



Measuring Risks in the Right Amount

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Enterprise Risk Management (ERM) became popularised by the idea of managing risks within a corporation's appetite and providing reasonable assurance regarding the achievement of objectives¹. Over the years, there have been many creative approaches to identifying, ranking, and treating risks to manage an often subjective risk appetite. However, despite endless workshops and countless spreadsheets. The ability to provide businesses with a true measure of risk at any one point in time eludes us. This inability to provide management with a measure of when to increase or decrease risk in the business remains a barrier to the success of ERM.

This barrier is supported by the widely adopted and all too familiar "heat map", where companies spend hours on factors of likelihood and impact using a numerical (e.g., 1 to 5) or qualitative (e.g., very low to very high) rating scale to place dots on a 5 by 5 matrix. The heat map has been cleverly advanced to plot risks without treatment (inherent risks), then again after treatment (residual risks) to show how the residual risks have been reduced within the company's risk appetite.

There are numerous problems using heat maps. Common ones are:

- Risks are assessed at the business unit levels that often have different interpretations or scales for likelihood and impact. Consolidating the resultant heat maps with different scales or interpretations is problematic.
- It is hard to identify appetite anywhere on the heat map and to clearly show that the consolidated list of risks is within the corporate risk appetite.
- The approach of mapping showing downward movement on the map (i.e., risks are being managed) reinforces the idea that all risks must be reduced, potentially causing an allocation of resources to reduce low-value risks.

Today's reality is that companies do not simply want to manage risks within an appetite. They desire to manage risk exposures so that they incur just enough of the right kinds of risks to effectively meet strategic goals. Managing how much risk to incur requires a better understanding of not only risk appetite but also of risk tolerance, risk capacity, and risk attitude. It further requires that we have a way to measure consolidated risks in the corporation and to understand when we have too much or too little risk in the business. Determining if you have incurred just enough of the right kinds of risks requires a more accurate measurement of risk.

¹ Committee of Sponsoring Organizations of the Treadway Commission (COSO), Enterprise Risk Management—Integrated Framework.

To meet this challenge, ERM needs to develop new methodologies to measure and report on risks. Subjective heat maps will no longer be enough. New methodologies need to measure risks in non-subjective amounts and be able to consolidate these amounts enabling management to make value based decisions about risks.

The first step to changing how we think about measuring risks is to accept that all risks that matter can be measured in an amount. Douglas Hubbard, in his book *How to Measure Anything*, describes the use of the clarification chain² to address the question of measurability. He describes it as follows:

- If it matters at all, it is detectable/observable.
- If it is detectable, it can be detected as an amount (or range of possible amounts).
- If it can be detected as a range of possible amounts, it can be measured.

You can see how this would apply to ERM. For a risk to matter, we must be able to observe or detect it. If we can detect it, we must be able to determine if it is big, small, or within a range. If we can do this, we can measure the risk. This is simple enough however, to consolidate risks we must measure them in a common unit. So what is the common unit for risks?

I will put forward that the common unit of measure is currency (e.g. dollars, euros, pesos). Taking it one step further, it is actually the expected value (EV) of the risk expressed in a currency. Determining the EV of a risk follows the familiar concepts of determining likelihood (probability) and impact as before, except now we express probability as a specific percentage and impact as a specific amount in a currency. Multiplying impact by probability gives us an EV expressed in a currency. Of course, there are challenges to determining probabilities and impacts with any degree of accuracy. However, this is a discussion for a future article. For our current discussion, we will accept that this can be accomplished and go on with discussing how valuing these risks helps us.

With risks valued in a currency, we now have a way to value and consolidate risks enabling us to take a new look at risk capacity, risk appetite, and risk tolerance. There are many definitions or interpretations in use for these terms, so it is important for clarity to take a moment to provide definitions used in this method.

RISK CAPACITY

Risk capacity is the maximum amount of risk a company can accommodate without having a materially detrimental effect on the business. Risk capacity is expressed as

² Hubbard, *How To Measure Anything*.

an amount in a currency and applied to the overall corporation. Risk capacity for a corporation can be estimated as:

current assets – current liabilities + liquid assets + free cash flow + dividends

An example of risk capacity is the British Petroleum (BP) Deep Water Horizon disaster in 2009. At the time, BP's risk capacity would have been estimated between \$27 billion and \$50 billion. Costs from the disaster are reported to have been between \$40 billion and \$45 billion. Although BP survived the event, it had to sell assets and make material changes to the business, including replacing the CEO.

RISK APPETITE

Risk appetite is the amount of risk that an organisation is willing to accept to achieve its goals. It is hard to apply a general calculation to risk appetite, as it is influenced by many factors within a business. However, it can typically be arrived at by determining the percent reduction in earnings a company will forego to achieve its strategy. Executives can typically answer the question: What percentage of earnings are you willing to put at risk?

An example of exceeding risk appetite came to Lululemon in June 2013 when product quality issues cost the company \$60 million in recalls and \$17.5 million in inventory write-downs. Although the event did not materially change the business, it did result in the resignation of the CEO.

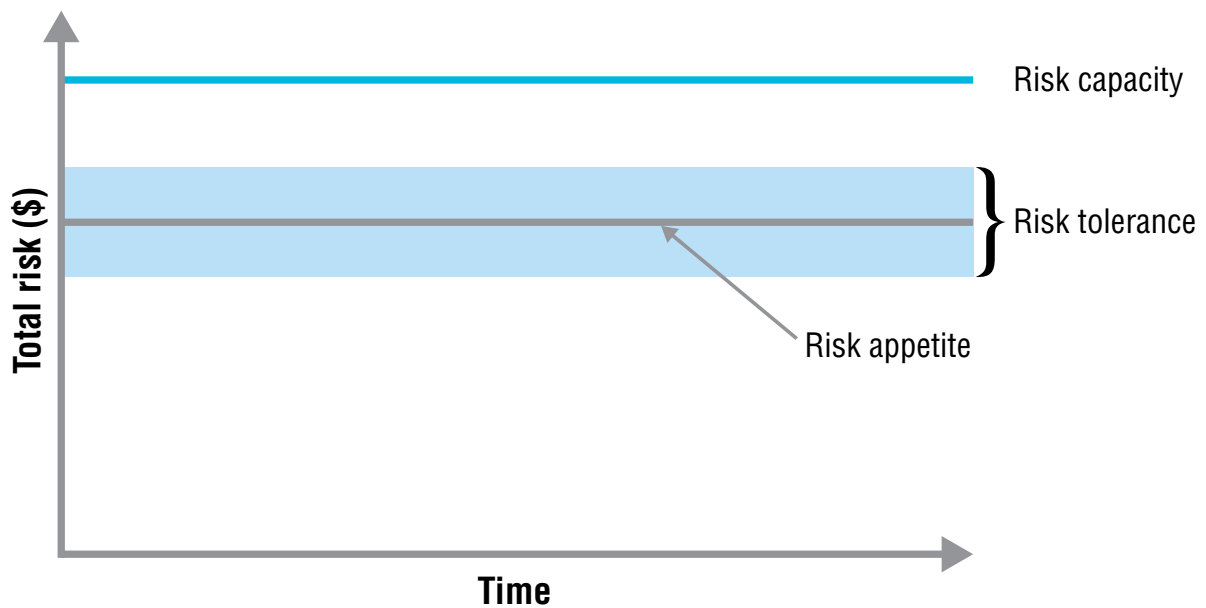
Exceeding appetite for any period of time typically results in the reorganisation of management.

RISK TOLERANCE

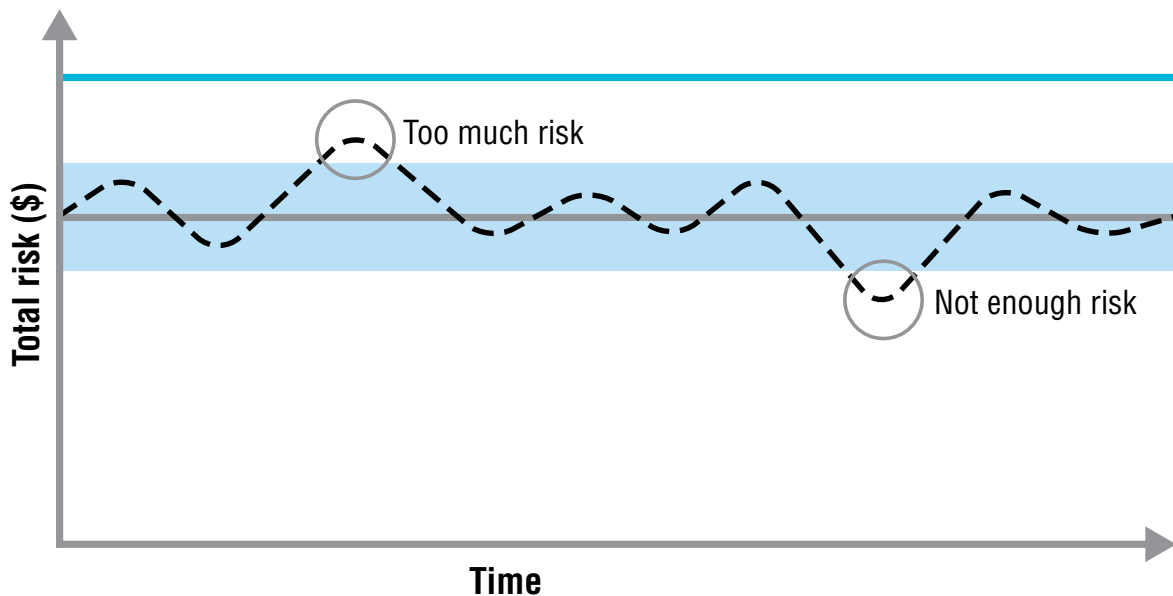
Risk tolerance is the allowable deviation from risk appetite. You can appreciate that consolidating many types of risks with precision is difficult or even impossible. Thus, it is necessary to allow for tolerance around risk appetite.

An example of risk tolerance is a common feature in most projects' budgets. It is common practice to allow for a project budget to exceed its approved limit by a percentage before requiring new budget approval.

Using the above discussion we can represent risk appetite, tolerance, and capacity as shown.



If we overlay our actual consolidated risks on top, then we have.

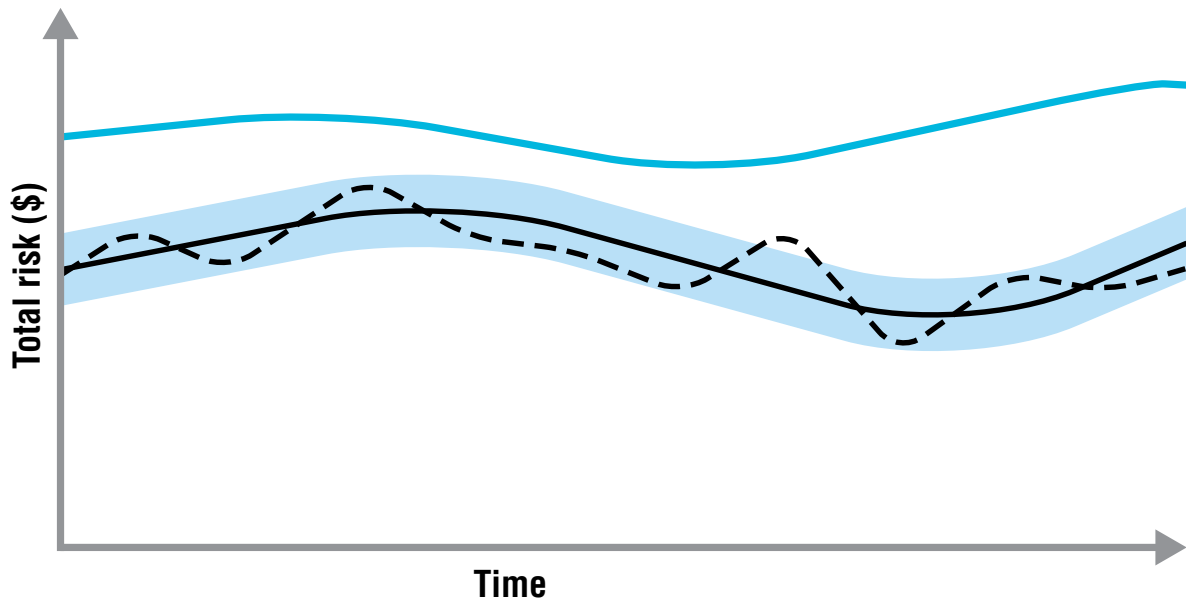


As shown, when risks are below our risk appetite, the business can take on additional risk. When we are above our risk appetite, we should look to reduce our risk. Of importance is that this allows us to manage the amount of risk we incur not simply keep risks below our risk appetite.

The one thing left to discuss is risk attitude. Over time, changes in business strategies, business activities, market conditions, and financial performance influence a business's attitude toward risk.

For example, a business that is planning a large merger or acquisition is more willing to incur additional risk to achieve its strategy, whereas a business in a difficult market

may desire to incur less risk and have a more conservative approach. These strategic choices will be reflected in the business's risk appetite, risk tolerance and risk capacity. This results in changes over time as shown.



At different points in time, the gap between risk appetite and risk capacity will narrow or widen. When the gap narrows (i.e., risk attitude approaches risk capacity), the business has a more aggressive risk attitude and when the gap widens, the business has a more conservative risk attitude. Thus, risk attitude can be expressed as the difference between risk capacity and risk appetite.

By approaching risks this way as measurable quantities, one opens the door to a richer conversation about risks with a clearer presentation of risk capacity, risk appetite, risk tolerance, and risk attitude including measuring the right and wrong kinds of risks and consolidating risks from the C-suite to the shop floor.