De-RISK

CASE STUDY

CLIENT: **ADVANCE CONSULTING, CONTRACTED TO NETWORK RAIL**

Rail infrastructure programmes demonstrate the accuracy of Strategic Delivery Assurance (SDA) methodology over Quantitive Schedule Risk Analysis (QSRA)

Five month delay accurately predicted by SRA and missed by QSRA

BACKGROUND

A major UK station refurbishment was being undertaken with the need to keep the station operational throughout the programme. The Programme Director was nervous that an already ambitious programme was being complicated by the need to maintain operations and requested that Advance Consulting use SDA to assess the timescale risk.

A QUICK, ACTIONABLE RESPONSE

The SDA predicted that the "station opening" milestone would be missed by 5 months. At the same time, a Quantitative Schedule Risk Analysis (QSRA), undertaken by the Network Rail risk team, was predicting an 87% chance of hitting the milestone.

Faced with an "optimistic" prediction or a "pessimistic" prediction the Programme Director decided to accept the QSRA results from the internal team.

Several months later, the Network Rail team were reviewing what had happened. The station officially opened "on-time" but with many areas still unfinished. When the Queen came to open the station, there were embarrassing cordoned off sections where work was incomplete and the project still on-going.

Some-time later, when the team reached the position that they planned to be in for the station opening, they realised that it had taken 5 months longer than the original plan. Exactly what the SDA had predicted.

Soon after, the Programme Director moved on to a new (much larger) rail infrastructure programme and he immediately called Advance Consulting to have a SDA performed on the new programme. This showed that he had inherited a programme that was facing disastrous delays and allowed him to manage expectations in what was to be a career-defining role. This enhanced Advance's reputation and they remained engaged with the programme for some considerable time.

PROJECT HIGHLIGHTS

- De-RISK's SDA methodology quickly identified a 5-month delay to meeting project timescales
- While a QSRA predicted success for the same programme
- Following the QSRA, the programme was ultimately overdue by exactly the SDA predicted delay
- Subsequent programme leaders were convinced to rely on SDA methodology, despite the predicted outcome being less favourable
- Advance Consulting was positioned to facilitate several additional engagements focused on programme assurance

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THE UPSIDE OF ACCURATELY PREDICTING THE DOWNSIDE

The Network Rail team were shocked but ultimately very positive about the results when they realised the true nature of their undertaking and the ability to manage expectations before it was too late. And they continued to use Advance to support the programme using SDA to help meet subsequent milestones.

The SDA methodology takes a more *strategic extraction* of the programme schedule, with a combination of qualitative and quantitative assessments of current assumptions rigorously captured. This rigor is different from QSRA, which is based on the "current" plan, which implicitly assumes that this plan is "correct". In reality, the original plan has often been "squeezed" to make it fit the required timescales, e.g. the end milestone is fixed and the tasks that make it up are squeezed until they add up to the required answer.

"It's not unusual that the SDA reveals unpalatable results. There are many times when both the QSRA and SDA processes can work together but the process rigor behind SDA has proven time again to be more accurate. This was a classic situation where the client's wishful thinking led him to put his faith in QSRA and when the outcome turned out be almost exactly what was predicted, he was convinced of the value of SDA and called us back in as soon as possible."

Keith Baxter, Managing Director, De-RISK

QRSA:		SDA:
QSRA starts with presumption the plan is "good" – ie min/max based on a "squeezed mean".	→	SDA captures the programme dependencies and estimates based on the team's real current view without inappropriate management pressures
QSRA often tries to work from too detailed plans leading to overload and guessing.	→	SDA builds a new strategic plan showing (just) all the potential critical paths (ie the PCPN)
Long and tiring workshops are used to capture the data which leads to "groupthink" and excessive guessing	→	The 1-2-1 structured questioning with the right people in SDA exposes the real risk/uncertainties estimated by the right people
3-point estimates mean that the definitions of "worst case" is very different for different people	→	4-point estimating allows contingency and disaster scenarios to be identified and modelled appropriately
QSRA loosely links risks to the estimates and can be easily manipulated in terms of impacts and probabilities to get the "right" answer	→	SDA ties the assumptions rigorously to the estimates and then provides a realistic 'roadmap' of assumptions to be managed, to get you from where you are predicted to be to where you want to be
Probabilities have to be "guessed" in order to apply risks to the spread of the data	→	SDA derives probabilities from the structure of the brick with no guessing
QSRA tends to require several tools eg programme planning tool, Monte Carlo analysis tool, risk database etc	→	The De-RISK Assure toolset provides a fully integrated environment that holds the estimates for the bricks, runs the Monte Carlo analysis and shows the assumptions/risks driving the bricks, all in one place
QSRA has no way of judging the overall appropriateness of the data	→	SDA results are benchmarked to evaluate the overall pessimism/optimism of the data
QSRA typically takes weeks and is not easily updated/ refreshed	→	SDA takes days and can be quickly re-run in