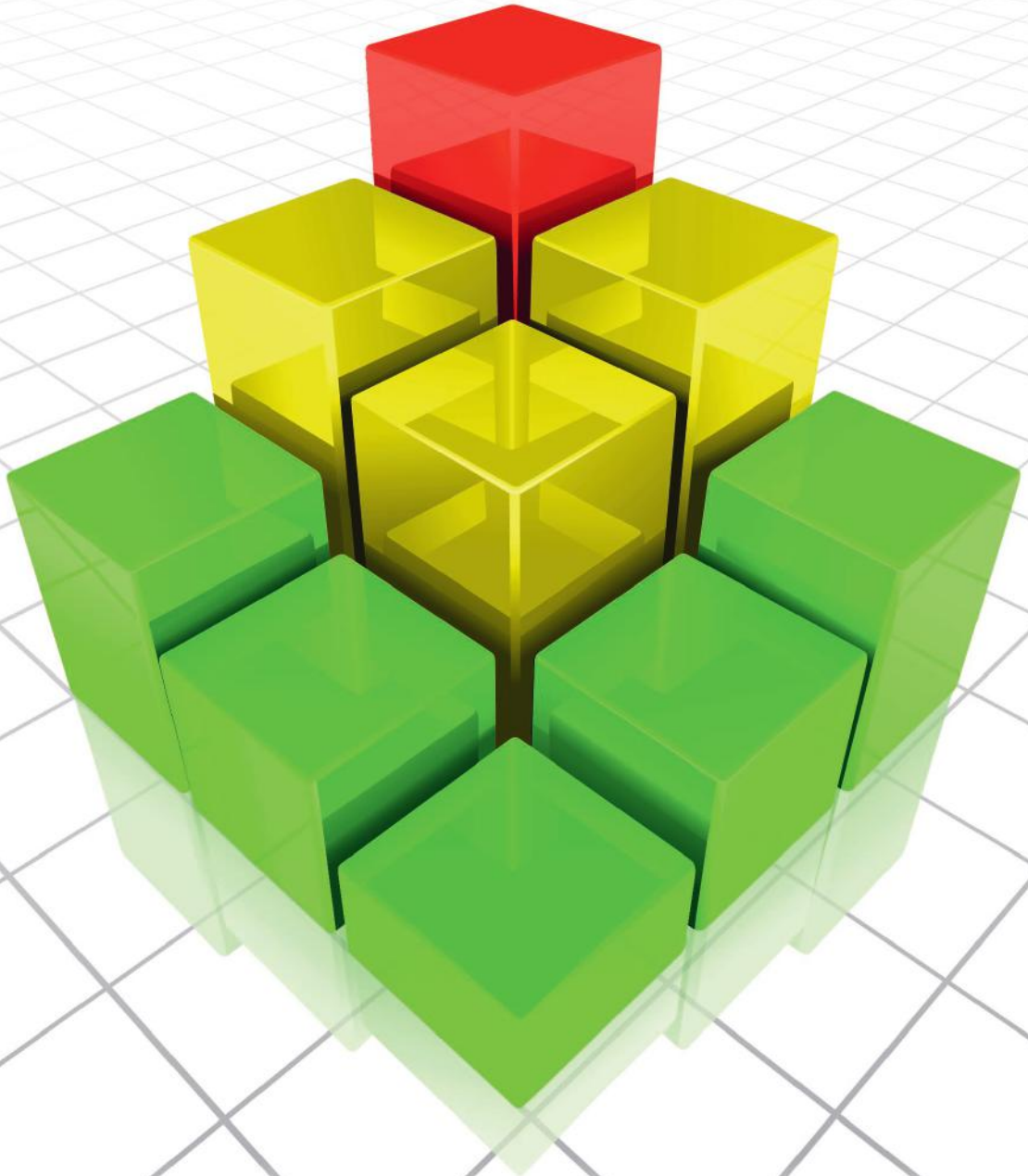


Research into the Definition and Application of the concept of risk appetite

Undertaken by Marsh and University of Nottingham

RISK APPETITE



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Preface

Risk appetite can be considered as one of the building blocks of an effective risk management initiative. However, there is still considerable debate over the exact meaning of risk appetite, the way in which an organisation should develop a risk appetite statement and how the concept should be applied across an organisation.

This report presents the findings of research undertaken by Marsh Risk Consulting and the University of Nottingham into the definition and application of risk appetite and was co-ordinated by the Risk Management Steering Group at AIRMIC. It is an important piece of original research work that represents a substantial commitment, both by Marsh and by the University of Nottingham who have proved to be very valuable partners in this exercise and have put substantial resources into undertaking this work.

British Standards published BS 31100 in October 2008. The standard is entitled "Risk Management - Code of Practice" and it offers the following definition of risk appetite "the amount and type of risk that an organisation is prepared to seek, accept or tolerate". This definition was considered as part of a survey of the AIRMIC membership and the results of that survey are published in this report.

The report seeks to evaluate the current level of 'maturity' in the application of the concept of risk appetite. The concept is used in a large number of organisations and British Standard BS 31100 suggests that "setting a risk appetite enables an organisation to increase its rewards by optimising risk-taking and accepting calculated risks within an appropriate level of authority".

Setting a risk appetite can therefore be seen as a fundamental component of successful risk management and is worthy of detailed investigation. The potential benefits of having a risk appetite statement are set out in this report. It is now for organisations to take the concept, adapt it to their own particular circumstances and gain maximum benefit. I hope that the study helps to stimulate debate and provide real value for its readers.

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June 2009

Introduction

The global financial crisis has presented major challenges for risk management. There are constant news reports bearing the messages that risk is bad and risk management has failed. Although neither of these statements is true, there is a need for risk management to demonstrate the contribution that it makes to corporate success and the achievement of business objectives.

Against that background, this research is very timely because a clear understanding of the risk appetite of an organisation facilitates business decision-making. It also ensures that the organisation is not operating beyond its ultimate risk capacity or in a way that represents an inappropriate risk to reward balance.

The report is in four parts and the first of these is a summary of the excellent literature search undertaken by the Nottingham of University. The full report is available on the AIRMIC website and it represents a very thorough review of current thinking with regard to risk appetite. The summary of that work contained in this report sets out the key findings of the literature review and provides a detailed introduction to the sections that follow.

A survey was undertaken in March 2009 of AIRMIC members and others into the use of the concept of risk appetite. This report contains a summary of the findings of that survey. The full survey report is available to AIRMIC members on the website. The survey discovered a degree of consistency in some areas with respect to how risk appetite statements are developed, but it also discovered a range of approaches to the implementation of the risk appetite statement.

Marsh Risk Consulting undertook a series of detailed interviews with risk managers who had completed the survey. The results of these interviews provide a series of short case studies demonstrating the way in which risk appetite has been developed and implemented within the organisation. The final part of the report considers possible future developments for the concept of risk appetite.

I am grateful to Marsh Risk Consulting and to the University of Nottingham for the considerable effort that they have put into this research. Undertaking a literature search, identifying suitable case studies and undertaking the level of investigation that was required has been a major task. I am also grateful to the case study organisations described in the publication as well as to the many other organisations that took part in informal discussions with Marsh but were unable to provide a detailed interview.

Paul Hopkin
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Executive summary

The research work described in this report was commissioned by AIRMIC and undertaken by Marsh Risk Consulting and the University of Nottingham Business School during the first half of 2009.

The report looks to evaluate the current definitions, challenges, approaches and insights into the concept of risk appetite. It also provides some practical guidance into how risk appetite is defined, measured and used as a strategic decision-making tool.

Report structure

This report is set out in four main sections, as follows:

- Summary of the literature search on the subject of risk appetite undertaken by the University of Nottingham Business School
- Results of the survey of AIRMIC members on the development and implementation of the concept of risk appetite
- Reports of the interviews of eight risk managers / CROs undertaken by Marsh Risk Consulting - to obtain practical details and experiences
- A review of future development of risk appetite that considers what the future may hold for risk appetite - based on discussions with subject matter experts

The summary and conclusions section at the end of this report provides details of the common themes that were developed during these strands of investigation. It is clear that further work is required in order to establish the nature of an effective risk appetite statement. In order to assist with these further developments, the key findings of this research are set out below.

Key findings

1. Definitions of risk appetite vary and not all practitioners adopt the BS31100 definition of “the amount and type of risk that an organisation is prepared to seek, accept or tolerate”
2. Some organisation prefer the distinction between risk tolerance (maximum risk that can be taken before financial distress) and risk appetite (amount of risk that is actually taken for reward)
3. The BS 31100 proposal to calculate risk appetite before strategic objectives are considered and risk identified polarised opinion and a number of participants disagreed that risk appetite had to be the starting point citing practical and organisational problems with this approach

4. Risk appetite can be expressed and calculated in a number of ways:
 - i. setting a boundary on a probability and impact grid
 - ii. economic capital measures / balance sheet based expressions
 - iii. changes in credit ratings (headroom before a potential downgrade)
 - iv. profit and loss measures (e.g. tolerable level of annual loss)
 - v. value based measures (based on probability of ruin or default)
 - vi. limits / targets or thresholds for key indicators (e.g. +/- 5% variation in profit or 1 - 2½ % variation in revenue)
 - vii. qualitative statements (e.g. zero tolerance for regulatory breaches or loss of life)
5. Risk appetite statements tend to be created in order to improve Board risk oversight and risk governance or to communicate expectations for risk-taking to managers and / or the Board of Directors
6. The principal challenges in the creation of a risk appetite statement are: achieving management understanding of the concept of risk appetite, the difficulty in measuring risk exposure as compared with appetite and gaining management interest in defining risk appetite
7. The three most common uses of risk appetite statements are for: input into strategy development and strategic decision-making, risk financing / insurance decisions and setting boundaries for business risk-taking
8. 100% of survey respondents highlighted that risk appetite was either as important as two years ago or more important than two years ago
9. Elements of 'good' practice in the area of risk appetite are:
 - i. start with a 'top down' approach as this aligns better to strategy setting processes in an organisation
 - ii. balance the requirements of various stakeholders (not just shareholders)
 - iii. understand an organisation's strategic objectives and associated risks
 - iv. align risk appetite with existing management processes (especially personal performance management process)
 - v. differentiate between short-term and longer term risk appetite
 - vi. broad communication of risk appetite in an organisation (beyond senior management)
 - vii. monitor risk appetite changes over time (retrospectively and prospectively)
10. The key benefits of risk appetite are better allocation of resources, demonstrably improved / consistent decision-making and effective alignment between strategic goals and operational activities. This encourages more conscious and effective risk taking, promoting a positive reputation for the organisation.

Chapter I: Status of risk appetite - literature review

Role and Benefits of Risk Appetite

In comparison to the debate on definitions relatively little divergence of opinion exists amongst most commentators in relation to the role of risk appetite and the benefits that can be associated with using it. The table below summarises the various roles and benefits that can be assigned to an effective risk appetite framework.

Role	Benefits
Support strategy setting	Enhanced performance by facilitating achievement of organisation objectives
	Improved strategic planning by identifying which risks to take and which to avoid
	Achieve a balanced risk profile, thereby increasing the organisation's capacity to take on risk where this is value adding
Support risk management	Better allocation of risk management resources by targeting them on areas of over or under exposure
	Improved clarity regarding the benefits of risk management expenditure leading to better Board and management 'buy in'
	Foster a risk aware culture
Set boundaries for risk taking	Enhanced corporate governance leading to happier investors, regulators and rating agencies
	Decision makers are motivated to make better and more consistent decisions
Support stakeholder value maximisation	Improved management of stakeholder expectations
	Enhanced organisational performance (e.g. improved profits, growth, cost control, etc.)
	Value (e.g. share price) of the organisation increases

Strategy setting

Risk appetite has a key role to play in supporting the design of an organisation's strategy and the resultant achievement of its core objectives. COSO (2004) states:

“Value is maximized when management sets strategy and objectives to strike an optimal balance between growth and return goals and related risks, and efficiently and effectively deploys resources in pursuit of the entity's objectives.”

The key role that risk appetite has to play here is in helping organisations to make better decisions. Almost all of the decisions that an organisation has to make involve an element of risk, meaning that when making the decision the organisation cannot predict, with absolute certainty, the outcome that will arise.

An organisation with a low appetite for risk might pass up certain seemingly beneficial opportunities on the grounds that the level of return they will actually receive is too variable. In contrast an organisation with a higher appetite for risk might accept the very same opportunities.

Risk Management

Risk appetite must support an organisation's risk management activities. Notably by determining its appetite for risk an organisation should have a clearer picture of its risk management objectives and a better understanding of:

- The risk categories and potentially even the specific risk event types that it needs to reduce its exposure to
- The risk categories / event types that need relatively little attention because the organisation's exposure to them is 'on appetite'
- The risk categories / event types that the organisation needs to increase its exposure to

Hence a key benefit is that by determining its appetite an organisation should be able to allocate its limited risk management resources more efficiently. In addition, it should help to improve buy-in for risk management activities by highlighting the consequences of not maintaining appropriate levels of risk exposure.

Moreover if an organisation's risk appetite is communicated effectively it should promote a risk aware culture where the board / management are not only prepared to talk about their organisation's risks, but also take prompt action to respond to those risks that are outside of its appetite.

Setting Boundaries for Risk Taking

By setting boundaries for risk taking the concept of risk appetite has an important role to play in maintaining appropriate corporate governance. The idea being that by clearly expressing, setting and monitoring its appetite for risk an organisation can help to constrain board / management decision-making by ensuring that they:

- Do not make decisions that expose to organisation to an excessive amount of risk by investing in risky activities or reducing expenditure on risk control
- Do not make conservative decisions that expose the organisation to too little risk and hence generating an insufficient return on its activities

This role is particularly emphasised by regulators and rating agencies. Some of whom have stated publicly their support for it.

“...our ERM methodology emphasizes the role that a well-defined risk appetite plays in risk governance. A statement of risk appetite can go a long way toward guiding strategic aspects of risk taking.” (Standard and Poor’s 2007)

“Risk appetite defines the level and nature of risks to which the board considers it is acceptable to expose the firm. It therefore defines the boundaries of activity that the board intends for the firm. It is an essential component of risk frameworks.” (FSA 2006)

Value Maximisation

A key task for any organisation is to balance the expectations of its various stakeholders by allocating its limited resources in such a way that it is able to maximise its overall value to these various groups. This is a difficult task at the best of times, however it is much easier to achieve where the organisation has a clear picture of its stakeholders’ appetite for risk.

The role for risk appetite in this context is that, if set correctly, it can be used to summarise and where possible combine the risk preferences of an organisation’s various stakeholder groups. The idea being that an organisation should consider the views of its various stakeholders and thereby set its appetite for specific risks in a manner that achieves the best possible balance of these views.

Pursuit of profit without a defined appetite for risk can lead to disaster. Many apparent risk management failures have been caused by pursuit of profits with the risks being poorly understood. Often management makes the mistake of focusing on the appetite of one group of stakeholders without giving sufficient weight to the appetites of others.

Expressing Risk Appetite

How an organisation expresses its appetite for risk is a key component of the challenge. Some expressions are highly theoretical and quantitative and while they may appear to be robust, they cannot always be understood and therefore used effectively by an organisation’s decision makers. In contrast more subjective expressions of risk appetite can be both vague and imprecise (such as statements like ‘we have no appetite for making a loss’) and may actually promote inappropriate risk taking behaviour on the part of an organisation’s decision makers.

The solution to this dilemma is to accept that in most cases there is no right way to express an organisation’s appetite for risk and that, depending on the nature, scale and complexity of their activities, different organisations are likely to choose different methods of expression. It is also important to recognise that risk appetite is a multi-dimensional concept that should typically be expressed in a variety of different ways within an organisation.

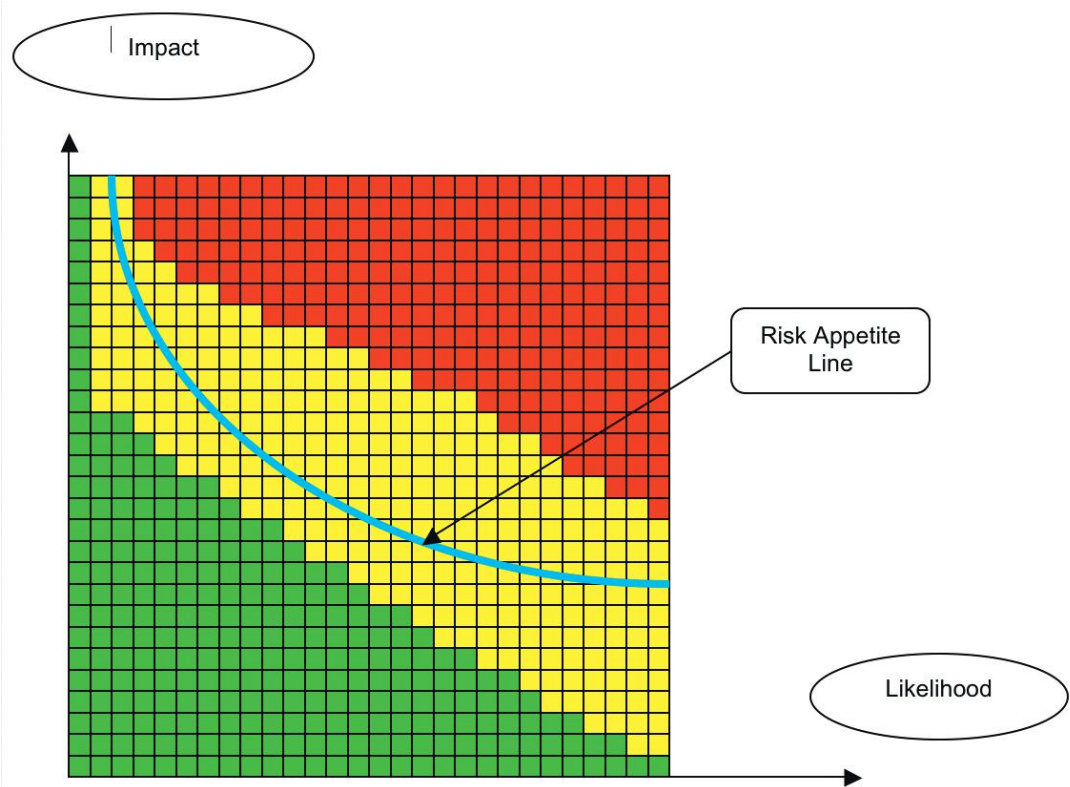
Methods for Expressing Appetite

As explained above the multi-dimensional nature of risk appetite means that it can be expressed in a variety of different ways. Below are some of the more common ways in which an organisation's appetite for risk can be expressed.

I. Setting a boundary on a probability and impact grid.

One of the most widespread approaches is to place an organisation's risks on a probability and impact matrix and then draw a line to demarcate the boundary between those risks that are deemed to be 'acceptable' and those that are not. Such a picture might look something like the diagram below.

One benefit of this approach is that it can be applied across an organisation and at all levels. Moreover it uses standard risk assessment terminology that individuals should already be familiar with, which makes it easy to communicate and therefore embed within an organisation. However the problem with this approach is that it can promote a negative view of risk – with action only taken where risk exposures exceed the agreed line.



2. Economic capital measures (balance sheet based expressions)

Balance sheet based measures of risk appetite, such as economic capital, can be a very effective way to express an organisation's overall appetite for risk. This approach is especially popular with financial institutions where organisations set levels of 'buffer' capital that can be used to help absorb unexpected losses and or allocate their available capital to specific business units, activities and even risks.

This allows an organisation to express in a few 'simple' numbers the balance it wants to achieve between its ability to absorb losses by holding surplus capital and its desire to invest this capital in order to generate a positive return. The idea being that an organisation with a low appetite for risk will wish to hold more capital, thus passing up certain positive net present value investments and vice-versa.

This method of expression can also be used to modify the risk premium / hurdle rates that are applied to investment decisions, the higher the hurdle, the lower the appetite for risk. High risk premium / hurdle rates show that the organisation in question requires a high level of return (that will be effectively added to its capital buffer) when taking risky investments.

3. Changes in credit ratings

Another popular expression of risk appetite is to refer to changes in credit rating. Where, for example, an organisation with an 'AA' rating might state that it does not wish to take any risks that may cause a downgrade to an 'A' rating. Intuitively such an expression of risk appetite is very simple. No organisation that has a credit rating is likely to want to suffer a downgrade. Hence it stands to reason that reference should be made to this when such an organisation is expressing its risk appetite.

In some ways credit rating based expressions of risk appetite can even be taken as a rough proxy for economic capital based expressions, as discussed above. Both methods of expression reflect the organisation's preferences regarding its 'probability of default' (i.e. insolvency/bankruptcy). Where an economic capital based expression might not prove cost effective to produce, a credit rating based expression could be used instead. In such a situation, the organisation is effectively outsourcing the calculation of its probability of default to a rating agency rather than relying on its own finance staff.

However there are problems with this approach. One key issue is that it relies on the credit rating being an accurate reflection of an organisation's exposure to risk, an area that has received significant attention during the current credit crunch. Moreover, a credit rating is a very blunt instrument that will not be very sensitive to the individual risky decisions that an organisation has to make.

4. Profit and loss

Profit and loss based expressions of risk appetite are often popular with shareholders and the boards of quoted companies. As with balance sheet approaches, profit and loss based expressions also have a beneficial role to play in strategy setting by helping decision makers understand the relative merits and hence weight the various outcomes that could be associated with their decisions.

However such expressions are frequently mis-understood by organisations, many of whom have an unfortunate habit of using them to only express their exposure to downside risks. This is exemplified in organisations that set maximum loss figures or issue crude statements like 'we do not wish to report a loss in any one accounting year'.

The trouble with such statements is that they can promote a negative view of risk, leading to undue conservatism by focusing attention on the maximum amount of potential loss. A good example of this is within financial services where some organisations appear to be unwittingly constraining their lending activities by setting maximum loss amounts that effectively prevent them from engaging in potentially profitable lending, because by doing so they might breach these limits in either the current or some future downturn.

5. Value based measures

Value-based expressions of risk appetite have received much less attention in the practical literature than areas such as economic capital or profit / loss. This arguably reflects the capital / profit based preferences of many of the current industry leaders in risk appetite thinking, that is the large financial institutions). Nevertheless the lack of attention paid to value based expressions is rather surprising given the linkages between the concept of risk appetite and ERM, which has at its heart the relationship that exists between an organisation's risk profile and value.

A simple way to express an organisation's appetite in terms of its value (assuming of course that it is quoted) is to set limits around the volatility of its share price or perhaps to set a target share price. The logic being that where a quoted company suffers a sudden loss it may also see a decline in its share price. Similarly quoted companies that don't take chances may also suffer a fall in their share price, if the market assumes that this will lead to lower profits in the long run. Hence by setting volatility limits or a target share price a company can direct its attention to investments, projects and activities that are likely to achieve these targets / limits.

However such an approach clearly relies on there being a strong relationship between a company's market value and the decisions that it makes regarding its risk profile. In practice share price movements are often influenced by a range of factors that are outside of a company's control.

6. Setting limits, targets or thresholds for key 'indicators'

This method of expression for risk appetite is arguably the simplest and probably also the most widespread. Even organisations that do not explicitly state their appetite for risk are likely to have a range of indicators that set limits, targets or thresholds.

Such indicators are often demarcated into one of three categories:

- Key risk indicators – that are indicators which help an organisation to monitor changes in its exposure to a specific risk event
- Key control indicators – that are indicators that help an organisation to determine whether specific controls are operating effectively
- Key performance indicators – that are indicators that an organisation monitors to keep track of its financial performance or operational efficiency

Indicators like this can be monitored without setting limits, targets or thresholds. However, it is common to set targets so that management can monitor those indicators that most require their attention.

7. Qualitative Statements

Almost all of the organisations that formally express their appetite for risk include one or more qualitative statements. Such statements might include:

- We have a low appetite for risk
- We have no appetite for fraud / financial crime risk
- We have a zero tolerance for regulatory breaches
- We will at all times attempt to avoid negative press coverage
- We will not take risks that effect the quality of customer service provided
- We are committed to protecting the environment

Such statements can be very useful and they can help to fill the gaps of an organisation's appetite for risk, by expressing certain attitudes or philosophies (e.g. an organisation's wish to avoid regulatory sanction and or reputation damage) that cannot be articulated numerically. Moreover they can be applied to areas of risk that are difficult to quantify effectively, such as reputation risks. Finally, they are often easy to understand and communicate across the organisation and can even be integrated within an organisation's policies, ethical statement or statement of values.

Emerging Views on Good Practice

The purpose of this section is to summarise some of the more common views on good practice that have been promoted in the available literature on how to implement an effective risk appetite framework.

The Top Down versus Bottom Up Debate

One issue that has sparked quite a lot of comment in the literature is whether an organisation should set its appetite for risk using a top down or bottom up approach.

	Top Down	Bottom Up
Description	Risk appetite is determined by the board and cascaded down the organisation	Expressions of risk appetite at ground level are aggregated to develop an overall appetite for risk
Advantages	<p>Board is engaged in risk issues, promoting buy in and helping to integrate risk management and strategic decision-making</p> <p>Board is best placed to balance the views of conflicting stakeholders</p> <p>Board can take an enterprise-wide view of risk</p>	<p>Ensures that all risks are captured and local factors taken into account for a specific area of risk</p> <p>Uses input from local risk experts to arrive at a consensus view of appetite for risk</p> <p>Promotes management buy in at all levels, as they have been involved in setting risk appetite</p>
Disadvantages	<p>Could be set arbitrarily according to the perceptions and prejudices of board members</p> <p>Can constrain operational management decision-making where local factors suggest a different risk appetite</p>	<p>Local views may be inconsistent and impossible to aggregate</p> <p>Local views may be 'too narrow'</p> <p>Can be time consuming</p>

Generally the literature appears to be converging on the opinion that a top down approach is best. This being on the grounds that such an approach helps to reinforce the governance and risk culture of an organisation by setting an appropriate 'tone from the top'. Some influential commentators also emphasise the link between risk appetite and corporate strategy, arguing that this will work best where appetite is set by an organisation's board.

However some commentators have also suggested that a hybrid approach may work best since this will help to alleviate the potential for undue constraints being placed on the decisions of local management. A couple of ways to achieve this in practice:

- Allow management to set a lower level of risk appetite than specified by their superiors where they believe that this is necessary
- Create a 'risk acceptance' procedure that allows management to put forward a case for allowing a specific risk exposure or indicator to have a higher value

Balancing the Requirements of Key Stakeholders

One of the benefits that can be associated with using the concept of risk appetite is that it can help to maximise the value of an organisation to its stakeholders. To achieve this, an organisation needs to pay close attention to the risk preferences of its key stakeholders and balance their sometimes conflicting objectives.

While it might be easy to see why the views of multiple stakeholder groups need to be reflected, problems can arise when trying to come up with a suitable appetite for risk that satisfies all parties. Despite the challenges this is not impossible. Moreover an organisation's failure to do so could mean that it ends up making inappropriate decisions about its appetite for risk, especially if all it focuses on is the wishes of one group of stakeholders (e.g. shareholders).

Understanding an Organisation's Strategic Objectives and Associated Risks

British Standard BS 31100 suggests that an organisation should set its appetite for risk before either setting its strategic objectives or identifying and assessing its risks.

"Both the risk appetite and risk profile should be monitored by the board (or equivalent) and formally reviewed as part of the organisation's strategy and planning processes. This should consider whether the organisation's risk appetite remains appropriate to deliver the organisation's objectives in light of internal and external drivers and constraints."
(BS31100, paragraph 3.8)

Expressing Appetite over Both the Short and Long Run

Another important observation that has been made within the literature is that an organisation should consider setting its appetite for risk over both the short and long runs. The value of this practice has been noted by a number of influential commentators, particularly within the financial services sector:

This liquidity crunch is fundamentally the result of the credit bubble bursting. Too much liquidity and overcapacity in the industry resulted in much lower underwriting standards. Consequently, consumers became over-leveraged. With new entrants in both the mortgage lending and bank loan markets, competition led to loan terms that didn't compensate for the risks.

Many commentators recognised the potential consequences long before they became real. A financial institution cannot afford to be risk averse unless it can accept a significant loss of market share. In a very competitive market, however, banks sometimes have to take the long-term view and refrain from taking excessive risk.

The Effective Communication of an Organisation's Risk Appetite

The importance of effective communication is emphasised by almost all commentators. The logic being that there is little point going to the expense of determining an organisation's appetite for risk if this is not subsequently cascaded to all of its decision makers, so that they can understand the 'rules' within which they should be operating.

Some of the key lessons on communication that have been identified within the available literature are as follows:

1. The need for clarity when communicating an organisation's appetite for risk
2. An organisation should express its appetite for risk using concepts that can be understood by both the board of directors and management
3. An organisation should produce a formal risk appetite statement

Typically such a statement should be organisation-wide, covering all business areas and risks, however larger organisations may also wish to develop business unit specific and or risk specific appetite statements. The importance of having a documented statement is emphasised within the new British Standard:

“The organisation should prepare a risk appetite statement, which may provide direction and boundaries on the risk that can be accepted at various levels of the organization, how the risk and any associated reward are to be balanced and the likely response.”
(BS31100)

Embedding Risk Appetite into Managerial Decision-making

In tandem with the effective communication of risk appetite an organisation must also ensure that its management / staff are motivated to make decisions that are in accordance with its appetite for risk. Motivating an organisation's employees is never easy however there are some practical solutions that can be utilised. Notably an organisation might decide to reflect its appetite for risk within:

- Staff training initiatives – which could be used to promote risk awareness and reinforce an organisation's qualitative risk appetite statements
- Incentive schemes, whereby management might be rewarded for achieving specific economic targets whilst keeping risk indicators within agreed limits
- Performance management and objective setting initiatives where staff are given objectives that are directly aligned to current risk appetite priorities

The Link between Risk Appetite and Risk Monitoring

The last significant good practice lesson within the literature relates to the importance of risk monitoring within any sound risk appetite framework. The logic behind this lesson is very simple – in that there is no point an organisation going to the trouble of determining its appetite for risk if it does not then monitor the state of its actual risk profile and the extent to which this deviates from its ideal. This is emphasised within the new British Standard:

“Both the risk appetite and risk profile should be continuously monitored by the Board (or equivalent) and formally reviewed at least annually alongside the organisation's strategy and planning processes. This should consider whether the organisation's risk appetite aligns with the organisation's risk profile and that the risk appetite remains appropriate to deliver the organisation's objectives in light of internal and external drivers and constraints.” (BS31100)

How an organisation goes about determining and monitoring appropriate management information will clearly vary according to the nature, scale and complexity of its activities. If it is to be effective the approach must be aligned to the ways in which risk appetite is expressed within the organisation.

Chapter 2: Survey of AIRMIC Membership

Survey demographics

A survey was designed by Marsh and AIRMIC and sent to the entire AIRMIC membership base (over 800) in order to gather perspectives around the development and application of risk appetite. The response rate was just over 13% of member companies and the responses came from a variety of industries including: Engineering, Financial, Chemicals / Pharmaceutical, Natural resources, Telecommunications / Media, Food, Leisure, Property and Retail Distribution.

Survey results

The following key aspects of the survey of AIRMIC membership will be described (a full copy can be found on members only part of the AIRMIC website):

- Definition of risk appetite
- Risk appetite as driver of strategy or consequence
- Qualitative or quantitative approach
- Development of risk appetite statement
- Why risk appetite statement was developed
- Difficulties in developing risk appetite statement
- Communication of risk appetite statement
- Practical application of risk appetite
- Role of risk appetite in decision-making
- Importance of risk appetite statements

Definition of risk appetite

The questionnaire offered the definition of risk appetite set out in British Standard BS 31100 as “amount and type of risk that an organisation is prepared to seek, accept or tolerate”. Although the definition was found to be quite useful by many (37%) risk managers completing the survey, there was a range of opinions between extremely useful (6%) and not at all useful (4%).

When asked how they developed their own risk appetite statement, many risk managers said that they had used the BS 31100, ISO 31000 or COSO definition as the basis for their own risk appetite statement.

The survey asked risk managers whether they have produced a single unified statement to use across the organisation or provided separate statements for different types of risks. In the majority of cases (82%), risk managers had developed a unified statement for use across the organisation. Only in a minority of cases (18%) where a risk appetite statement had been produced was it produced as separate statements to cover different types of risk.

The survey asked risk managers whether they had produced a single unified statement to use across the organisation or provided separate statements for different types of risks. In the majority of cases (82%), risk managers had developed a unified statement for use across the organisation. Only in a minority of cases (18%) were risk appetite statements produced for different types of risk.

These results indicate that the BS31100 suggestion of having a risk appetite statement for various levels in an organisation has not yet been fully cascaded through the organisational structures of many companies. This is aligned to an organisation's overall ERM maturity as risk appetite forms a key component in any ERM maturity model.

Risk appetite as driver or consequence

There has been debate about whether organisations treat risk exposure as a driver of business decisions, or whether the risk exposure faced by an organisation can be considered to be a consequence of decisions already taken. In view of this, the question was asked whether risk appetite is used as a strategic planning tool or whether risk appetite is only considered after strategic decisions have been taken in order to evaluate the risk implications of those decisions.

The answer to the question whether risk appetite is a driver or a consequence was fairly equally split with 29% stating that the risk appetite statement is a planning tool and part of strategic decisions. 24% stated that the risk appetite statement is used as an analysis tool, after strategic decisions have been taken. A further 24% stated that the risk appetite statement is used both as a driver and a consequence.

In summary these results suggest that risk appetite does play a reasonable role in both the creation of strategy and as a monitoring tool once strategic plans have been created.

Qualitative or quantitative approach

As mentioned in the research paper by the University of Nottingham, risk appetite statements can be qualitative or quantitative in nature. The question was asked in the survey whether the risk appetite of an organisation should be established in qualitative or quantitative terms in respect of different types of risk.

Qualitative statements were preferred in the majority of cases (88%) in respect of strategic risks; although quantitative statements were also commonplace (79%).

It is not surprising that quantitative statements were favoured (92%) rather than qualitative statements (54%) for financial risks.

Likewise, there was a preference to produce quantitative statements (88%) for operational risks. However, this preference was not strong with qualitative statements being produced in many cases (83%). Quantitative analysis of the compliance risks can be somewhat more difficult, so the production of quantitative risk appetite statements was preferred by fewer risk managers (66%). Qualitative statements of risk appetite in relation to compliance risks were produced by 83% of risk managers who responded to the survey.

In summary, this suggests that the participants apply quantitative techniques to operational and financial risks whereas for strategic, compliance and reputation exposures a more qualitative approach is adopted.

Development of risk appetite statement

Questions were asked in the survey about how the risk appetite statements were developed. Various techniques were reported, including evaluation of the credit rating (27%), auditors' statement of materiality when producing accounts (27%) and consideration of the value at risk (60%). It was also reported that judgement was used in the vast majority of cases (90%), as well as the use of the benchmarks (60%) and Key Performance Indicators (56%). As can be seen from these figures, the majority of the organisations use more than one technique to determine risk appetite.

A question was asked about how the risk appetite statement(s) was developed and only a minority of organisations reported using external consultants (12%). Also, the use of bottom-up techniques was not one of the more popular approaches (17%). In order of popularity, the method used for the development of risk appetite statements was as follows:

- Top down from senior management (50%)
- Top down from the Board (42%)
- During risk assessment workshops (38%)

Why risk appetite statement was developed

In order to understand how organisations are going to benefit from having a risk appetite statement, it is important to know why the statement was developed. Multiple answers were allowed to this question and it is obvious that most organisations had more than one reason for wishing to develop a risk appetite statement.

The most popular answers to that question “if you have a risk appetite statement, indicate why this was developed” were as follows:

- Improved Board risk oversight and risk governance (71%)
- Communicate expectations for risk-taking to managers (54%)
- Communicate risk to the Board of Directors (54%)
- Achieve greater management consensus around risk (46%)
- Set limits for risk / reward trade-offs (42%)
- Increase accountability for management decision-making (38%)

Difficulties in developing risk appetite statement

The challenge in producing a helpful risk appetite statement is considerable and so the survey asked risk managers about the difficulties in developing an approach to risk appetite and the development of a risk appetite statement. Again, multiple answers were allowed so that risk managers could identify the full range of difficulties associated with producing a risk appetite statement.

The following list of difficulties from the survey identifies the wide range of issues that need to be tackled when producing a suitable and sufficient statement of the risk appetite of an organisation. There are many difficulties to overcome, so that the statement is as relevant and beneficial as possible:

- Achieving management understanding of the concept of risk appetite (58%)
- Difficulty in measuring risk exposure to compare with appetite (55%)
- Gaining management interest in defining risk appetite (48%)
- Demonstrating the value of having a risk appetite statement (45%)
- Inability to integrate risk appetite with operational activities (42%)
- Developing suitable quantitative risk measurements (39%)
- Limited availability of relevant supporting data (35%)
- Insufficient in-house expertise to define risk appetite (23%)

Communication of risk appetite statement

Having developed a suitable risk appetite statement, the risk manager then needs to communicate the statement throughout the organisation. For organisations that had produced a risk appetite statement, there did not appear to be wide distribution of that statement. For example, there were no reported cases where the risk appetite statement was communicated to contactors or suppliers. Likewise, there were no cases where there was a requirement for the risk appetite statement to be considered as part of capital expenditure submissions.

Including the risk appetite statement as part of annual budget preparation guidance was only reported in 5% of cases. In answer to the question “how is the risk management statement communicated throughout the organisation”, the most common response (45%) was that it was produced as a separate document sent to senior management.

Only in a minority of cases (23%) was the risk appetite statement available to all employees. By coincidence, this was the same as the percentage of organisations that reported that the risk appetite statement was confined to the Board only. It is clear that broader communication of risk appetite needs to happen – outside the senior management group.

Practical application of risk appetite

Having produced the risk appetite statement, organisations were then asked how they apply the statement in practice. There was a wide range of answers, including that the risk appetite statement is used to limit chances of an adverse movement in credit rating (9%). It was reported that the risk appetite statement is used to provide value-based measures, such as risk adjusted return on capital (13%) and it is used to provide capital measures based on the balance sheet (13%).

The four most popular answers about how the risk appetite statement is applied in practice were as follows:

- To set a boundary on probability and impact of events (65%)
- To set limits, targets or thresholds for key indicators or KPI's (39%)
- To compare with industry benchmarks / loss experience (30%)
- To limit impact on profit and loss / earnings statement strength (26%)

This question in the survey used the same options as described in the “Expressing risk appetite” section of the literature search discussed earlier in this report. These results support the perceived view that risk appetite is used mainly to set boundaries on risk matrices / maps as part of the ERM processes in the organisation.

Role of risk appetite in decision-making

The developing attention paid to risk appetite and the importance placed on this concept by risk management standards indicate that understanding and application of risk appetite has an important role to play in decision-making. A question was asked in the survey regarding decision-making and the activities that the risk appetite statement is intended to support.

Although there was an acknowledgement that a clear understanding of risk appetite assists stakeholder value maximisation (32%) and also assists loss control investment decisions (32%), other benefits were given higher priority. In order of importance, the support and contribution that comes from having a well developed risk appetite statement was reported as follows:

- Strategy development and strategic decision-making (71%)
- Risk financing / insurance decisions (62%)
- Set boundaries for business risk-taking (59%)
- Project management / delivery (50%)
- Investment and M&A decisions (47%)
- Contract placement decisions (44%)

Importance of risk appetite statements

The final question of the survey asked whether the importance of the concept of risk appetite had changed during the past two years. In all cases, risk managers reported that the concept of risk management was as important (44%) or more important (56%) than two years ago.

Overall the survey results support the following views about risk appetite and development and application of risk appetite statements:

- There is no one single accepted definition of risk appetite and that the concept is still being developed
- Risk appetite statements tend to be confined to senior management with limited cascade to other stakeholder groups including employees
- Risk appetite does play a 'supporting role' in formulating strategy and also as a monitoring tool after strategic decisions have been made
- The most common uses of risk appetite are to set boundaries within traditional probability and impact risk matrices (ERM process)
- Both qualitative and quantitative risk appetite statements are equally valid with quantitative focused on operational and financial risks and qualitative on strategic, compliance and reputation based exposures
- Many techniques are used to calculate risk appetite, including financial benchmarks, credit rating metrics, auditors / regulatory statements of materiality and value at risk measures
- The top 3 reasons for developing a risk appetite statement are: to improve board risk oversight and governance, communicate expectations for risk-taking to senior managers and to communicate risk to the board
- Key difficulties when developing a risk appetite statement are gaining management understanding of risk appetite and measuring risk exposure as compared with appetite

Chapter 3: Case Study Interviews

Introduction to case studies

AIRMIC is grateful to the eight organisations that spent the time with Marsh Risk Consulting to debate the concept and application of risk appetite. These case studies support a number of the findings in earlier sections of the report but more importantly add a practitioner perspective on:

- Current approaches to risk appetite;
- Risk appetite measurement;
- Areas for improvement and future development; and
- Lessons learned and benefits achieved

Each case study is structured around these key themes. The following case study organisations are considered:

- J Sainsbury's
- ITV
- Severn Trent Water
- Morgan Crucible
- Invensys
- Coca-Cola Hellenic
- Financial Institution (anonymous)
- Heavy Manufacturing Industry (anonymous)

Case Study I: J Sainsbury's

J Sainsbury plc

Paul Howard

Head of Insurance & Risk Management

About Sainsbury's

J Sainsbury plc consists of Sainsbury's Supermarkets Ltd— a chain of 502 supermarkets and 290 convenience stores – and Sainsbury's Bank.

Sainsbury's Supermarkets is the UK's longest standing major food retailing chain, having opened its first store in 1869. The Sainsbury's brand is built upon a heritage of providing customers with healthy, safe, fresh and tasty food. Today it differentiates itself by offering a broad range of great quality products at fair prices with particular emphasis on fresh food, a strong ethical approach to business and continuous leadership and innovation.

Risk Management is an integral part of the Sainsbury's decision-making processes with a wide range of risk support functions that provide specialist advice and assistance. Crucial to this is senior level commitment which has helped create the correct culture and allowed the process to evolve.

Current approach to risk appetite

Sainsbury's 'Pure Risk Self Assessment Process' is currently managed by a dedicated member of the Audit Team. Regular workshops are held and the communication of risk appetite is through these workshops, flow charts and decision-making filters.

In order to manage risk appetite on projects, each project must provide a 'Risk Map/ Assessment' which is then presented to a Board committee for review; Final agreement must be obtained in order for the project to commence.

One practical example of assessing risk appetite is the 'Concept House' Store which has been designed to monitor the trial of new ideas and innovations. This allows alignment with risk appetite as this is a key part of the final investment decision process.

Risk appetite measurement

'Reputation' and 'Perceived Pain' plays a key role in the measurement of risk appetite. Risk Maps have been established to measure this. The level of severity is defined as the impact on the company's reputation - ranging from local news coverage to negative international news coverage. Life-time customer-spend referred to as 'Lost opportunity' is also a key measurement - reflecting the potential upside of risk. Additionally, the timing of an event may increase the level of exposure. e.g. before quarterly or year end results.

Sainsbury's operate on a 'Zero Tolerance Policy on loss of life'

Risk appetite is applied to Sainsbury Insurance annual aggregate retention decision-making.

A further practical risk appetite example is in the area of Modular car park construction. The current time scale for construction is approx. 28 weeks. Modular car parks can be built in 4 weeks hence overall cost saving outweighs risk appetite boundaries. This reflects the need to see risk appetite in the context of cost/ benefit and the 'upside' of opportunities.

Areas for improvement and further research

One of the key risk management challenges is managing the pace of activities and coming up with solutions – being an enabler rather than a brake.

The main lessons learnt is the benefit of using a Group Peer Review System, this allows for an audit trail and can provide a sense of priority for individual cases.

Looking at how other organisations tackle risk appetite issues is a major interest as is viewing other company perceptions and common language.

Moving into the next generation of 'bright' ideas and the evolution of risk appetite will enable companies to look at what else can be done to support their organisations.

Case Study 2: ITV



Graeme Lee
Head of Risk Management

About ITV

ITV is the biggest commercial television network in the UK, broadcasting the most talked about television and making a major contribution to the UK's culture, economy and communities.

The ITV Network is made up of 15 regional licences, providing television to viewers across the UK. 11 of the licences in England and Wales are owned by ITV Plc, formed in 2004 following the merger of Carlton and Granada.

Current approach to risk appetite

ERM has been developed in the last year. The aim is to embed the evaluation of key risks into the business quarterly reviews and link these more closely to strategy and business KPIs. The concept of risk appetite has been raised and discussed by the NED's (Non Executive Directors) on the Audit Committee and ITV are considering how best to define and use their risk appetite.

The nature of Programme production is highly risky and advertising revenue certainty can only be gained over a short-term (3 months) hence the practical application of risk appetite is much easier in the short term financial context but much more difficult in the longer term.

The communication of the strategy dictates the risk appetite of the organisation e.g. the number and types of programmes that are required to be made (portfolio) – hence this is necessarily qualitative. Risk appetite can and does influence the commissioning, as does the way in which rights are sold to overseas networks e.g. this may dictate the format for certain programmes.

Broadcasting is highly regulated and going through a period of market change, hence regulatory compliance is a key governing aspect on risk appetite.

Risk appetite measurement

Some of the KPIs include advertising revenue; Regulatory compliance and Ofcom interventions.

Reputation plays a key role in risk appetite measurement and this is assessed by focusing on the impact to the business as a whole rather than the more common approach of using local – international media exposure as the severity assessment measure.

Risk Assessment is linked to the Risk Management process in the sense that the strategy and criteria for programme selection must be met for any project. There is a zero tolerance for loss of life, serious injury or institutional compliance breaches.

A wider Risk Management / risk appetite process has been used to make decisions and enrich debate e.g. when considering whether to put on late night BINGO, due to the potential of Ofcom breaches the decision was made that the project would not proceed without an additional control of an 'obscene language filter'.

On the Risk Management structure, editorial control and 'final say' now has much more legal involvement (reflecting risk appetite criteria of zero compliance breaches).

Areas for improvement and further research

Uncertainty around advertising revenue, a changing business model and the onerous regulatory environment create significant challenges in articulating risk appetite. The focus on trying to tie risk appetite to strategy highlights the need for a fluid and qualitative approach to risk appetite and not be too quantitative.

There is a desire to make risk appetite more forward-looking (have 'future outlook' on risk registers) as ERM continues to be embedded.

The creation of a common language e.g. what is a 'quality' programme in ITV's context will help to drive behavioural change.

In the future it is envisaged that risk appetite will develop from a largely observing process to a culture of reporting and accountability.

Examples on how other organisations tackle risk appetite should help to provide key trends and aide work towards a common language in the risk appetite field.

Case Study 3: Seven Trent



Mick Michael

Risk and Insurance Manager

About Seven Trent Water

Severn Trent plc is the second largest water company in the FTSE100. Following the disposal of non-core operations in 2006, the company restructured its activities into two complementary streams and embarked on a journey to become the best water and waste water company in the UK by raising standards and delivering continuous improvement. The Group employs over 8,000 people and in 2008 turnover was over £1.5bn.

Severn Trent Water is the Group's largest operation serving more than eight million people across the Midlands and mid Wales.

Severn Trent Water is regulated by Ofwat, the Drinking Water Inspectorate and the Environment Agency amongst others. The company's 25 year plan, in the form of the Strategic Direction Statement, outlines eight Key Strategic Intentions (KSIs), being the things the company intends to achieve consistently between now and 2035.

Severn Trent Services (STS), headquartered in Pennsylvania in the USA, supplies products and services associated with water, wastewater and contaminated land. Severn Trent sees this as a key area of growth for the Group going forward.

Current approach to risk appetite

Risk appetite is qualitative and Seven Trent employed consultants to help define and formalise their thinking. Severn Trent recognises that risk tolerance (maximum risk that can be taken in theory) is different from risk appetite (how much risk can be accepted in practice).

Risk appetite has been categorised into 3 zones – conservative, prudent and aggressive, based on financial metrics, regulatory KPIs and credit rating 'headroom' measures.

Risk reporting is done twice a year involving Severn Trent's Directors and senior managers. Their ERM process generates business risk maps which consolidate to a Group-level risk map. The risk reporting threshold applied to generate the Group-level risk map aligns with our prudent risk appetite measure. The ERM process is now being applied to the Severn Trent Water change agenda.

Risk appetite is different in the regulated entity versus STS. They observe a higher risk appetite in STS recognising the competitive markets the business operates in and the inherent political and country risks the business is exposed to.

A practical application of risk appetite is in the area of tax planning and decision-making. They operate a 1-7 rating scale of risk aversion (1) to risk seeking (7).

Risk appetite measurement

KPI measurements – report on 20 KPI's that support the achievement of the eight KSI's. KPI's are a mix of financial, operational, regulatory and H&S measures. Revenue is often used as a basis for risk appetite with a rule of thumb range of 1-2.5 being applicable, with the higher end point being more appropriate for STS (reflecting the higher relative risk appetite). Credit rating is also a key risk appetite measure.

Seven Trent is risk averse on reputation impact (both personally and corporate wide) and adopts a 'zero by choice' approach for loss of life or ethics breaches.

Risk appetite depends on the nature of event. Given our business environment, we need to focus on high impact/low probability events e.g. 1/200 year flooding event, to ensure that we have appropriate insurance and contingency plans in place to reduce the impact should such an event occur. For less likely events, steps are taken through business planning to reduce the likelihood of occurrence by, for example, building resilience into our operations.

Areas for improvement and further research

Challenges and lessons learned; show the value to the business and allow the ERM process to bed down before changing. Continue to push the common language. Learning 'to be brave' – we are on a journey of continuous, iterative improvement.

Benefits achieved include improved stakeholder buy-in. ERM informs the Internal Audit plan and Insurance programme. We are working to embed good risk management principles in business decisions.

Moving to the future, it would be good to see what are other organisations doing regarding risk appetite (what does good look like?) and how relevant information can be presented to gain maximum impact.

Case Study 4: Morgan Crucible

Paul Taylor
Director of Risk Assurance

About Morgan Crucible

From medical instruments, aerospace, power generation and satellite communications to body armour, trains and fire protection systems: Morgan Crucible's materials, technical and insulating ceramics and carbon, are fundamental components of many of the modern world's sophisticated products.

With the rapid development of increasingly complex technology, our customers are demanding more from the materials they use, and are looking for a partner who can work with them to respond to the pace of change. Morgan Crucible's knowledge, skills, design and technical expertise, built up over 150 years in the business, means we tailor our materials to deliver the specialist functionality our customers require, while taking care of the impact our products have on the environment both during and after their useful life.

Morgan Crucible's advanced materials – technically complex, high value, bespoke solutions – are the future.

Current approach to risk appetite

Risk appetite is being developed as part of a risk mapping matrix. The Morgan Crucible process is currently being rolled out within the Group.

Risk mapping is broken down by impact (non linear) and probability. Financial impact is mapped by calculating: 5 year impact on operating profit + Loss/damage to assets + cost to recover the business and any external fines/penalties. This is produced on a 6x8 Risk map with red, amber, green risk appetite zones which are selected by the business owners.

Probability is measured as a % in any Year – 1%-90%, a qualitative statement and a return frequency (e.g. 1 in 100 years). The overall aim is to present a simple format that is pushed to next organisational level – hence it forms part of the performance management culture. The principle is that no risk should manifest itself that has not been identified and assigned to the correct individual / risk appetite 'zone'.

Current communication is managed through workshops and a common language has been established throughout.

Risk appetite example – a key component in the manufacturing process was so critical and above the Board's risk appetite that 100% redundancy was built in to the process (investment risk adjusted decision-making).

Risk appetite measurement

The main KPI measurements for Morgan Crucible are: Loss of Operating profit, Health and Safety Issues, Serious impact on reputation (local – minimal, mid level, high level – serious damage to reputation).

It is important to recognise that risk appetite can vary depending on the risk each person is willing to take – underlying the importance of risk perception.

An important driver for decision-making is judgement e.g. is the residual risk acceptable? It is not always scientific, and can sometimes go on 'gut feeling'.

The value of Risk Management provides improved predictability, fewer unwanted surprises, improved compliance and enhanced company reputation.

Areas for improvement and further research

One of the key challenges in developing risk appetite and embedding the wider ERM programme is resistance to change and bureaucratic process (recognising managers are busy). One example being similar or competing processes such as FMEA may have already been used for some risk assessments.

It is vital that we are compliant with the relevant standards – SOX, COSO, Turnbull (although they do not really define risk appetite.)

A key development for risk appetite would be the availability of software that could manage risk information in a simplistic way without the requirement of complex set up processes e.g. lack of compatibility with existing systems and management processes.

As a whole risk appetite does not need to be made so complicated, simple tools for busy managers that can quickly show value should be available. Removing the myths and providing tools that can be used practically to demonstrate business value are essential.

Case Study 5: Invensys



Chris McGloin

Vice President Risk Management and Insurance

About Invensys

Invensys is a global technology and controls group focussing upon industrial automation, rail transportation and controls.

The Operations Management business comprising IPS, Wonderware and Eurotherm, is a leading supplier of automation solutions that enable industrial customers to improve efficiency, profitability, productivity and safety.

Invensys Rail is a multinational leader in rail signalling and control software solutions.

Invensys Controls is a global provider of controls, systems and services used in the appliance, commercial refrigeration and heating, ventilation and air conditioning markets.

Invensys employs 23,000 people with facilities in 60 countries and provides business solutions to customers in 180 countries.

Current approach to risk appetite

Risk appetite is qualitative and built into the decision-making processes e.g. delegated authority limits vary by issue e.g. investments, projects, contracts, agency agreements and consultancy appointments. Some rules of thumb and credit rating methodologies are used to calculate a 'financial pain threshold'.

Risk appetite within Invensys is seen through an 'avoidable losses' lens. Risk has an upside and downside and a 'totem pole' concept is used to measure levels of risk – quarterly re-appraisal by business groups.

Risk appetite measurement

KPI measurements for Invensys are: Opbit, sales revenue, Health and Safety measures, order book value and margins.

Practical examples are used in considering investment strategy for the pension fund (% in equities). Credit rating headroom calculations are done on cash flow to inform investment strategy e.g. Country Risk.

Invensys are risk averse on reputation impact e.g. product quality, and risk appetite can vary depending on the risk e.g. there is a zero tolerance to loss of life, compliance breaches and ethical concerns. There is also a very low appetite for 'off-strategy' risks i.e. those risks not in the direct pursuit of business objectives or strategy.

Areas for improvement and further research

Risk appetite should not be viewed as a single number; calculating 'avoidable loss' is difficult. The focus will be on undertaking reviews at BU and PLC level (top down and bottom up), constantly asking 'what are we trying to achieve for the business? As always the use of a common language that all parties subscribe to is vital.

Risk appetite needs to be an integral part of wider business processes and decision-making e.g. project / contract risk. How risk appetite works across international boundaries is also a key consideration.

Improvements for the future should be focused on how to institutionalise risk appetite into decision-making.

Understanding what other organisations are doing to tackle risk appetite issues, e.g. how they measure maturity and their "key lessons learned" would be useful areas to develop.

Case Study 6: CC Hellenic



Adam Greene
Group Risk Manager

About CC Hellenic

Coca-Cola Hellenic serves approximately 550 million people in 28 countries. We are one of the largest bottlers and vendors of the Coca-Cola company's products in the world, and the largest based in Europe.

Current approach to risk appetite

Appetite is not explicitly defined but is implied in decision-making – key aspects include level of control inherent in the business. Risks are viewed through two lenses; variance from expected and uncertainty with heat maps being used (5x5 impact/likelihood grid) and quarterly risk escalations to group level.

Numerous checks and balances are utilised at each decision node including sign-off levels for Capex and M&A decisions. Code of Conduct and similar policies are used to 'communicate' risk appetite.

Risk appetite measurement

Risk categories are utilised, for example; Strategic, tactical and operational. Risk appetite, and therefore risk response/treatment, varies by type of risk e.g. a zero tolerance exists for loss of life.

Qualitative measurement is 'potential surprise' i.e. were we aware of this issue and had we planned for the risk? This is built into the performance management process.

A Code of Conduct used to define risk appetite boundaries e.g. there is a zero tolerance for corruption.

KPI's linked to risk appetite are as follows: – EBIT (+/- 5% considered as material), quality measures, reputation, H&S measures.

Areas for improvement and further research

The key lessons learned are that: aggregating of risk across different entities and subjects is complex, don't try and be too exact or over complicate (the world is imprecise), be consistent, and consider the best communication forum for risk information. Remember risk appetite is for guidance and contextual purposes only and relevant at one point in time.

To fully realise the benefits of risk appetite we must move from intuitive non-documented Risk Management to formalised Risk Management, changing organisational behaviour in the process. In addition we must look back at decisions made through a risk appetite lens and consider implications, lessons learned etc. At all times we should consider 'what is the business value?'

Establishing credible reference points and methodologies will drive 'best practice' standards in risk appetite.

Case Study 7: Financial Institution (anonymous)

Current approach to risk appetite

The organisation adopts the traditional Financial Institution approach to risk of Operational, Market and Credit categorisations. Risk appetite is defined at group level, Business Unit (BU) and trading arm.

Aggregation of risk and counterparty risk appetite is clearly defined - key relationship managers give a view on risk aggregation exposure to any single counterparty.

The use of the term 'mandate and scale' help define risk appetite i.e. is this within our mandate as laid down by the strategic plan and are we operating within the scale our stakeholders would expect?

Communication and ultimate ownership is through the 'Group Risk Oversight Committee' (which sets overall risk appetite). This filters to the Risk Committees and Risk Directors in each major BU to be used in the creation of their governance policies and strategic decision-making criteria.

Risk appetite measurement

There tends to be a mixture of empirical and qualitative data. Traditional VaR (value at risk) quantitative approach taken on Operational and Market risk. Credit risk scoring and credit profiling are used in the counterparty risk area.

Group level risk appetite is expressed as a percentage of turnover with 'headroom' above key capital and credit rating metrics forming a key part of the process. Risk weighted assets linked to Economic capital form a key part of the risk appetite equation. The phrase 'group level significance' is used as a qualitative measure to highlight areas exceeding defined risk appetite.

Compliance is a key risk appetite measure (as is the relationship with the relevant regulator).

There is no 'one size fits all solution' as each geography, BU and product has a different risk/reward profile.

The Institution is still relatively risk seeking due to its global reach and demands from its client base. However, this is less than 2 years ago notably in the areas of country risk, tax risk and capital instrument risk.

Areas for improvement and further research

There is an acknowledgement that the current approach is very empirically driven - perhaps more of a mix with qualitative criteria could be developed in the future. Numerical analysis is not a substitute for management judgement.

The Institution uses the so called '3 lines of defence' ERM model – central risk team, local business risk teams and audit / assurance. A common challenge is getting the balance right between these 3 layers and aggregation risk effectively across a complex and diverse client portfolio.

The perceived benefits of risk appetite are: organisational and improved stakeholder buy-in, improved business and insurance decisions. In addition, the risk appetite process helps drive Audit plans avoiding duplication and wasted resources.

Other areas for development are: how to consider the consequences of an item outside risk appetite, how to deal with systemic risk (peeling back to root cause of the problem) and how to factor 'reputation' into risk appetite models.

Case Study 8: Heavy Manufacturing Industry (anonymous)

Current approach to risk appetite

Risk appetite is covered in a Risk Management Guidance note which is sent to Executive Levels in the Business Units (BUs), Hubs and at the corporate centre.

All risks above £1 million must be addressed.

Risk appetite is mainly financially driven by requiring additional detail on 'top 10' risks. A 4 point financial impact scale is used to measure risk impact and a 3 point on probability (qualitative). The top end of the scale roughly equates to 5-10% of profit in the major BUs.

Risk appetite is communicated through the Risk Management guidance notes with the CEO approving the guidance notes. The key objective is 'to help businesses achieve their annual plans'.

Risk appetite measurement

Key metrics used in risk appetite are: Injuries (LTIs), ebitda, credit rating criteria (although less important now as the company is part of 'larger entity').

The organisation is risk averse on reputational impact and has zero tolerance for loss of life, ethical breaches. Project risks differ from business risks but a similar process is used to manage these.

A risk matrix monitors key risks and risk appetite levels – colour coded thresholds exist for reporting purposes.

Areas for improvement and further research

The process has now been in operation for over 10 years and is therefore well embedded and understood by the business. Numbers / thresholds have remained consistent in order to keep the process simple. There is a constant need to involve local BU finance, Internal Audit, and ask 'what is working well and how can the process be improved?'

Examples of benefits realised are: increased organisational buy-in, risk embedded decision-making. The risk process has also helped focus management attention on the most significant issues - avoiding duplication and wasted resources.

Areas for future development are: Risk Management disciplines within project risk, how to institutionalise risk appetite and the development of leading indicators to monitor changes to risk appetite.

In order to meet these challenges the organisation will seek to understand what other organisations are doing to tackle risk appetite issues and specifically how has this changed their Risk Management process.

Summary of case study findings

In summary, the case studies highlight the following key findings:

- Risk appetite tends to be part of the overall ERM process and practically applied through the use of risk matrices / maps showing thresholds which are linked to KPI's or management authority levels.
- Risk appetite varies depending on the type of company, degree of risk aversion (sometimes regulatory controlled) and the importance of company reputation e.g. 'perceived management pain', loss of life and / or compliance breaches
- Risk appetite tends to be communicated explicitly through risk workshops or guidance notes or alternatively implicitly through codified company policy or procedures e.g. ethics or money laundering policies
- Most common approaches to measurement are credit rating metrics, KPI's / rules of thumb as applied to financial metrics and simply judgement
- Examples given of the practical application of risk appetite were: country and project risk decisions, 'pilot schemes' to measure degree of risk versus appetite, pension fund investment decisions and tax planning
- In order to embed ERM, linking risk appetite levels to the annual personal performance appraisal process is seen as important and this involves risks outside a given threshold requiring management sign-off and personal ownership
- Risk appetite is an input into the decision-making process not the decision itself and risk appetite has an 'upside' (lost opportunity) in addition to purely downside considerations
- Practitioner experience - no one single approach fits all, use a common language, do not try to be too quantitative, remember to demonstrate business value throughout, start with a simple approach and allow the process to 'bed down' before changing
- Practitioner questions - what are other companies doing (what is good practice?), how do companies apply risk appetite to key decisions and how can risk information be presented to gain maximum impact?

Chapter 4: Future development of risk appetite ideas and approaches

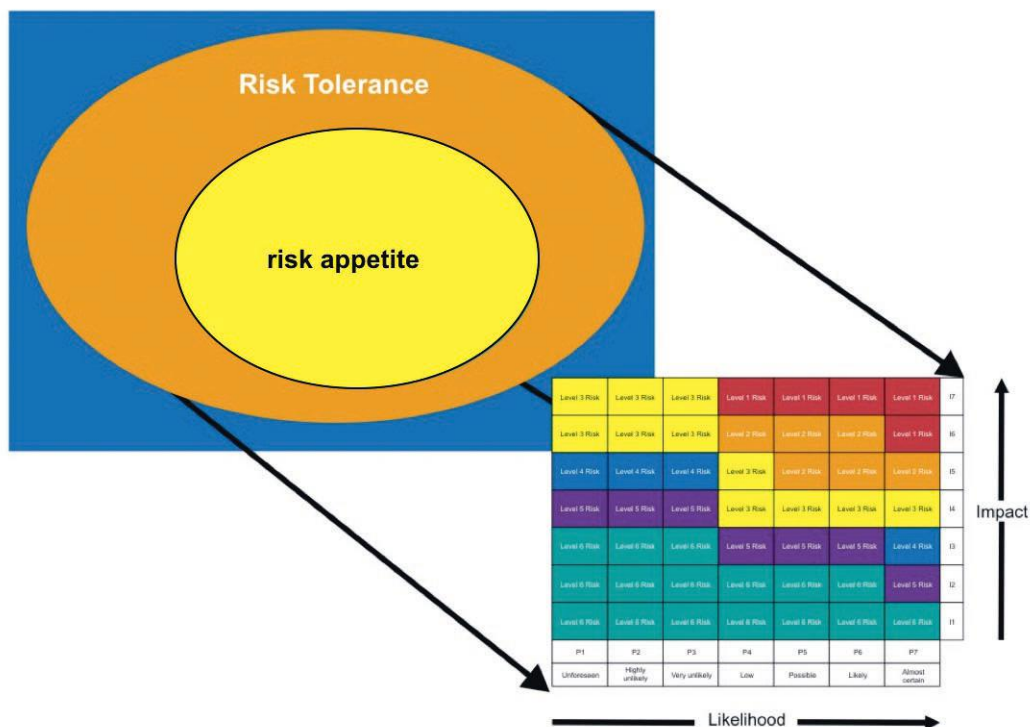
Terminology and common language

In general risk appetite is commonly understood to be 'how much risk a company is willing to take' as opposed to a maximum threshold before real financial distress (risk tolerance or risk bearing capacity).

There is recognition that sometimes companies have to accept more risk than would be ideal e.g. through contract terms, the nature of financial markets or insurance market standard deductibles e.g. Business Interruption insurances in the energy industry. However, this is not sustainable in the longer-term.

These metrics can be applied to a traditional impact / likelihood risk matrix or risk map in order to prioritise management attention, as in Diagram 1. This demonstrates that in normal business circumstances risk appetite should be a sub-set of risk tolerance and that the two are clearly linked.

Diagram 1 – Perceived relationship between Risk Tolerance and risk appetite and its application to a risk matrix



These metrics can be applied to a traditional impact / likelihood risk matrix or risk map in Additionally, The Committee of Sponsoring Organizations of the Treadway Commission (COSO) Enterprise Risk Management (ERM) Integrated Framework defines Risk appetite as 'the willingness to accept risk for reward. Risk must be commensurate with reward'.

By using the definition of risk appetite set out in BS 31100 "the amount and type of risk that an organisation is prepared to seek, accept or tolerate", the debate associated with appetite versus tolerance is avoided in this report.

Risk appetite in context

Risk appetite aids operational decision-making and strategic planning. It provides management with the information to determine whether the risk profiles of current and potential projects are either financially acceptable or require additional risk management to reduce the volatility of the project to within 'appetite' limits. Hence it helps management to allocate resources and management time to the most significant risks. The use of risk appetite should also ensure that management does not make conservative decisions that expose the organisation to insufficient risk and hence generate inadequate returns on capital (the upside or lost opportunity associated with risk).

Risk appetite may be perceived as a set of criteria that organisations expect to meet. In particular, there are risks that specific organisations will not accept under any circumstances, for example, regulatory failures or a significant deterioration in health and safety performance. Organisations' strategic intent defines its risk appetite. It incorporates the organisation's core values that include its financial, social and environmental objectives.

Best practice suggests that risk appetite should be within the organisation's risk tolerance (risk bearing capacity) threshold. Again, recent market experience has highlighted the consequences when this has not been the case.

Liquidity is a key factor when considering the funding of risk events in the short-term. The ability to quickly restore or mitigate the consequences of such events is an important consideration when calculating risk tolerance. It should be noted that recent market events have borne this comment out - recent cases in the financial institution arena show that whilst many institutions were strongly capitalised, liquidity was a key cause of recent financial distress.

Stakeholder requirements can change the threshold and measures for risk appetite. For example, regulatory constraints or investor's requirements will define both an organisation's ability to retain risk as well as its appetite for risk. Additionally, market events may change the time horizon of focus. Shareholders want maximum investment return, creditors require prompt payment and funds to ensure this, analysts and regulators want to ensure market confidence. As such, the view of an appropriate level of risk varies with differing goals.

Traditional rules of thumb and benchmarks

As discussed previously the starting point for most risk appetite exercises is a review of applicable KPI's and an acceptable variance (rule of thumb) is applied to these metrics. Risk appetite thresholds will incorporate the components of a double bottom line accounting mechanism:

- a. Economic prosperity
- b. Environmental integrity / social contribution and reputation measures

a. Economic prosperity measures (examples)

Measure	risk appetite (variance range)
Revenue	1% - 2.5%
Earnings per share	3% - 5%
Profit before tax or ebitda	1% - 3% + (5% average of last 3 years)
Cashflow	5% - 10%
Working capital	1% - 3%
Dividend Cover or net interest cover	Minimum of x times
Credit Rating	To maintain an international investment grade of x
Gearing or debt/equity ratios	Maintain a maximum gearing of x%
Regulatory or industry measures	e.g. Cost/Income ratio, surplus over Tier 1 and Tier 2 capital ratios, # of customer complaints
Market norms or minimums	e.g. required 30 or 60 day time deductible in energy insurances or minimum deductible levels (attachment) for Pharma Product Liability insurances
Group SOX Notification or auditors level of materiality	As defined

b. Environmental integrity / social contribution and reputation measures (examples)

Measure	risk appetite (Target)
Greenhouse gas releases	X% reduction in gas releases per tonne
Volatile organic compound releases	Achieve x% reduction in emission of certain volatile organic compounds (VOCs)
Energy Efficiency	Reduce energy consumption per unit produced by x% in 10 years
Safety measures e.g. Recordable Accident Rates or LTIs	To achieve recordable case rate or lost time injuries not > x per 1000 hours worked (by 3 years time)
Reputation exposures	Reduction in 'category 1' negative press coverage, strikes / industrial relations improvements, staff or customer satisfaction improvements.

A working version of the Marsh Risk Consulting 'Retain risk appetite model' incorporating a framework for the above measures is available to AIRMIC members on the Marsh website.

Risk-based approach

Whilst the drivers and objectives for risk appetite have not changed, the importance of risk appetite has increased over the years (this is supported by the survey findings). The reasons for this increased emphasis on more sophisticated risk analysis are;

- Increased pressure to improve financial performance across all levels of an organisation; from insurance purchase to capital project investment, and
- Internal and external stakeholders' drive for transparency in strategy and business objectives. One such external stakeholder is the regulator aiming for prudent regulation; e.g. FSA ICAS, Basel II and Solvency II.

There are various ways of incorporating a company specific risk profile into the consideration of risk appetite. These range from assessing the volatility of historical performance and comparing it to the organisation's expectations, to building sophisticated dynamic financial models.

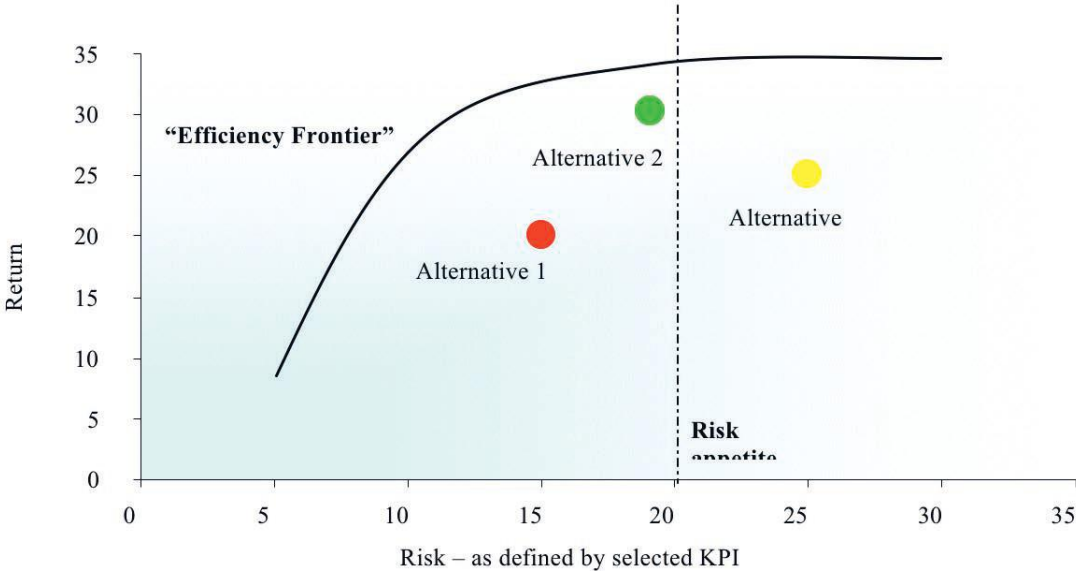
The level of sophistication taken on the calculation of risk appetite depends on intended use. If used purely to guide discussion making, risk appetite calculations may be fairly elementary, whereas, allocating capital to divisions and individual departments on a risk basis and allowing for risk correlations and offsets, risk appetite calculations are necessarily more complicated.

Risk appetite calculation is also driven, to a certain extent, by regulator's guidance and requirement. For example, for financial services organisation in the UK, the requirement set in Individual Capital Adequacy Standards (ICAS) drives the way risk-based capital models are structured and hence, the output for risk appetite. Equally, Solvency II will have an influence on risk appetite measures used by organisations across the world.

In general, organisations expect to see financial reward from retaining more risks. However, company performance indicators will be sensitive to the volatility of the retained losses. Deciding the appropriate amount of risk to retain and the level of risk to avoid is complex.

In an environment with limited resources, the ability to select the optimal investment provides organisations with commercial advantage over their peer group. Risk tolerance and appetite provides a vital component to this selection. The approach can be articulated through risk/return analyses summarised graphically as per the diagram below.

Diagram 2 Assessment of risk appetite



Note: Graph Illustrative

By setting out risk and return profiles of investment alternatives and hence the various associated risk appetite, feasible investment opportunities may be readily identified.

Application of risk appetite to insurance decisions

One longstanding use of risk appetite has been in the context of insurance. Here, the lack of insurance capacity and insurance premium volatility have resulted in organisations re-evaluating their ability to retain more risk. Better analytical tools have allowed organisations to review individual deductible levels and aggregate risk taking in the context of insurance programme design and volatility e.g. looking at 90%, 95%, 99% levels of confidence in order to arrive at a more optimum decision on the balance between risk retention and transfer (risk transfer optimisation).

Risk appetite has importance and usefulness to organisations beyond insurance retention. By definition, risk appetite may be extended to cover all types of financial impairment. It is therefore a good starting point for Enterprise Risk Management (ERM).

ERM and risk appetite

Risk profiles and risk attitudes determine the appropriate risks to investigate and ultimately accept. Therefore the starting point is determining the level of risk appetite.

In undertaking ERM, risk appetite is at the core of all stages of activity, through the risk identification phase and establishing the materiality of risks, analysis and quantification of “ruin probabilities”, through to the assessment of risk management action plans. Indeed the development of risk appetite is a key criteria / metric in all ERM maturity rating models.

A practical example is an organisation that has identified volatility in steel price as a key risk issue. To fully understand this risk, the organisation will look to identify the threshold at which a global increase in steel price is material to its business, the likelihood of this occurring, and impact upon occurrence. This will drive the need for management to take mitigating (risk appetite) actions which may include purchasing commodity derivatives or entering into long term contracts with key suppliers

Summary and conclusions

Whilst the underlying rationale for defining the risk appetite of an organisation has not changed, the financial world has changed and continues to do so. The global economic downturn, increased competition, and recent credit crisis have all changed market sentiment substantially and potentially irrevocably, towards increased transparency and regulatory and supervisory scrutiny.

Risk appetite is increasingly seen as central to risk discussions. This has become the start of the range of discussions from insurance programme design through to ERM risk analysis, project risk, country risk and contract risks.

Main conclusions

1. There is a substantial volume of available literature on risk appetite ranging from highly theoretical mathematical models to practical guidance
2. In general risk appetite has 4 main functions: to support strategy setting, support risk management, set boundaries for risk taking and support value maximisation
3. There is no single 'one size fits all' approach to risk appetite as this depends on industry, culture, data availability, degree of de-centralisation and levels of existing ERM maturity
4. Quantitative risk appetite techniques are usually applied to operational and financial risks whereas for strategic, compliance and reputation exposures a more qualitative approach is adopted
5. Risk appetite tends to be part of an organisation's overall ERM process and practically applied through the use of risk matrices / maps showing thresholds which are linked to KPI's or management authority levels and risk appetite has an 'upside' (lost opportunity) in addition to purely downside considerations
6. Risk appetite varies depending on degree of risk aversion (sometimes regulatory controlled) and the importance of company reputation e.g. 'perceived management pain', loss of life, compliance breaches
7. Risk appetite tends to be communicated explicitly through risk workshops or guidance notes or alternatively implicitly through codified company policy or procedures e.g. ethics or money laundering policies
8. Practitioner experience - use a common language, do not try and be too quantitative, remember to demonstrate business value throughout, start with a simple approach and remember risk appetite is an input into the decision-making process not the decision in itself
9. Practitioner requirements - share experiences on 'good practice', how companies practically apply risk appetite to key decisions and how risk information can be presented to gain maximum impact

10. There is a need for a more risk based approach to the calculation of risk appetite similar to the approach in Basel II, Solvency II, FSA, ICAS etc.

Use and benefits of risk appetite

Risk appetite should be used as a framework to identify when organisations may be accepting more risk than the Board or Executive Management have deemed comfortable or alternatively when insufficient risk is being taken to meet stakeholder expectations.

The risk appetite principles should be applied throughout the organisation, whether it is a single project, a portfolio of projects, the strategic decision-making process as well as to operational decision-making.

This means that the Board can focus on those key risk areas where risk appetite has been, or may be, breached. In such cases we would expect high-level management to consider:

- If the project / decision should go ahead
- If any steps can be taken to reduce or mitigate the risk to bring it within the defined risk appetite
- If there are strategic alternatives that could be taken to avoid the risk appetite being breached or to maximise the upside potential
- If the potential rewards associated with the course of action permit the risk appetite levels to be breached

Practical steps when undertaking risk appetite

The following are offered as summary practical steps organisations should consider when developing their risk appetite statement:

- **Incorporate risk appetite measures within existing business processes**
It is important that the concept of risk appetite does not add additional layers of bureaucracy and delay the decision-making process. It is therefore recommend that the concepts are incorporated within existing business processes and that escalation processes for risk appetite breaches are clearly defined.
- **Align risk appetite and regulatory reporting with Risk Assessment Criteria**
The likelihood and impact scales used for assessing risks should reflect the size, structure, financial strength and regulatory reporting requirements of the organisation (e.g. under SOX). The levels should be revised regularly dependant upon business activity. The assessment criteria should provide guidance and clarity to practitioners involved in the risk assessment process and provide management with reasonable assurance that identified risks are being accurately prioritised. This will allow organisations to focus resources and management time on the most significant risk issues.

- **Separate risk appetite criteria on (a) economic prosperity and (b) environmental / social / reputation exposures**

It is recommended that separate risk appetite criteria are applied to different categories of risk and reviewed with both a short and longer-term perspective.

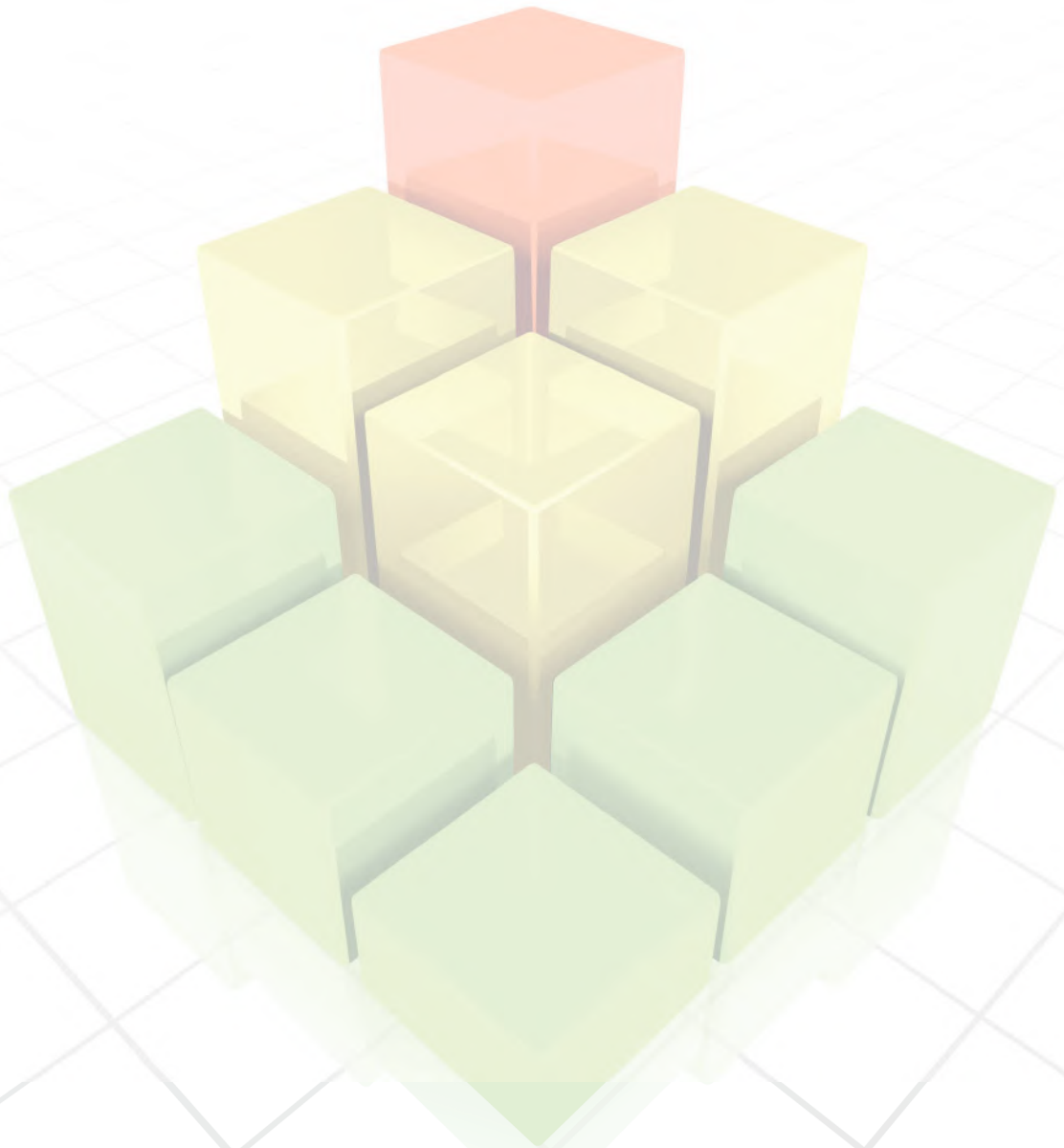
- **Develop monitoring 'lead Indicators' for potential changes in risk appetite levels**

Most organisations have a robust process in place to determine financial returns prior to capital commitment. However, it is recommended that additional stress testing be conducted on the variables that could influence future risk appetite - taking into account any portfolio of activity e.g. regional GDP or other economic indicators, crude oil or other commodity prices, political or regulatory changes etc.

The results of the survey of AIRMIC members indicate that the concept of risk appetite is vitally important and is used regularly in decision-making. It is also clear that there are benefits to an organisation in having a clear statement of risk appetite that can be communicated to suppliers and customers.

The key benefits of risk appetite are better allocation of resources, demonstrably improved / consistent decision-making and proper alignment between strategic goals and operational activities. This encourages more conscious and effective risk taking, promoting a positive reputation for the organisation.

In short, risk appetite will be increasingly an essential key tool to managing risk in the business environment of today and tomorrow



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