Transforming Highways England's approach to data

An Anmut Case Study

Key takeaways

- Data valuation enables the organisation to pinpoint the data assets that create the most value for the business.
- Valuation techniques make it possible to accurately predict, measure, realise and prove the ROI of specific data projects.
- The valuation numbers are sizable. Highways England's data is worth £60bn. A number that has changed how the board and ExCo view the importance of data.
- The work identified 50 projects, reflecting 76 organizational capabilities, that could realise between £800 million and £1.2 billion in benefits.

Highways England manage and maintain the 7,000 kilometres of motorways and A roads in England. They appointed their first Chief Data Officer, Davin Crowley-Sweet, to lead on data as they embarked on a journey of digital transformation, under their new strategy.

Making digital transformation manageable and data visible

Davin convinced senior leaders that it was important to invest in making this journey as manageable as possible, from a perspective everyone understands – financial.

> "We benchmarked similar scale transformations at £300 million over 10 years. It made sense to spend 1% of that making sure we were focused on value and able to measure it."
>
> Davin Crowley-Sweet
> Chief Data Officer, Highways England

It wasn't just about business management; it was about culture too. In business everyone understands that the more valuable something is the more important it is. Data is an intangible asset, something that's invisible to most. It's easy for many to mistake technology for data because it's what they see and touch.

"I want to change the culture into one in which all employees feel they are stewards and enablers of a valuable company asset. We needed a language to explain data in a way that the business would understand," Said Davin.

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The valuation process

Davin had known Herman, Anmut's CEO, for years. He knew Anmut had been working on a new approach to data valuation. Not one based on traditional accounting methods like cost, but one that was designed for data.

Unlike other business assets, data's value increases when combined with other data. Therefore, it needs to be considered in collective units (data assets), not individual units (data sets). Data is easily shared, copied, combined and used, so it's very hard to identify all value pathways without understanding what's really valuable. The complexity of these value pathways mean specially developed and trained technologies are needed.

During the first stage of the assessment, Highways England pegged the value of its physical road infrastructure at £115 billion, and the intangible value it delivered to the country at £200 billion. For a listed company, this is simply the market cap. Next comes a harder question - what proportion of that intangible value was derived from data?

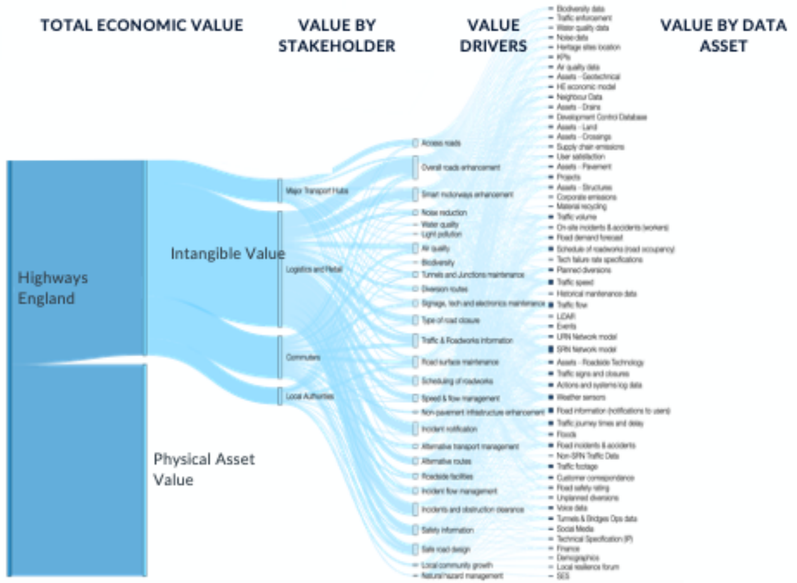
"If our accounting rules were written in a digital era, would we still see data as something that isn't valued on our balance sheet? My view is no, you wouldn't. Data would probably be front and centre," Davin says.

Determining the value derived from data means going to the people who decide whether what an organisation does is valuable or not, the stakeholders.

Understanding real value

The Anmut team asked stakeholders to rank the Highways England initiatives they valued most—things like maintaining the road surface and providing traffic flow data. The information, gathered using a number of different surveying, interviewing and data analysis approaches, allowed us to quantify each initiative and give it a value. From there, further investigative work revealed the datasets that drove each activity, and to what degree. Meaning an economic value could be given to each data asset (a group of datasets that underpin a business activity) based on the contribution the data makes to creating value.

By modulating an assessment of each data asset's potential market value, Davin could prove that the organisation's data was, conservatively, worth around £60 billion. That's when the company started paying attention to him. Overnight, he went from a data engineer to a strategic leader.



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“For every £2 of physical asset, we have £1 of data asset. We discovered that by valuing our data. It’s given people in the business the language to manage their data as a strategic asset.”

Davin Crowley-Sweet
Chief Data Officer
Highways England

Capturing the attention of senior leaders

The £60 billion number got the board's attention and the methodology its trust. It meant Davin was able to ask some very simple, but insightful questions of the business:

- Our governance structures are geared around managing physical assets, but did you know that our virtual assets are one-third of the value of our physical assets?
- Did you know our data is worth four times the value of the technology that houses the data?
- Are we investing in the right proportions to protect and grow that value?
- These questions have been well received and sparked widescale change.

Proving ROI and changing the language of data

Through their work, Davin and his team have established that on average, a £1 investment in data by Highways England produces £2.7 in economic value for the logistics companies, commuters and other groups that depend on its roads. The monetary value enables comparison with other investments and is a sign of the importance of the data team's work.

Creating a valuation of data led to a need for new words and phrases to describe what they were learning at Highways England. The team now uses traditional business terms to refer to data. For example, instead of talking about "data quality", they now talk about "data conditions". It's a subtle, yet important difference.

> "In prior years, IT people maybe would get to talk about data at the end of a meeting, if there was time. Now they walk into the meeting as lions, not as lambs."
>
> Davin Crowley-Sweet
> Chief Data Officer, Highways England

Delivering real, sizeable results

By changing the way they looked at data, the data team found up to £1.2 million in business efficiencies, which more than paid for the time and research on data valuation.

The stakeholder insights, that can be mapped back through business activities to specific data assets, revealed huge opportunities. The data team identified 50 projects to be delivered over 10 years that could realize between £800 million and £1.2 billion in benefits as a result of making better decisions.

One data valuation insight led to £20 million in savings from a £300,000 investment.

Results delivered through a new approach

"If you're completely reliant on use cases driven exclusively by the business, you'll be limited as an organization," Davin says. "We knew data competence could solve a lot of our problems, but not exactly how."

To measure these unknown unknowns, the data team use a 'black hole' approach. Since black holes reflect no light, they cannot be measured by directly observing them, but rather by observing how they affect objects around them, specifically what's not there. Through the maturity diagnosis, combined with the valuation methodology, the team could proactively find areas with valuable problems to solve.

Where next?

Davin and his team are looking for innovative ways to push data's value. They are working on a digital twin of the business.

"Just as the Victorians initially built the roadways we're using today, I want to build a *data* infrastructure that people can benefit from decades from now," says Davin.

The key numbers

£60 billion of data asset value.

£1.2 million in efficiencies identified fast, covering the valuation costs.

£1 invested in data returns £2.70 in economic value.

£800 million - £1.2 billion in identified benefits, delivered through 50 projects over 10 years.

About us

We're a consultancy that turns data into assets so everyone in the business understands them, values them and manages them. Our approach is underpinned by an unwavering focus on how your organisation creates value and the role of data in that.