

STRATEGY

How game theory disrupted the future of UK highways

Applying common rules to the process of vendor selection improved fairness for both buyers and suppliers, resulting in better outcomes for all parties and increased value for taxpayers

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In 2020, National Highways, the UK government agency responsible for building and maintaining England's roads and motorway network, instigated a five-year road plan with a view to improving commercial results, safety, customer satisfaction, economic growth and environmental sustainability. But such a large investment strategy would require a sustainable supply chain with the capability of delivering a £4bn pipeline each year.

However, the reality for National Highways was a highly fragmented procurement landscape. So in a bid to achieve greater efficiency and learn

innovative procurement approaches, the organisation hired consultancy TWS Partners, which had previously worked with the NHS and Jaguar Land Rover, to help re-define its thinking around conventional and established procurement practices.

Setting the rules

The brief would address a host of challenges, including that many tenders were run for a large number of schemes, and there was a broad set of suppliers on Tier 1 to Tier X level "where everyone was doing their own thing with no standardised approach", says Sebastian

Moritz, managing partner of TWS. There were also "very limited efforts" to actively shape the supply market and its performance, although the organisation was one of the biggest buyers of drainage products in the UK.

A key requirement of the project was to determine a more objective approach to selecting suppliers, and tackling issues with the market structure, cost transparency, efficiency and incentives for suppliers to drive innovation. This would start with the global category strategy for drainage, and all pipes used to clear water off the roads due to heavy rainfall, says Moritz. ▶



TWS helped National Highways refine its supplier tendering process to ensure higher value

The work Case study

First, TWS “developed a number of strategic initiatives on how better outcomes can be delivered through more innovative procurement strategies”, which in 2022, were put to the test in a pilot project between National Highways and the Smart Motorway Project Alliance (SMPA), which it is part of. The pilot would aim to improve the tendering process for plastic drainage parts used by SMPA. To do this, TWS recommended the use of its developed concepts, that of the proposed total value of ownership (TVO) plus panel approach.

The traditional scoring method of using open questions evaluated by a numeric scoring mechanism was lacking in many areas: it had no clear incentives for suppliers, giving them no sight of where or how to improve their tender; it had perceived subjectivity of the assessment by buyers; it increased the risk of bidder challenges due to its closed nature. “As a game theorist, I really don’t like that mechanism as it gives the impression of being objective and transparent, but it really is not,” Moritz highlights.

Instead, the team employed the TVO plus panel model to quantitatively assess all factors in the sourcing decision and use the TVO as the criterion that best reflected the quality of a supplier’s bid. In this way, each bid comprised the commercial quotation, as well as all non-commercial factors including quality, delivery time, extra costs and environmental factors.

The resulting single criterion enabled the team to rank suppliers by the overall



The first area targeted was in drainage solutions, owing to flooding of British roads

value they would deliver, and then place them into a panel of suppliers to choose from. The panel would typically feature two or more top suppliers from the tender process, where the position is also decisive and influences the amount of business a supplier can be awarded during the term of the contract. In this way, suppliers not only compete to get on to the panel itself, but also compete for their position on the panel by adjusting their offering from the clear and measurable scoring.

When fair means fair

The use of fact-driven assessments and calculations with predefined answers, all associated with a visible monetary evaluation, produced positive implications for both buyers and suppliers. The monetary evaluation assigned to each decision factor clearly

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National Highways plans to roll-out the methodology to more areas in its business






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indicated the commercial benefit the buyer attributed to improvement on non-commercial criteria (eg. offering better service, lower carbon emissions, or better product quality), thereby providing incentives to improve. Suppliers could then assess the best way for them to increase their chance of success, as price plus non-commercial criteria were brought to a common denominator in the TVO assessment. A key element was transparency, says Moritz. "If it's not transparent and clear to the outside world, it's very difficult to incentivise suppliers to give their best in any kind of competition."

As a result, SMPA could identify the best supplier offer based on competitiveness and fit, rather than opting for the cheapest bid. The successful supplier taken up in the pilot led to 9.7% of overall savings

and benefits, including 6% in hard monetary savings.

But importantly, this was not all about cost savings. As Moritz explains, the TVO approach encourages the supply chain to focus on innovation and development outside of the commercial sphere, which for SMPA, was a focus on carbon reduction, social value and supply chain resilience.

Now, Moritz says, National Highways is in the position to deploy the TVO and panel methodology across the organisation to improve other categories and investment programmes, with the goal of training staff to embed this competence more widely. "It was a revolution from the inside," Moritz says, "where initial scepticism has vanished and the strategic procurement team has gained recognition for driving innovation and better value." 

Also noted

From potatoes and cooking oil to hazelnuts, buying treats may be tricky this season.

India gobbles up US trade

Turkeys are in short supply in many countries, including the US, which is suffering the impacts of avian flu. Yet demand is rising after India ended its tariffs on US imports and will soon welcome more poultry, including turkeys, as well as cranberries. CEO and president of the USA Poultry & Egg Export Council, Greg Tyler, said: "We hope that in the future we are able to gain better access for chicken and to expand access for duck as well, which can help to further address the protein needs of Indian consumers."

The root of the issue

While consumer trends call for more natural products this year, this may not be possible for Christmas trees, as hot and dry weather and less planting mean forestries are thin across Europe. However, stocks of artificial trees, last year hit by shipping issues, are back to full capacity. So while you will still be able to enjoy a spruce or fir, they will cost you more, so remember to order in advance and shop locally.

Please pay responsibly

KFC is a popular Christmas Day dinner in Japan, but the chain is facing severe disruptions in the UK due to planned strikes. GMB national officer, Nadine Houghton, said: "Some of [Bestfood's] biggest clients may well be left short this Christmas because they won't meet GMB's reasonable request for a pay deal that protects our members."

Japanese families often choose fried chicken for their festive lunch

