if individual responses correlate well to overall responses within the specific area being tested. The weakness of the Likert technique is that over simplification diminishes the scale value of attitudes that are

being measured. Scales developed by Thurstone and Guttman for example build in scoring values that potentially provide a stronger attitude value for comparison and analysis.

The Likert approach is proposed as acceptable for this research project as it is testing the application of a set of decision making principles as they can be applied to specific training decision factors. The specific nature of these questions lessen the requirements for Thurstone or Guttman style approach although the weakness of the Likert approach must be acknowledge. Other concerns with the Likert scale is the tendency towards a non committal or “undecided” position with creates ambiguity within the data. The typical Likert scale has a range of 1-5 (1 strongly disagree to 5 strongly agree). The scale to be used to test the training decision making aspects will use a scale of 1-4 which will lessen the opportunity of respondents to “sit on the fence” and produce more consistent data than the 1-5 scale.

## **7. Data Analysis**

The central approach of the research methodology is to test respondent levels of confidence when they apply risk management to training decision making. To undertake this testing a range of questions has been developed that are inclusive of factors identified as being the key to effective training decision making and are included in the question development ( see Appendix A) .

As the level of confidence is being measures using a Likehart type scale (1-4) a continuum is developed (a continuum of confidence levels) therefore measurement of the dependent variable can be undertaken on an interval basis. A mean score of the pre risk management decision making confidence levels (for each specific question across range of sample group) can be determined and compared to the post risk management decision making confidence levels mean. This type of comparison is termed one –way analysis of variance (Punch: 1999) or one way ANOVA. Using a mean to indicate scoring levels is a very effective statistic when there is a low variation within the score distribution. It is the expectation that the measuring of managers confidence level will provide a low spread of numbers from the confidence level continuum making the use of mean comparison a valid representation of the questionnaire data.

Cross tabulation contingency tables (Rosbenburgh: 1968) will be used to present the data findings and provide analysis. The use of the cross tabulation allows the graphical representation of variable relationship and demonstrate through the distributions if one variable is related or contingent on another.

The next step of the data analysis will be to develop line graphs to produce a profile of the decision making confidence levels of each manager in each responsibility area from the identified hierarchy. The profiles will demonstrate the perceived

effectiveness of risk management decision making in each key decision making aspect.

The development of a profile of decision making with or without risk management also has the potential to provide a tool that can be used to show organisations where weaknesses in their training decisions potentially exist and provide opportunities through risk management to address these weaknesses.

The components of the research methodology set out above are contingent on the guidance and feedback from the SBS Higher Degree Research Student Conference. Further development of the proposed methodology is expected upon review and scrutiny by the conference participants.

## **8. Conference Feedback**

The two main areas of feedback required for this paper are;

- a) Affirmation that the basic approach to the issue and selection of the research problem is acceptable and if not why not.
- b) Guidance as to the acceptability of the proposed research methodology and if the methods described will lead to a valid and reliable research outcome.

## **9. References:**

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## **Appendix A- Question development**

**Three levels of questions are posed in this research plan. The first level question is;**

1. Can the risk management based training decision model as developed for this research enable more effective organisational training decisions leading to more successful organisational training outcomes?

To answer the first question appropriately a series of lower order questions were developed and are tested. Each one of the lower order questions enables the testing of a selected aspect of the above major research question. The second level of questions therefore identifies and tests selected key decision making factors that are considered key requisites for effective training outcomes.

### **2. Second Level Questions**

- Does the organisation have training decision making systems that can predict or attempt to predict training outcomes?
- Does the organisation have a logical and well -understood process for deciding when to undertake training and why do training?
- Does the organisation share training decisions across organisational hierarchy to ensure continuity of decision making and focus on shared corporate training goals
- Does the organisation have decision making processes that ensures the most effective training methods are used for the organisation (i.e. How to train - structured /unstructured training / formal assessment - informal assessment processes)?
- Does the organisation have decision making processes that ensure types of knowledge and levels of knowledge in training programs is targeted appropriately toward organisational knowledge outcome goals and relevant employee skill development ?
- Does the organisation training decision making process ensure training resources are targeted effectively?
- Does the organisational training decision making process provide a credible justification to stakeholders as to the appropriate allocation of training resources
- Does the organisational training decision making system provide a transparent process that is defensible at law
- Does the organisational training decision making process provide evidence of analysis of training needs as required for internal/external compliance audits

- Does the organisation training decision making process include the evaluation of existing organisational training and linking outcomes to future training requirements?
- Does the organisational training decision making process provide a clearly understood framework that enables good communication of training decisions across the whole organisation

### 3. Final level of Questions - Specific Research Questions Linked To Management Decision Making Responsibilities in Organisational Hierarchy

The final level of questions link the key decision making factors identified above to specific management responsibilities in an organisational hierarchy. Responsibility for training decisions will vary for each management tier in an organisational hierarchy. This research has identified the following sample group of managers representing a typical medium sized organisation; Senior Executive, Finance Manager, Human Resource Manager, Training Coordinator and Course Trainer.

The managers from this stratified sample group will be asked the final level of questions and the research process will measure their levels of confidence for making effective training decisions in their areas of responsibility.

Tables 1&2 below summarise organisational management responsibilities as they relate to training decision making and detail the subsequent final level questions that will be asked of each research participant according to their position in the management hierarchy.

**Table 1 showing organisational hierarchy and the area of questions as they relate to management responsibility.**

Senior Executive	Legal/Corporate governance train req
Finance Manager	Resource allocation /return on invest
Human Res Manager	Workforce skills/align corp strategies
Training Coordinator	Course provision/types of training
Course Trainer	Knowledge requirements/evaluation

**Table 2 showing development of specific questions to be asked of managers as developed from second level key decision making aspect questions**

Senior Executive	<p>Does your org have an effective method of ranking level of training required?</p> <p>Does your org have effective methods of aligning skill development with key org strategies?</p> <p>Does your org have effective methods to defend training decisions at law?</p> <p>Does your org effectively prioritise training decisions to meet org requirements ?</p> <p>Does your org training decision making enable a logical process for auditing requirements?</p> <p>Does org effectively make decisions on allocation of resources?</p> <p>Does org have effective processes to predict training outcomes?</p>
Finance Manager	Does your org have an effective method of allocating of training resources to match skill development?

	<p>Does your org have effective methods of ranking training requirements to prioritised training investment?</p> <p>Does your org have an effective method of allocating of training resources in line with corporate goals?</p> <p>Does your org have a a logical frame work to communicate to other dept decision on resource allocation?</p> <p>Does your org have an effective process for auditing training resource decision making?</p> <p>Does your org have effective processes available to predict training outcomes of training resource allocation and decision making?</p>
Human Res Manager	<p>Does your org have effective methods of matching corporate goals to skill development requirements of employees?</p> <p>Does your org have effective methods of ranking and prioritising staff training to ensure relevancy of staff skills?</p> <p>Does your org have a logical frame work to communicate to other dept on training decisions?</p> <p>Does your org you rank and prioritise your training decision against assessed org training goals?</p> <p>Does your org have effective processes available to predict training outcomes ?</p>
Training Coordinator	<p>Does you org have effective methods that allow you to rank and prioritise your training decision against org training goals?</p> <p>Does your org have an effective process for deciding on types of course structure?</p> <p>Does your org have an effective processes that matches course content to org priorities?</p> <p>Does your org have a logical training decision making frame work that enables effective communication with other depts regarding training decisions ?</p> <p>Does your org have processes available to help you predict results of types of training methods that are being implemented?</p>
Course Trainer	<p>Does your org have an effective method of selecting training approaches and prioritising them to meet targeted org training needs?</p> <p>Does your org have effective course assessment and evaluation decision making procedureds that establish priorities for future training implementation?</p> <p>Does your org training decisions effectively link course content to ranked and prioritised corporate skill development requirements</p> <p>Does your org training enable effective decisions that logically align course structures with key corporate strategies</p> <p>Does your org have a logical training decision making frame work that enables effective communication with other depts regarding training decisions</p> <p>Does your org have processes available to help you predict results of types of training methods that are being implemented?</p>

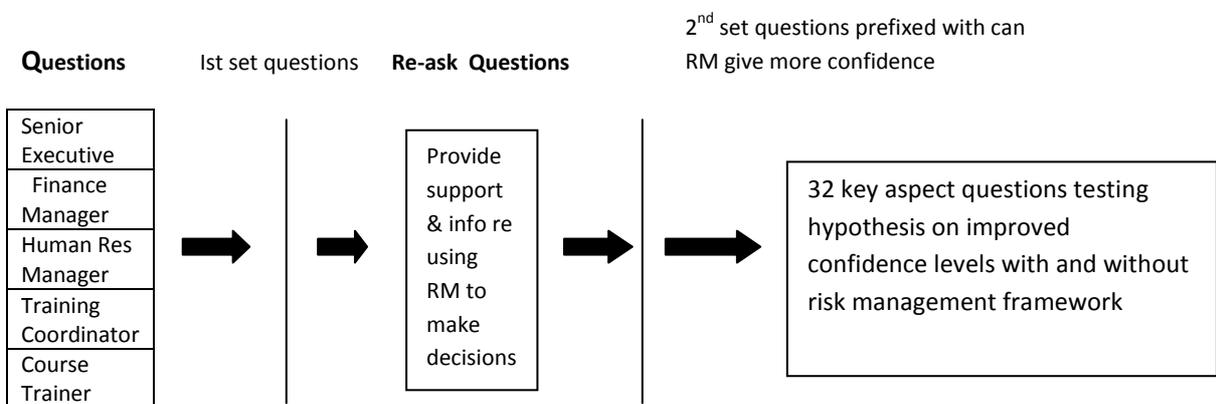


Figure 1 – Summary of Question process

**Appendix B - Questionnaire Supporting Information – Please read this before answering your questions**

**Preamble**

This questionnaire asks you to undertake three tasks as follows;

1. To Read a summary of risk management with a practical example of how it can work
2. To Read a summary of how risk management can be applied to training
3. To rank a series of provided questions twice. The initial ranking will be your thinking about your current training practices and the second ranking will be your thinking as it relates to whether the proposed risk management model would improve the training outcomes for your organisation.

**What is risk management?**

Risk Management is a process used to make decisions.

Risk management decisions are based on a simple formula of assessing levels of **risk (high to low)** and matching suitable **risk controls** to achieve expected outcomes.

Risk management allows organisations to rank all types of organisational **risk (high to low)** and prioritise the levels of **controls** required. Risk management is theory is supported by an International Standard (ISO 3100:2009).

**Example 1**

A common use for risk management is for making decisions about Work Place Health and Safety. The example below demonstrates how risk management decision making is undertaken.

***A. Organisation engages workers to install antennae on the roof five storey office block. The decision making to assess the level of risk for this task is undertaken using the standard risk assessment matrix below***

		Likelihood <span style="float: right;">→</span>			
		Highly Likely	Likely	Unlikely	Very Unlikely
Consequences	Fatality/ Catastrophic event	High Risk	High risk	High Risk	Medium Risk
	Major injuries/Serious operational event	High Risk	High risk	Medium risk	Medium Risk
	Minor Injuries/Moderate Operational event	High Risk	Medium Risk	Medium Risk	Low Risk
	Negligible Injures/Minor operational events	Medium risk	Medium risk	Low Risk	Low risk

Table 1 Standard risk decision making matrix

The standard risk matrix is used to make decisions by matching the likelihood axis against the consequence axis to establish the risk level. In this example it would be **highly likely** that a worker would fall of the roof and the **consequences** of the fall would be fatal therefore the activity would be judged as **High Risk**. Decisions can now be made for appropriate **controls** as they can be ranked according the level of risk (*i.e.* **high risk activity** – highly structured control –**low risk activity** –lowly structured control). In the example above a highly structured control would include the use a scaffold system or equivalent as opposed to a lowly structured approach of working off a ladder. The advantage of risk management decision making is that identifying risk levels provides an opportunity to rank organisational activities in a framework of **high to low risks** and make decision about the best ways of prioritising risk controls. This enables more effective decision making on a range of factors from organisational goal setting to targeting of organisational resources.

### **Using Risk Management for Training Decision Making**

It is considered the advantages of risk management decision making as highlighted above can be used by organisations to make their **training decision** making more effective. The questionnaire you are now asked to complete contains questions that identify key training decision making factors that are considered important for effective training outcomes. The questions ask you to make two judgements and responses; (1) - to consider your current decision making processes and then; (2) - consider if a risk management decision making approach would provide you with any advantages. The example two following is provided to demonstrate how risk management can be used to make training decisions with the help of a training matrix based on the same methodology in example one above.

### **Example 2 - Decisions on types of training structure**

***B) A Health Service has a finite training budget and is currently planning for its next year of training implementation. Using risk management the organisation has undertaken a risk assessment to prioritise its training requirements and allocate targeted training resources. It has developed a risk ranking (high to low) for many of its courses by rating the current operational requirements of the organisation against the appropriate knowledge requirements of employees. It now has to decide on the appropriate methods for undertaking the training that has been ranked according to risk level. The training decision making matrix below provides a risk management approach for the Health Service Managers to decide on the best training methods.***

*Below is a sample of four courses from a range of courses implemented at a Health Service that have each been risk ranked (high to Low)*

1. Nurse medication training- **High Risk** – (training method from matrix- highly structured training)
2. Frontline Managers Training- **Medium Risk** – (training method from matrix - medium structured training)
3. Communication Techniques Training –**Low Risk** (training method from matrix –Low Structured training)
4. Obtaining best results from meetings training - **Negligible risk** (training method from matrix –unstructured training)

		Evaluation of training requirements in organisational risk context →			
		High Risk	Medium Risk	Low Risk	Negligible Risk
Required employee Knowledge levels ↑	Level 1 Essential knowledge/skill	Highly structured training	Highly structured training	Medium Structured training	Unstructured training
	Level 2 Important knowledge/skill	Highly structured training	Highly structured training	Low Structured training	Unstructured training
	Level 3 Basic knowledge/skill	Medium structured training	Medium Structured training	Low structured training	Unstructured training
	Level 4 Associated knowledge/skill	Unstructured training	Unstructured training	Low structured Training	Unstructured training

<b>1.Highly Structured training</b>	Rigorous test at instruction & follow up rigorous test/assess at regular intervals.
<b>2.Medium Structure training</b>	Rigorous testing at instruction. Sample follow up testing.
<b>3. Low Structure training</b>	General testing at instruction- sample follow up assessment only
<b>4. Unstructured training</b>	No testing at instruction- general assessment and sample follow up

*Table 2& 3 matrix for deciding on training methods & table showing definition of levels of training structure*

In this example the types of **training method (defined by level of training structure)** can be judged. This demonstrates an effective decision making process where training decisions can be clearly justified and aligned with corporate training goals and training resource allocation.

### Further decision making matrix

Risk management can be further applied to training decision making by using a matrix table approach to evaluate to potential outcomes of training decisions and judgement of the potential effectiveness of selected training methods. A matrix of this type can be used as evaluation process to help define or predetermine the potential outcomes of training decisions.

		Level of training structure <span style="float: right;">→</span>			
		Highly Structured training	Medium structured training	Low structured training	Unstructured training
Expected outcomes ↑	Level1 Essential knowledge acquisition	Effective outcome highly likely	Effective outcome possible	Effective outcome Very unlikely	Effective outcome very unlikely
	Level 2 Important knowledge acquisition	Effective outcome highly likely	Effective outcome highly likely	Effective outcome unlikely	Effective outcome un likely
	Level 3 Basic knowledge acquisition	Effective outcome possible	Effective outcome likely	Effective outcome possible	Effective outcome possible
	Level 4 Associated knowledge acquisition	Effective outcome unlikely	Effective outcome possible	Effective outcome possible	Effective outcome likely

Table 4 Matrix for assessing potential training effectiveness outcomes

It must be remembered that risk management is providing a decision making process for trying to determine the most effective training decisions. Therefore the table above in defining **Highly Structured Training** as being unlikely to provide **effective outcomes for associated knowledge** acquisition is not an indicating that learning won't take place but is indicating that a more appropriate method can be used to obtain that knowledge for both organisation and employee.

The final matrix below can be used by training managers wanting to consider and evaluate the cost implications of training course required by their organisations. The matrix follows the same methodology as the other matrixes with the core logic that highly structured training will come with a higher dollar cost needing more time and resource allocation than training at the unstructured end of the continuum.

		Evaluation of training requirements in organisation risk context <span style="float: right;">→</span>			
		High risk	Medium risk	Low risk	Negligible risk
Level of training structure ↑	Level1 Highly structured	High dollar cost- Low financial risk	High dollar cost Medium fin risk	High dollar cost High Fin risk	High dollar cost High Fin risk
	Level 2 Medium Structured	Medium Dollar cost Medium Fin risk	Medium dollar cost Medium fin risk	Med dollar cost Med fin risk	Med dollar cost High fin risk
	Level 3 Low Structured	Low dollar cost High Financial risk	Low dollar cost Medium fin risk	Low dollar cost Low fin risk	Low dollar cost Low fin risk
	Level 4 Unstructured	Very Low dollar cost Very High Fin risk	Very low dollar cost Medium fin risk	Very low doll cost Med Fin risk	Very low doll cost Very low fin risk

Table 5 – matrix table for assessing organisational training financial risks