

## Identifying a risk efficient alternative

A major North Sea offshore oil project was about to seek board approval and release funds to begin construction. Risk analysis was undertaken to give the board confidence in the plan and its associated cost.

One major activity involved a hook-up connecting a pipeline to a platform. The target completion date was August.

A 1.6 metre barge was specified, compliant with a 1.6 metre wave height, which was appropriate for August.

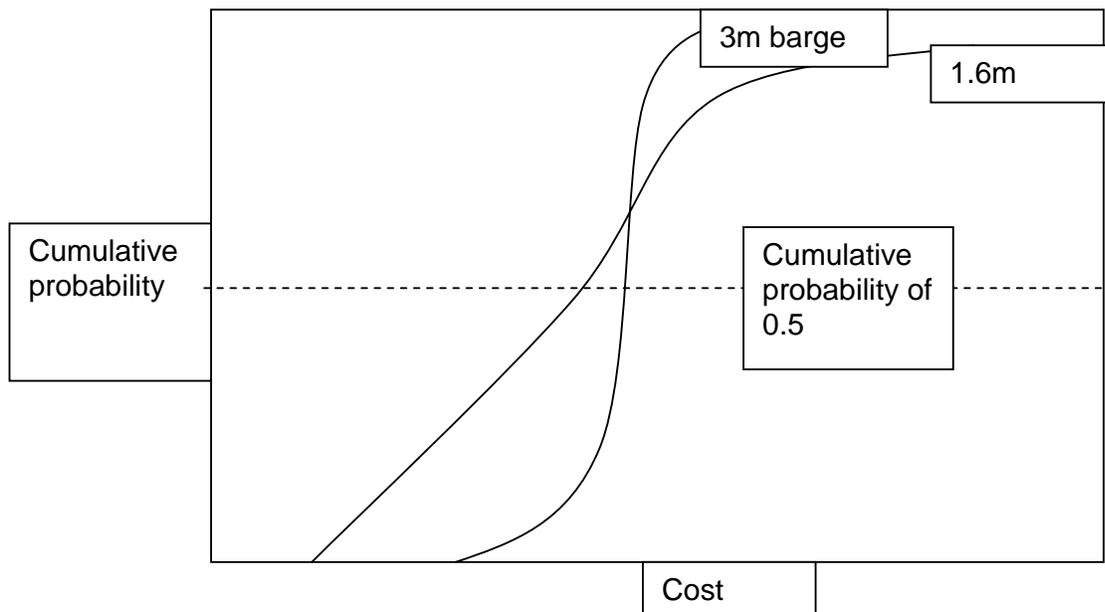
Risk analysis identified that, because the hook-up was late in the overall schedule, earlier delays in other tasks could lead to a significant chance that the hook-up would be delayed to November or December, with the risk that the 1.6m barge could only be used on occasional days due to the height of the waves at that time of year, or that we would need to use a 3 metre barge at twice the daily cost.



This extra capacity barge would certainly avoid delays in to the next season, significantly reducing the probability of cost overrun.

The base plan was changed and it was recognised at Board level that this one change paid for the risk analysis study several times over.

In the event, the hook-up took place in October in good weather conditions.



The above diagram illustrates the nature of probability distributions used to make decisions in practice. The 1.6m barge would be cheaper most of the time, as indicated by the probability level where the curves cross.

The 1.6m barge distribution curve has a much longer tail to the right due to the high cost of a lost season.

This case illustrates three separate roles for risk management in relation to risk efficiency:

1. Diagnosis of any desirable changes in plans
2. Demonstrate the need for changes
3. Facilitate, demonstrate and encourage “enlightened caution”

If no formal risk management process had been carried out regarding the 1.6m and the 3m barges, then the decision may have been made using intuition alone. This would then have made his decision to use a 3m barge look very bad, as he could have got away with a 1.6 m barge.

Without a formal risk analysis, his good luck in having good weather and not too many delays in earlier elements of the project may have been confused with bad management in selecting the wrong type of hook-up barge.

Formal risk analysis demonstrated the impact of any failure to be sufficiently prepared and allowed management to adopt the “enlightened caution” approach. This is not the same as risk aversion.

If everyone in the organisation understands the lessons learned from the above case study, the culture can change as a result of everyone looking for and making changes that increase risk efficiency. This means that we sometimes buy insurance that is not needed, but any organisation that never spends money on insurance that is sometimes not needed is underinsured.

Extract adapted from **Chapman & Ward – Project Risk Management**