

HOUSTON WE HAVE INTELFUZE

A key requirement in any organisation is to accurately identify, quantify and manage its risk exposure to deliver objectives on time, on budget and to the requisite level of quality. In order to do so, many factors must be taken into account and difficult, multi-faceted questions must be answered. Intelfuze decision making software was originally developed in conjunction with the Australian Defence Force for use in military intelligence and strategy. It utilises Bayesian Logic and Subjective Logic to augment the decision-making capabilities of your workforce, automating many decisions and freeing up headspace to focus on the issues that really matter.

AREAS OF INTEREST

Some key areas where tangible value can be added to your organisation's risk management framework have been identified below and were covered in our presentation at the Institute of Risk Management's (IRM) Risk and Complexity Special Interest Group on Thursday 25 June 2020.

Risk Correlation

Risks seldom occur in isolation and often effect the likelihood/impact of other risks and create new risks. By failing to address the interdependency of risks, the forecast risk exposure is artificially low which can lead to insufficient budgets being set and leave your organisation exposed to unmanaged risk. While insufficient modelling of correlation is a key contributor to unrealistically narrow and optimistic ranges, other factors must also be taken into account, including:

- Inadequate accounting for systemic and multi-event risks.
- When considering potential impact scenarios, extreme outlying situations not being considered or built into the model.
- The interdependency between cost and schedule models may not be accounted for.

Intelfuze has the capability to address these issues at a level of configurability, granularity and auditability that can revolutionise the approach to managing risk.

Risk Perception and Heuristics

Heuristics, biases and other human factors are significant drivers in decision making generally and have the potential to influence the outcome of risk identification, assessment and management. It is therefore vital that organisations are aware of deep-rooted biases which may affect both individual and group attitudes. These include stereotypes, group-majority agreements, 'anchoring' and personal experience biases; all implant notions, ideas and theories that are often hard to remove or break down. An understanding of heuristics provides a means of identifying the sources of these influences and supports decision-making and estimating in the absence of solid, applicable data.

This was a core consideration in the development of Intelfuze. Models are constructed in such a way as to not only identify where human factors have contributed to a decision, but to assess the levels of certainty associated with each of those factors. It eradicates human subjectivity where possible, and highlights where it is present for full transparency and auditability.

Schedule Risk Analysis

On complex programmes, uncertainty exists around the length of time activities in the schedule will take to complete. Many project organisations apply standard percentage uplifts to project schedules or purposefully over-estimate on task durations to mitigate this. However, it can lead to inflated forecasts, a lack of transparency and reduced efficiency. Existing best practice adopted in a number of areas suggests that these contingency uplifts should be data driven, but few practical examples of this exist on major infrastructure projects. Intelfuze models calculate accurate contingency levels to be applied to specific critical activities by working backwards to identify all potential contributors to delay. The detailed correlation built into the model allows delays to be accurately traced for focused mitigation and more intelligent float management.

Parts Inventory Management

Major procurement operations are highly complex. Often, bespoke machine parts and materials are manufactured overseas and have long lead times between placing the order and receiving the delivery. Just-in-time procurement methods are used to manage the issue of restrictive storage capacity on site, meaning that only small windows of opportunity exist to procure supplies in line with the programme.

This is especially true of major projects involving critical infrastructure and urban central locations. When combined with an everchanging project schedule and unforeseen requirements for critical supplies at short notice, the scope for substantial delays is broad.

Intelfuze synchronises risk management and supply chain management for far more efficient and effective supply chains, ensuring your project or organisation has the resources it needs exactly when they are needed.

Hypothetical Scenarios

Intelfuze is used to build complex and highly realistic hypothetical scenarios. This allows multiple options to be rigorously tested before you select the way forward that is best for you and your stakeholders. Whilst there are many ways that this technology can add real value to your organisation, some examples are shown below:

- Major Infrastructure Portfolio Management and Option Selection:
 - When a major project organisation seeks to deliver a portfolio of projects, the criticality, feasibility and benefits/disbenefits of each must be assessed so as to maximise returns on investment.

- The interdependent nature of the projects in a broader portfolio means that this process can often be highly faceted with the consequences of excluding one project over another being fraught with uncertainty.
- Having the capability to run through various scenarios, mapping the results and recoding the benefits/disbenefits allows you to make far more informed decisions. The outcomes from each scenario can be stored for adaptation and use in the assessment of future comparable project.
- Business Continuity Management, Crisis Management and Disaster Planning:
 - Having robust action plans in place to protect an organisation and its stakeholders in times of crisis is of great importance. This is evident no more than ever in light of the COVID-19 crisis with its many unforeseen consequences.
 - Intelfuze models establish and test plans for the protection of people and critical functions/infrastructure in a virtual setting, factoring in large numbers of variables to deliver far more surety than currently achieved. This is of particular value in large, complex organisations operating in critical environments where physical testing is simply not an option.

Risk Visualisation

- Reporting and Presenting Outcomes
 - It is critical that relevant risk information is reported to the appropriate people at the correct time for mitigation or exploitation actions to be successfully undertaken. Often, reporting is too technical or too detailed for the intended audience. As a result, non-risk specialists can easily become confused or disengaged. Moreover, the information being communicated quickly falls out of date, leading to actions not being as effective as they could be.
 - Intelfuze presents the robust, reliable data in clear, user-friendly, real-time reports and dashboards. These are supported by a detailed data set, which provides the facility to drill down on specific data entries to accurately identify the driving forces behind your results.