University of Strathclyde Glasgow

# Resource forecasting:

## cutting planning time from weeks to minutes at Alexander Dennis Ltd.

# Predicting the future is tough. This is especially true in New Product Development planning as uncertainty is inherent in innovation and design.

After all, it wouldn't be New Product Development if it weren't innovative. Even the most intensively-deliberated, resource-consuming and best-laid planning efforts regularly result in huge overruns. Can we plan projects when what we are trying to achieve is complex and uncertain?

Dr Abigail Hird has developed a new approach that can totally revolutionise how we deal with this long-standing issue. It allows us to accurately predict resource and schedule requirements at the outset so decisions can be made with good quality, reliable information.

Once developed our models allow forecasts to be generated almost instantly by those with decision making power removing the need to consult and rely upon local, and often biased, domain experts. Transparent and consistent forecasts eliminate political agendas and personal biases.

## What's new?

The revolutionary aspect of our approach is the fact that no data is required to develop these models. Traditional modelling methods require data describing hundreds, thousands or even tens of thousands of relevant legacy projects.

If a business is in a fast-moving sector, developing innovative products, or subjected to long lead times the quantity and quality of data required to develop predictive models will not usually be available. This means that despite significant shortcomings estimation-based forecasts are the only alternative.

## Why it works

It is likely that the simple models are able to outperform experts because usually experts have no formalised structure for considering what exactly impacts resource demand or schedule. With so many factors possibly having an impact, it is easy for an expert to over-weight insignificant factors and overcompensate for interactions between factors.

In reality, the 80:20 principle applies. A small number of factors have a significant effect on the schedule and resource requirements and with insight into the weightings that these factors carry we can develop a simple yet robust model.

## How are we applying it?

The method is being applied through a 24-month knowledge transfer partnership (KTP) project in conjunction with Alexander Dennis Limited. An associate is embedded in the company acting and conduit to transfer and implement innovative knowledge.

## Contact

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