

Chapter 3

Advanced analytics in the wider organisation

This chapter discusses the challenge of fitting an advanced analytics function into the structure and culture of the wider tax administration. It highlights the importance of building an effective working relationship between operational departments and the analytics function, while maintaining high technical standards and strict quality control. Finally, the chapter outlines the main approaches taken by survey respondents to achieve these ends.

A major issue identified by survey respondents was how to fit analytics into the wider organisation, both structurally and culturally, in order to develop a technically strong analytics function that also enjoys an effective working relationship with the operational teams it is intended to serve. If the analytics function is not sufficiently distinct and cohesive, it can be difficult to maintain quality and develop technical capabilities; if the relationship with the business units is not sufficiently close, there is a risk that operational teams will not understand or engage with analytics, and that analytics teams will not appreciate and work within operational priorities and practical constraints.

Structural integration

Achieving the proper structural integration of analytics and operational functions was highlighted as being particularly challenging: the main barriers cited by respondents were the natural scepticism of operational staff toward a new and unfamiliar approach, and the wide gaps in mind-set, expertise, and even terminology between analytical and operational specialists.

Administrations have taken varying approaches to the organisational positioning of analytics functions; further differences emerge when reporting lines and working practices are taken into consideration. However, the various approaches can be broadly characterised as either *centralised* or *de-centralised*.

a) The centralised approach

Ireland, Mexico and Singapore each offer examples of the centralised approach, where consolidated analytics departments sit in “head office” divisions. This encourages collaboration within the department and makes it easier to manage the technical development of analytics staff. It also enables more experienced team members to supervise analytics work closely, ensuring close quality control. The approach is therefore well suited to the early phases of analytics development, where building capabilities and producing reliable outputs are likely to be the main priorities.

However, there is a risk that, as the analytics function matures and seeks to widen its influence across the organisation; the centralised approach may act as a hindrance rather than as a support. It is notable that the three administrations mentioned above have all deemed it necessary to adopt special initiatives to promote collaborative working practices and overcome the possible “silo” effects of centralisation. These initiatives include exchanges of staff between analytics and operational teams, the transfer of governance of certain analytics projects into operational departments, and the joint conduct of project evaluations.

A highly distinctive approach has been taken in the Netherlands, where a consolidated analytics department operates quite separately from the rest of the organisation. To date, analytics projects in the Netherlands typically have not had a direct business sponsor. This has allowed the analytics function to prioritise and explore projects free from operational requirements, and to develop and innovate quickly without having to adjust to the pace of other departments. Several major projects have been delivered successfully using this approach, and the analytics section has expanded rapidly over the last three to four years.

Potential drawbacks of the centralised approach are:

- In instances where there is a dependency on other departments (e.g. for data exchange or infrastructural developments), it may be difficult to have analytics initiatives prioritised;
- The separation between analytics and the rest of the administration means that the analytics department may lack process and tax knowledge; and
- There is a risk that the analytics department may not address the most pressing business needs, and operational staff may not adopt the analytics solutions developed.

Nevertheless, the structure has worked well in the Netherlands as a “proof-of-concept”, allowing the analytics department to develop and demonstrate the value of statistical techniques more quickly than might otherwise have been possible. It is anticipated that, as the analytics department matures, it will form closer connections to the relevant operational teams.

b) The de-centralised approach

Australia, Canada, New Zealand and the United States all follow forms of a de-centralised approach, in which analytics and operational teams are integrated or co-located in order to encourage more collaborative working practices. Administrations following this approach generally reported good relations with the relevant operational teams, but were often required to set up special arrangements in order to ensure sufficient quality control, and to maintain a repository of experience and technical expertise. The de-centralised approach seems to work best where analytics capabilities are already well developed.

The “hub-and-spoke” systems developed in Canada and New Zealand are typical of the de-centralised approach. In this structure, a central “hub” is responsible for spreading good practice and providing quality control, while the “spoke” applies analytics across the different levels of the organisation. Typically the hub takes responsibility for more complex projects, while the spoke tends to focus on more straightforward work.

The United States also uses a blended approach, with an analytics team reporting directly to the agency head, and further research and analytics units embedded in each operating area. Model development happens throughout the organisation, with co-ordination provided by regular meetings of the research directors and senior leadership. This group also ensures that analytics projects are aligned with the organisation's strategic priorities.

Australia recently launched its *Smarter Data Program* to pull together expertise across the administration into a “virtual” analytics department. Analytics staff continue to co-locate with business operations, but now report through a single analytics business line. This enables analysts to retain a close connection with the business, while also offering the advantages of consolidation.

Although there is a general tendency to de-centralise as an analytics function matures, it is striking that most administrations are actively seeking a balance between external integration and internal consolidation.

The major potential drawbacks of a de-centralised approach are:

- While being located with business partners may improve business connectedness it can increase the challenge of establishing a strong analytics culture among decentralised analysts.
- Control over the quality of analytics work requires more active management, to ensure standards are adhered, learning and analytical methods are shared across the analytics community and staff capability and learning remains a focus.

Cultural integration

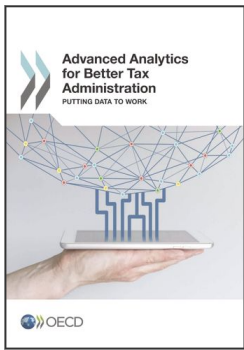
Many survey respondents highlighted the challenge of achieving a cultural fit between analytics and the wider organisation. Switzerland observed that cultural barriers were often a greater obstacle to progress than any of the technical or statistical challenges that might arise. Survey respondents and interviewees highlighted the major differences in perspective that exist between analytics departments and operational teams, with several observing that analytics can be perceived as a threat by staff who are used to making decisions according to experience and instinct.

While many of these difficulties can be addressed through specific change management initiatives (discussed in Chapter 4), respondents also reported a number of more general approaches:

- *Integration with strategic objectives:* As well as pursuing a mixed organisational model, the United Kingdom has achieved close collaboration between operations and analytics thanks to an

organisation-wide commitment to digital development and to evidence-based decision making. This puts an onus on operational managers to establish that they have used the best available information and evidence in prioritising cases, determining interventions, etc. This in turn creates a natural customer base for analytics outputs.

- *Education and training:* Ireland has commenced a “bottom-up” approach to generating demand for analytics: an “*Introduction to Analytics*” training course has been rolled out to promote better understanding of the nature and potential of analytics. In addition, an analytics module has been added to the university degree course in Applied Taxation that is pursued by many auditors.
- *Operational focus:* In order to establish strong working relationships, managers in Canada have worked to build trust amongst operational staff to highlight that analysts are focused on practical business problems, and are using analytics to identify opportunities, address risks and respond to pressing business needs. The aim has been to take incremental steps, and to ensure that the first priority of every advanced analytics project is to meet core business objectives.
- *Active communications:* In both Canada and Ireland, there is an emphasis on actively communicating about analytics using plain terms, attempting to explain the “common-sense” logic behind the techniques used. In Ireland, there is a particular emphasis on conveying the limitations of analytics as well as selling the benefits. These initiatives are intended to remove the mystery often associated with the topic, and to encourage staff to see analytics as a useful practical tool to help achieve operational goals, rather than as an intellectual exercise or a threat to traditional roles.



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