

# Leading forecasting practices in the private sector

Prepared by Deloitte LLP on behalf of the National Audit Office



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Our report has been produced on the basis of the sources of information set out herein. To the extent that the representations set out herein change, our analysis and conclusions will also be subject to change.

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# 1. Executive summary

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## 1.1 Introduction

The National Audit Office (NAO) is currently conducting two related value for money (VfM) studies:

- **Forecasting:** Assessing how government departments build and use capital forecasts and resource forecasts in order to analyse their future financial position and manage a range of risks
- **Costing:** Studying how effectively government departments conduct costing exercises and use costing information to inform decisions and drive performance

As part of this work, Deloitte LLP (Deloitte) was appointed in February 2013 by the NAO to undertake a review of forecasting and costing within private sector organisations (the Review). The Review was undertaken in accordance with the Contract Award Letter for Forecasting and Costing in the Private Sector – GEN/12/39 dated 25 February 2013 and the Contract Variation Number 1 dated 7 May 2013 (collectively, the Contract). The Review draws upon existing corporate knowledge combined with new research to form a view on leading practice forecasting and costing. Details of the scope of the Review are set out below. The Contract was let under the Strategic Partners Framework Agreement Ref: SP\_2010.

This report (the Report) sets out our findings in relation to leading practice forecasting only, with our findings on costing set out in a separate report. We understand that the findings from the Review will inform the NAO's VfM studies noted above.

## 1.2 Background

The NAO scrutinises public spending on behalf of Parliament. Its audit of central government has two main aims. By reporting the results of its audits to Parliament, it holds government departments and bodies to account for the way they use public money, thereby safeguarding the interests of taxpayers. In addition, its work aims to help public service managers improve performance and service delivery.

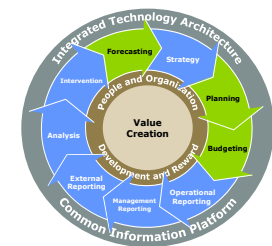
Prompted by evidence of weaknesses in spend forecasting, the NAO will publish a VfM study that examines Government's production and use of forecasting. Our review of leading forecasting practice in private sector organisations aims to support the NAO's assessment of VfM and, in the longer term, help public service managers to improve forecasting performance, by:

- helping to develop a robust set of criteria and methodology for assessing public sector forecasting;
- identifying areas where private sector organisations face similar challenges to public sector counterparts; and
- describing the solutions that leading private sector organisations have developed to meet these challenges.

### 1.3 Deloitte Forecasting Framework

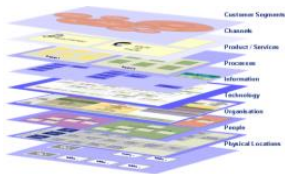
Deloitte has proven capability and credentials in the delivery of leading practice forecasting processes and thought leadership, and a fundamental understanding of the central government operating environment.

Our tried and tested methodologies for Enterprise Performance Management (EPM) and Target Operating Model (TOM) have successfully supported the delivery of forecasting improvement engagements in industry leading organisations in the private sector. Over 100 Deloitte UK practitioners are dedicated to advising clients on planning, budgeting and forecasting engagements, and have successfully added value to more than 50 clients in the past three years. Our ability to apply, tailor and develop leading practice to complex forecasting environments in a broad range of businesses has been widely recognised by the industry, including Gartner and Kennedy who identified Deloitte as the top Financial Management Consultancy provider.



Deloitte's EPM methodology sets out the performance management cycle of an organisation, of which forecasting forms an integral part. The EPM methodology enables organisations to identify the critical activities that are required in the continuous process of corporate performance management, and supports organisations to refocus their activities as appropriate. The EPM methodology also enables organisations to focus on:

- delivering value through performance management;
- the governance of organisational performance and the alignment of strategy; and
- efficient processes enabled through integrated information platforms and technology.



The Deloitte TOM methodology defines organisational elements into key constituent layers, all of which are considered to be interdependent and important in supporting the organisation realise its strategy and vision.

### 1.4 Approach

The objective of the forecasting element of the Review remains to leverage our experience and knowledge base, supplemented with desk-based research and primary case study evidence, to provide the NAO with an understanding of leading practice in the private sector.

Findings documented in this report have been identified through the following activities:

- desk based research (including a literature review and a review of previous Deloitte projects and published material);
- interviews with Deloitte subject matter experts;
- participation in a session debating forecasting at the Deloitte Cost Management Forum; and
- interviews with senior Private Sector Financial and Operational business leads.

In particular, case studies reviews of five private sector organisations were undertaken in order to:

- understand how forecasting is carried out in these organisations;
- identify what types of challenges the organisation is experiencing; and
- discover any leading practice forecasting methods used to overcome these challenges.

The individual aspects of the forecasting process were analysed in detail using the Deloitte TOM methodology above, capturing good forecasting attributes across the different 'layers' of the TOM. The case study organisations were chosen to align with areas which the NAO expressed particular interest in, and to provide insight into some of the issues that private sector organisations encounter in the application of leading practice forecasting.

### 1.5 Key findings

This review of leading forecasting practices in the private sector has indicated that forecasting is considered essential within the corporate performance management cycle of leading practice organisations. These organisations concentrate their efforts on forecasting the key drivers of their business to inform their overall forecasts of profit and future financial position. Forecasts in the private sector play an important role in an organisations ability to raise investment, and as such are subject to considerable scrutiny from investors. These

organisations leverage their forecasting capabilities to proactively manage performance against plan and increase responsiveness to fluctuations in their operating environment.

Forecasting is imperative for:

- taking pre-emptive actions to mitigate risk and pursue opportunities;
- reassessing organisational targets;
- improving organisational responsiveness to fluctuations in the market;
- providing shareholders and the wider market with the latest performance expectations;
- identifying customer trends and new market opportunities;
- directing money to where it will deliver optimum stakeholder value and away from low value activities;
- planning and acquiring additional resources required to achieve targets;
- assessing future cash position and ability to support the organisation's liabilities; and
- providing the basis on which long term strategic plans of the organisation can be reassessed.

Despite the widely accepted importance of accurate and reliable forecasting methodologies across all industries, there is still a way to go in many private sector organisations in the journey towards leading practice. In a recent survey undertaken by Deloitte, 85% of private sector managers considered forecasts important, but only 52% considered their own organisations' forecasts high quality. The consequences of poor forecasting in failing to inform strategy, became apparent in the downturn of an established UK high street retailer in 2009. A fall in the market for physical copies of music and an overall reduction in customer spending not reflected in forecasts and organisational strategy meant that the retailer did not take adequate pre-emptive mitigation measures to adapt to the evolving market. Whilst other market players proactively opened new store locations out of the city centres and moved to web-based sales, the outdated strategy of this retailer who was once a market leader at their peak, forced them into administration.

Our Review illustrated several common characteristics across organisations that exhibit leading practice forecasting. The key attributes of these organisations included a balance of optimised organisational behaviour, collective capability, efficient and effective process, enabling technology, fit-for-purpose information and enforced governance.

### Common attributes of leading practice forecasting

The top attributes of leading practice forecasting have been identified as follows:

- Corporate culture that strives to achieve excellence in planning and forecasting at all levels of the organisation;
- Collaboration of all business areas to understand and consider the drivers and objectives of other functions;
- Balanced investment in systems and inputs, to provide one version of the truth in the information used and produced by forecasting, often facilitated by integrated technology platforms;
- Focus on key business drivers, helping organisations to direct efforts towards what is important for the business overall; and
- Ability to adapt to change, achieved through continuous evolution of forecasts and plans in response to changing business conditions.

### Corporate culture that nurtures leading forecasting behaviour

In leading practice private sector organisations there is strong support for good forecasting by senior management, and clarity on the purpose of forecasts. Forecasting is directly linked to employee performance management to improve accuracy and efficiency, and is often combined with incentives to encourage employees to improve forecasting performance. These incentives are focused on rewarding forecasting accuracy instead of 'matching' budgets. Senior management must encourage behaviours so that actuals are not being managed to meet forecasts.

Management in these organisations also drive leading forecasting behaviour through clear communications on their expectations of output from forecasting, ensuring that it is not just a routine exercise to confirm a 'route to budget', in which budget owners use forecasting as an opportunity to confirm that they will be delivering their annual target, instead of providing a true reflection of the most probable future performance of the organisation. Management use forecasts to drive actions and interventions to mitigate business risks and to take advantage of opportunities. There

is clear accountability placed upon operational managers who own the forecasts and they are incentivised to deliver forecasted performance.

Leading organisation understand the importance of getting the right resource mix with the required capabilities and knowledge to ensure timely and quality data.

### **Forecasting through collaboration**

A clearer understanding of future organisational performance is gained in leading practice organisations through collaboration across functions and different departments within the organisation. Operational and financial forecasting processes are often integrated, allowing expertise to be shared and reviewed side-by-side, as well as providing necessary peer challenges. Forecasting is not considered to be purely a finance exercise and the output reflects the financial implications of operational and commercial forecasts. Finance departments provide sufficient tools and support to facilitate forecasting processes, and act as business partners to operational managers through sharing their financial expertise and providing the necessary challenge. Collaboration is facilitated by transparency in the data and process of forecasting, which helps to gain confidence of stakeholders in the forecasting process.

Forecasting is only useful if the information produced supports the needs of its customers and enables them to take action that will benefit the organisation and achieve its strategic goals. Therefore, leading forecasting must consider who the customers are and how the forecasts will support their decision making.

### **Balanced investment in systems and inputs to provide one version of the truth**

These organisations often invest in the latest technology to support 'one version of the truth' which enables consistent and transparent information, forming the basis of forecasts. Input data and assumptions underpinning forecasts are rigorously tested and maintained to make sure they are 'fit-for-purpose', and manual interventions and 'hand-offs' are reduced to minimise errors. Integrated technology platforms are used to efficiently consolidate information from across the business and to manage the significant volumes of data often required in the forecasting process.

### **Forecasting focused on key business drivers**

Leading practice forecasting organisations have a strong strategic focus, which provides clarity on the fundamental business drivers that management attention should be focused on. This allows the production of forecasts with key business drivers at their core, and encourages functions with conflicting objectives to consider what is important for the business overall. Management can review and challenge forecasts based on these key drivers, and develop plans to mitigate key business risks.

### **Adapting to changing business environment**

Forecasting in leading practice organisations responds flexibly, proactively, and quickly to changing business conditions. Leading organisations often use frequent rolling forecasting at set intervals in order to review and reflect the latest fluctuations in the market. Local insight and specialist knowledge of operational teams are used in forecasting so assumptions are tailored for the specific requirements of the forecasts.

## **Challenges in achieving leading practice forecasting**

In addition to identifying common attributes of leading practice forecasting, our Review has also identified some common challenges in forecasting in the private sector.

### **Balancing demands**

Forecasting is not the primary business activity for the majority of organisations and management often find it difficult to balance the demands of their day-to-day business activity against delivering leading practice forecasting. Forecasting can often be seen as a burdensome extra demand rather than a core part of corporate performance management. Leading practice forecasting requires significant investment of time and resources; it can prove challenging for organisations to dedicate sufficient effort to forecasting whilst staff are focused on delivering their primary business activity and the importance of forecasting is not recognised. Forecasting effectively also involves varying time horizons with reforecasts and rolling forecasts at different intervals, and managing the peaks and troughs of forecasting effort can prove challenging for businesses, especially for those with primary activities taking place on irregular time scales. Therefore the challenge is often doing the 'right' amount of forecasting at the 'right' time in order to provide the sufficient level of detail to aid decision makers, rather than providing every detail as often as possible.

### **Managing conflicting objectives**



Organisations have to manage the conflicting objectives of different business functions in order to provide leading practice forecasts that are focused on what is good for the business overall. This can be a great challenge in organisations that have multiple departments with a strong forecasting agenda, producing separate forecasts that are only specific to their objectives and key drivers. Organisations should consider the impacts of these challenges in their strategic objective setting, and manage performance driver dependencies between conflicting business functions. This will allow business functions to review their related performance drivers and agree the shared assumptions that are relevant to forecasting.

### Insufficient systems and processes

Organisations may experience inconsistency and inaccuracy in their forecasts due to forecasting tools that are too complicated and cumbersome. Time-consuming and manual spread sheets also create inefficiencies in forecasting processes. The lack of an integrated system is often the reason for limited access to data and inconsistency in data quality across business functions, leading to poor quality inputs producing poor quality forecasting outputs.

### Lack of appropriate resources and skills

The level of financial expertise of the forecast producers or the business insight and understanding of Finance departments are not always sufficient to provide significant business value. There is often a lack of business insight provided alongside forecasts to aid decision makers in making informed judgements. Incentives for the forecast producers to improve accuracy of forecasts are often lacking and no penalties exist for inaccuracy.

## Examples of the practical application of leading practice forecasting

The table below sets out practical examples we have found employed by organisations exhibiting the key attributes of leading forecasting concluded upon above.

Leading practice attributes	Practical examples that facilitate leading practice forecasting
Corporate culture that nurtures leading forecasting behaviour	<ul style="list-style-type: none"> <li>Performance management and incentives that are directly linked to forecasting performance and accuracy.</li> <li>Forecasting community forums, attended by senior management representatives, that encourage knowledge and issues sharing, as well as open and transparent communication around forecasting expectations.</li> <li>A risks and opportunities tracker that seeks to offset the gaps identified by the latest forecast.</li> </ul>
Forecasting through collaboration	<ul style="list-style-type: none"> <li>Forecasting champions in each operational department who are responsible for making sure their departments' forecasting requirements are all met, and who attend the monthly/quarterly forecasting forums.</li> <li>Collaborative forecasting sessions at quarterly intervals, when forecasters participate in 'deep-dive' sessions and workshops attended by operations and finance.</li> <li>A central 'overlay tracker' which is accessible by all forecasting champions, which captures additional impacts driven by changes in the latest department forecasts.</li> </ul>
Balanced investment in systems and inputs	<ul style="list-style-type: none"> <li>'One version of the truth' is maintained through the use of integrated systems, with the information produced by forecasting strictly controlled through managed distribution lists in order to ensure that forecasts are only used by authorised individuals for the right purpose with the right capabilities.</li> <li>SharePoint is often used to give selected individuals access to certain forecasting information.</li> <li>Operational systems are integrated or linked with financial systems in order to facilitate forecasting.</li> </ul>
Forecasting based on key business drivers	<ul style="list-style-type: none"> <li>Organisations often select a number of core key performance indicators (KPIs) which are included in forecasting submissions from across all business units. For example, a leading UK supermarket uses sales uplift (in £) as a core KPI that is included in all operational forecasts in order to capture the impact of the latest projected operational performance on the senior management's core focus to grow like-for-like (LFL) sales of their stores.</li> </ul>
Adapting to changing	<ul style="list-style-type: none"> <li>Forecasting forums provide an opportunity for forecasters to contribute feedback and make recommendations on improvements, as well as providing their latest insight on the changing</li> </ul>

business environment	business environment and its impact on forecasting. These insights can be captured to proactively and continuously improve the forecasting process, in addition to up-skilling the stakeholders and addressing any knowledge gaps around using and interpreting forecasts.
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## Case study Examples

Following on from the overarching findings above that draw upon Deloitte's breadth of experience, the table below sets out findings specific to the five case study reviews undertaken.

Leading practice forecasting examples	Challenges in achieving leading practice forecasting
<b>Major UK airport</b>	
<ul style="list-style-type: none"> <li>Strong long term strategic focus underpinned by a fifteen year master plan, to drive day-to-day decision making</li> <li>Supportive culture that incentivises and rewards effective risk management and accurate forecasting</li> <li>Collaborative working between operations and finance to provide peer review and challenge</li> <li>Tailored forecast outputs to meet differing customer needs by way of fifteen year, two year and three month forecasts</li> <li>Driven by regulatory requirements, a risk based approach to project portfolio management supports the accuracy of project cost forecasting</li> <li>Development of a database to support knowledge retention and improve the accuracy of capital costing and forecasting</li> </ul>	<ul style="list-style-type: none"> <li>Lack of integrated systems making it more difficult to collaborate across functions</li> <li>Third party vendor resource planning requiring more granular forecasting accuracy achieved by a shorter-term view</li> <li>Infrequent availability of information on key underlying drivers of forecasts means that financial reforecasts can only take place twice a year</li> <li>Changes in regulation will see further scrutiny placed upon the delivery of large scale capital projects</li> </ul>
<b>Global pharmaceutical company</b>	
<ul style="list-style-type: none"> <li>Existing technology leveraged to support collaboration across functions and the subsequent sharing of knowledge with the other manufacturing division, to increase process efficiency</li> <li>Local ownership of demand forecasts to leverage local knowledge of market and regulations and encourage affiliate buy-in</li> <li>Finance working with other functions to improve the organisation's project cost forecasting and tracking capability</li> </ul>	<ul style="list-style-type: none"> <li>Dual users of forecasts with non-congruent KPIs, with one user having dominance over the outputs and impact of the forecasts</li> <li>Lack of transparency as to how the forecasts are used, and misalignment of expectation to reality leading to organisational tension</li> <li>Parallel processes for forecasting within the organisation, resulting in inefficiency and multiple versions of the truth</li> <li>Budget focused culture encouraging 'forecasting back to budget', rather than projecting the latest view of business performance</li> <li>Project cost forecasting suffers from optimism bias, particularly when non-financial departments are responsible for running the project</li> </ul>
<b>International sporting event organiser</b>	
<ul style="list-style-type: none"> <li>High quality inputs gained through a deep understanding of demand drivers (e.g. types of calls and queries) to produce more accurate forecasts, leading to efficient procurement of</li> </ul>	<ul style="list-style-type: none"> <li>Unique business situation with no real comparable data</li> <li>Lack of ownership and accountability of</li> </ul>

Leading practice forecasting examples	Challenges in achieving leading practice forecasting
<p>outsourced contact centres</p> <ul style="list-style-type: none"> <li>• Collaboration with other departments to include the impacts of events and understand risks driven by other departments</li> </ul>	<p>operational plans impacting the forecast accuracy</p>
<b>Leading UK high street retailer</b>	
<ul style="list-style-type: none"> <li>• Forecasts managed and reviewed by individuals with the appropriate skill set</li> <li>• Understanding of business value drivers supports cost reduction and enables the reduction of production effort</li> <li>• Centre of forecasting focus is on customer needs and output templates are designed to facilitate understanding</li> </ul>	<ul style="list-style-type: none"> <li>• Forecasting is a long iterative process, often taking four or five cycles to settle on a view</li> <li>• Multiple models for forecasting used in MS Excel to provide outputs tailored to customer expectations but difficult to govern consistency</li> <li>• Budget and forecast focus on next financial year and run in parallel, whilst cash flow forecasting is a completely separate process</li> </ul>
<b>Global media company</b>	
<ul style="list-style-type: none"> <li>• Up-skilling and coaching for employees to improve and maintain capability within the business</li> <li>• Change management and governance used to 'make it stick'</li> <li>• Ownership of the cash flow forecast assigned to the appropriate level of the business to promote accountability, and ensure that the business critical process sits with a decision maker</li> <li>• Follow-up discussion or calls to clarify and challenge submitted forecasts and drive a common understanding of the outlook</li> <li>• Decisions to sanction spend controls taken at a senior level in light of the overall funding requirements of the business</li> </ul>	<ul style="list-style-type: none"> <li>• Higher level of resistance to change under a stressed business situation, with a large gap between 'problem owners' and 'solution implementers' driven by lack of understanding at operation level</li> <li>• Addressing the knowledge gap within the business; changing the periodic mind-set of management to bi-weekly review of cash; and up-skilling the business on producing, interpreting and using the cash forecasts</li> </ul>

## 1.6 Applicability of findings to the public sector

Potential forecasting challenges in the public sector were shared in a discussion with the NAO. These challenges, alongside knowledge from our own industry experts, derived the potential challenges in the public sector, outlined in the table below. The challenges have been reviewed against the leading practice attributes identified during our review and documented in this report.

Potential forecasting challenges in the public sector	Applicable findings from leading practice forecasting in the private sector
<b>Customer</b>	
<ul style="list-style-type: none"> <li>Lack of senior management appetite for forecasting</li> <li>Customers of forecasts do not have the right capabilities to challenge and use forecasts effectively</li> </ul>	<ul style="list-style-type: none"> <li>Senior management sponsorship and support for forecasting, driven by long term commitments from the executive team to invest time and resources in nurturing their forecasting talent</li> <li>Workshops and up-skilling of forecast customers to enable effective use of forecasts</li> <li>Gaining a good understanding of forecast customer needs and requirements through direct consultation, enabling tailored forecasts</li> </ul>
<b>Processes</b>	
<ul style="list-style-type: none"> <li>Disconnect between producers of forecasts, finance and policy officials</li> <li>Insufficient time spent on forecasting, often under pressure to fit in with policy making cycles</li> <li>Lack of monitoring and risk strategies</li> <li>Focus on avoiding overspends, rather than protecting value and delivering reasonable forecasts</li> <li>Too much focus on aligning forecasting horizons to financial year-end</li> <li>Level of forecast uncertainty not sufficiently represented or understood</li> <li>Lack of clarity in ownership and basis of assumptions</li> </ul>	<ul style="list-style-type: none"> <li>Collaboration between business functions supported by open communication and facilitated by an integrated system</li> <li>Aligning forecasting timescales to business requirements and dedicating time and resources to produce forecasts that are informative and timely to support business decision making</li> <li>Forecasting as a fundamental business process rather than just a finance process, forming an integral part of corporate performance management, carried out at regular intervals on a rolling basis</li> <li>Risk and opportunity tracking alongside forecasts, to drive actions and interventions in managing risks and exploiting opportunities</li> </ul>
<b>Information</b>	
<ul style="list-style-type: none"> <li>Difficulties in accessing sufficiently robust, relevant and timely information</li> </ul>	<ul style="list-style-type: none"> <li>Standardised information achieved through consistent definitions and standard data capture tools, enabling information consistency and transparency</li> <li>Integrated systems to facilitate data capture and consolidation, which is easily accessible by defined forecasters</li> <li>Employee incentives (or penalties) for accuracy of forecasts to drive rigorous testing of assumptions, quality of inputs and timeliness of forecasts</li> </ul>
<b>Technology</b>	
<ul style="list-style-type: none"> <li>Systems not providing sufficient access to information for use in forecasting</li> <li>Lack of robust analysis/modelling tools</li> </ul>	<ul style="list-style-type: none"> <li>Organisation-wide integrated technology platforms with in-built modelling capability and scenario analysis, accessible by all key forecasting stakeholders. Providing 'one version of truth', to support transparency within the forecasting data and</li> </ul>

Potential forecasting challenges in the public sector	Applicable findings from leading practice forecasting in the private sector
	to facilitate stakeholder confidence in the outputs of forecasts
<b>Organisation and People</b>	
<ul style="list-style-type: none"> <li>• Pressure to produce supportive forecasts</li> <li>• Tendency to avoid overspend or underspend</li> <li>• Projects cut where easiest and not based on VfM</li> <li>• Insufficient skills and knowledge to carry out forecasting and modelling which can often be complex</li> </ul>	<ul style="list-style-type: none"> <li>• Senior management has appropriate level of knowledge and capability to use forecasts effectively, not as an exercise to confirm 'performance back to budget' but as a review of potential risks and opportunities in achieving budget and to enable them to take mitigating actions.</li> <li>• Forecasting focus is on key business drivers to provide discipline in decision making at functional level, and to consider what is good for the business overall</li> <li>• Open and transparent environment to encourage collaboration between functions, facilitated by integrated systems platform and transparency in information</li> <li>• Training and up-skilling for forecasting stakeholders to maintain appropriate level of capability and knowledge to use and produce forecasts</li> </ul>

## 1.7 Conclusion

Based upon the research undertaken and drawing upon input from Deloitte subject matter experts, there appears to be many similarities between the attributes of leading practice forecasting across the sectors. Equally, there is significant commonality between the challenges faced in each sector. However, there are some notable differences between the sectors and their customers, cultures and capabilities that drive different behaviours.

The organisations that participated in this study are reflective of private sector organisations that recognise that there is room for improvement in the way that they forecast. Each demonstrates leading practice traits, which provide some insight into potential solutions that may be applicable to the public sector.

Many of the directly applicable solutions found in the private sector relate to the process, information and technology layers of the Deloitte TOM framework. Due to the differing organisations and forecasts required, the public sector should not seek a single solution or process for forecasting, but should draw on the experiences of the many private sector organisations that face similar challenges from forecasting resource consumption or capital investment. There are also examples of leading practice forecasting traits within the public sector across the TOM layers that should be considered when seeking to improve forecasting.

Solutions or leading practice traits that might be more difficult to directly transfer private sector experience to the public sector, relate to organisational behaviour, capability and customer expectations and needs. For this reason, it is recommended that further consideration is given to the environmental and organisational factors that drive spending and forecasting behaviour in public sector organisations. Performance management is used as a tool for changing behaviour within the private sector. However, accountability and spending cycles are currently managed differently across the two sectors, meaning that specific examples highlighted in these case studies may not be directly applicable to the public sector.

Leading practice forecasting requires a balance across all of the TOM layers. For example, an efficient forecasting process, enabled by technology and high quality input data will have limited impact if the customer's expectations are not addressed, or if the people executing the process do not have sufficient capability to challenge assumptions or provide insight. Public sector organisations will need to consider how they can achieve balance as they seek to improve forecasting performance.

Another challenge that the public sector will need to address is identifying the appropriate level at which change should be initiated. Senior sponsorship is paramount to successful change initiatives across all sectors. In order to achieve change, clear and visible sponsorship must be in place. Without the right level of sponsorship, it will be difficult to implement sustainable changes, especially in customer expectations, information and resource capability and behaviour.

## 2. Introduction and scope

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### 2.1 Introduction

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- **Costing:** Studying how effectively government departments conduct costing exercises and use costing information to inform decisions and drive performance

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Prompted by evidence of weaknesses in spend forecasting, the NAO will publish a VfM study that examines Government's production and use of forecasting. Our review of leading forecasting practice in private sector organisations aims to support the NAO's assessment of VfM and, in the longer term, help public service managers to improve forecasting performance, by:

- helping to develop a robust set of criteria and methodology for assessing public sector forecasting;
- identifying areas where private sector organisations face similar challenges to public sector counterparts; and
- describing the solutions that leading private sector organisations have developed to meet these challenges.

### 2.3 Scope of our work

The initial scope of our work is set out in the Contract. This has been refined with the NAO during the visioning process. The objective of the forecasting element of the Review remains to leverage our experience and knowledge base, supplemented with desk-based research and primary case study evidence, to provide the NAO with an understanding of leading practice in the private sector.

The refined scope is set out below:

- To develop a set of hypotheses for leading practice forecasting.
- To gather quantitative and qualitative data to inform conclusions around leading practice forecasting in the private sector. This includes the key challenges faced in achieving this leading practice.
- Data gathering consists of two key forms;
  - Internal data gathering across the Deloitte network of practitioners, to produce case studies and examples of forecasting practice performed by our clients; and



- Additional primary case studies with a carefully selected group of private sector clients, in the form of structured interviews based on questionnaires designed as part of the 'Vision' phase of this case study.
- To evaluate our private sector findings in light of their applicability to the public sector.
- To document our findings in a report to the NAO.

In refining the Review scope as part of the Vision phase, the NAO's Central Government forecasting case studies were explored with a view to understanding the key characteristics of the departments and forecasts to inform the identification of comparable case studies from the private sector. The following table sets out the characteristics identified by the NAO as being of particular interest across forecasting, and the private sector case studies selected to address these:

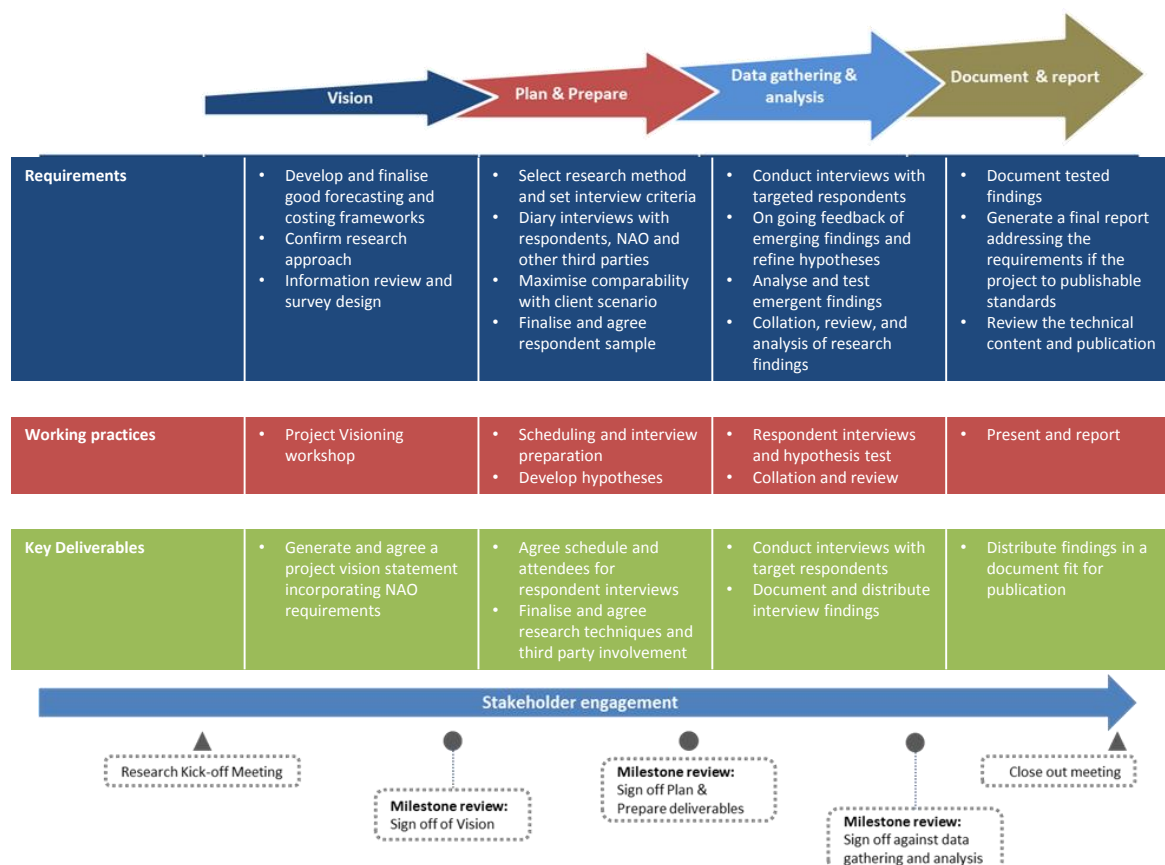
Characteristics	Private sector example	Rationale
<ul style="list-style-type: none"> <li>• Long term benefits realisation</li> <li>• Large investments</li> <li>• Complex and public projects</li> <li>• High profile</li> <li>• Regulated</li> </ul>	A major UK airport	<ul style="list-style-type: none"> <li>• New terminals and runway investments requiring long term planning</li> <li>• Forecasting supports both Business As Usual (BAU) operations of the terminals, as well as long term planning</li> </ul>
<ul style="list-style-type: none"> <li>• Large staff base</li> <li>• Significant operational planning within a constrained environment</li> </ul>	A top twenty global pharmaceutical organisation	<ul style="list-style-type: none"> <li>• Demand forecasting involving many stakeholders and users of the forecast and outputs</li> </ul>
<ul style="list-style-type: none"> <li>• Large staff base</li> <li>• Constant fluctuations in demand</li> <li>• Direct contact with the public</li> </ul>	A major international sporting event organiser	<ul style="list-style-type: none"> <li>• Resource planning for a contact centre, with highly fluctuating demand</li> <li>• Direct contact with the public</li> </ul>
	A leading UK high street retailer	<ul style="list-style-type: none"> <li>• Centralised capability for forecasting across a large geographic foot print and staff base</li> </ul>
<ul style="list-style-type: none"> <li>• Businesses under stress</li> <li>• Departments rapidly spending their allocated budget at year end; or conversely hurried cutting of projects to the detriment of value due to overspends elsewhere</li> </ul>	A global media agency	<ul style="list-style-type: none"> <li>• Business under stress as lack of cash focus in the organisation led to large debt on the B/S with no foresight into global cash flow position</li> <li>• Cash flow forecasting introduced as quick solution</li> </ul>

## 2.4 Summary of approach and procedures performed

The Review has been executed over a three-month period from February to May 2013. The approach set out in the Contract was refined with the NAO throughout the Vision phase.

Figure 1 sets out the four-stage approach adopted throughout this Review. Each of the four phases is described in the sections below. For each phase the key requirements and products have been identified.

Figure 1 Summary of our approach



## 2.5 Our methodology

### Stage 1: Vision and scope

The objectives of the review of forecasting were refined and confirmed in conjunction with the NAO during the vision and scope phases. This collaborative and iterative process served to:

- agree the scope of the review expanding on the requirements defined in the Contract;
- identify and obtain any relevant background information including the NAO's pre-existing research on forecasting and the initial hypotheses developed; and
- confirm key milestones and deliverables.

### Stage 2: Plan and prepare

The plan and prepare phase developed the review hypotheses and data gathering tools.

Throughout this phase a comprehensive understanding of forecasting methodologies was drawn upon from the Deloitte Enterprise Performance Management (EPM) methodology. The EPM methodology places emphasis on integration of all activities within the planning, budgeting, forecasting and costing lifecycle and evaluates the metrics, processes and systems used to monitor and manage an enterprise's business performance to identify leading and lagging practice. Under the EPM methodology, the nine layers of the Deloitte Target Operating Model (TOM) are applied to provide a structured approach in analysing the maturity of an organisation's forecasting operations. The nine layers of the TOM can be found at Appendix 2.

Key activities completed within the plan and prepare phase included:

- **Development of the review hypotheses** – In conjunction with the NAO, incorporating the Deloitte view of leading practice forecasting. The agreed forecasting hypothesis can be found in Appendix 1.
- **Early testing of the hypotheses** – Deloitte EPM methodology practitioners and subject matter experts were contacted to discuss the key attributes and challenges encountered in engagements across forecasting.
- **Development of a detailed questionnaire** – Building on the findings from the hypotheses testing, a questionnaire was developed to gather qualitative and quantitative data from each private sector case study. Prior to deployment the questionnaire was mapped to both the forecasting hypotheses and Deloitte's TOM layers to provide coverage of the key characteristics of forecasting.

### Stage 3: Data gathering and analysis

This data gathering stage of the review consisted of the following four strands:

- **Live case studies** – The case study organisations were engaged to gather primary data, initially by means of a structured forecasting questionnaire, followed by a focused interview.
- **Participation in the Deloitte Cost Management Forum** – The Deloitte Cost Management Forum (CMF) dedicated an interactive session to the topic of forecasting. The CMF is a network of business leaders that meet three times per year to discuss topics of interest. Attendees to the forum include Finance professionals and business leaders from all three major industry sectors. During the morning, each attendee completed a short form questionnaire, which was based upon the initial hypotheses. In the afternoon the results were shared with attendees and used to support debate and understand the underlying rationale for answers.
- **Desk-based case studies** – Desk reviews of Deloitte past projects, allowed focus on exploring leading practice in 'Resource planning' and 'Business under stress' - areas of particular interest to the NAO. This included interviewing the Deloitte project leads and reviewing the project deliverables.
- **Internal research** – The Deloitte team have leveraged the extensive cumulative experience embedded within the firm through a variety of mechanisms:
  - Review of historic engagements and Deloitte methodology and frameworks.
  - Discussion with internal network of Deloitte practitioners to capture their experience across multiple organisations in different sectors (public, private and financial services).
  - Review of Deloitte market collateral and models.

The gathered data was then subjected to detailed quantitative and qualitative analysis across a number of areas;

- **Quantitative analysis** focused on the timing of the process cycle; roles, resources and capabilities; tools used and approach to calculations; approach to measuring effective performance including KPIs; and data inputs into the forecasting process.
- **Qualitative analysis** focused on cultural commitment to forecasting; integration with other financial operational and strategic planning processes; reporting structures and information routes; quality assurance and controls; approach to continual improvement; and, information sharing culture.

The analysis undertaken by the project team (supported by subject matter experts) was then further finessed to shape our conclusions regarding the key characteristics of leading practice forecasting and to identify challenges faced in achieving leading practice.

### Stage 4: Document and report

Following the data gathering and analysis phase of the Review, we produced a draft report to present our findings and conclusions regarding leading practice forecasting in the private sector.

The draft report was discussed with the NAO and this final report has been updated to reflect those discussions.

## 2.6 Structure of our report

We have structured our report as follows;

- **Section 3** provides a definition of forecasting for the context of this report;
- **Section 4** provides an overview of our point of view of leading practice forecasting and the relevant enablers;
- **Section 5** expands on section 4. Using the Deloitte Target Operating Model layers as a structure, we discuss in further depth leading practice forecasting from our point of view;
- **Section 6** provides an overview of high level findings from our case studies on specific private sector organisations. This section also analyses the challenges and solutions faced by specific private sector organisations in achieving leading practice forecasting ;
- **Section 7** provides analysis for NAO's specialist requirements with regards to resource planning and business under stress;
- **Section 8** discusses in general the challenges private sector firms encounter in delivering leading practice forecasting;
- **Section 9** discusses how our findings in Sections 4 to 8 might be applicable to the public sector.

# 3. Defining forecasting

# 3. Defining forecasting

## 3.1 Section summary

- Forecasting is a business process, assessing the probable outcome in an area of interest using assumptions about the future.
- Forecasting forms an integral part of the corporate performance management cycle as per Deloitte's EPM methodology.
- Forecasting is distinct to targeting, which is setting an aspiration on which activities are determined in order to achieve that aspiration.

## 3.2 Introduction

This section provides a definition of forecasting for the context of this report. A distinction has been made between 'Forecasting' as a business process and as a method for predicting a particular complex event. This distinction has been made as the two activities fulfil different strategic purposes in an organisation.

## 3.3 Forecasting as a business process

### Forecasting

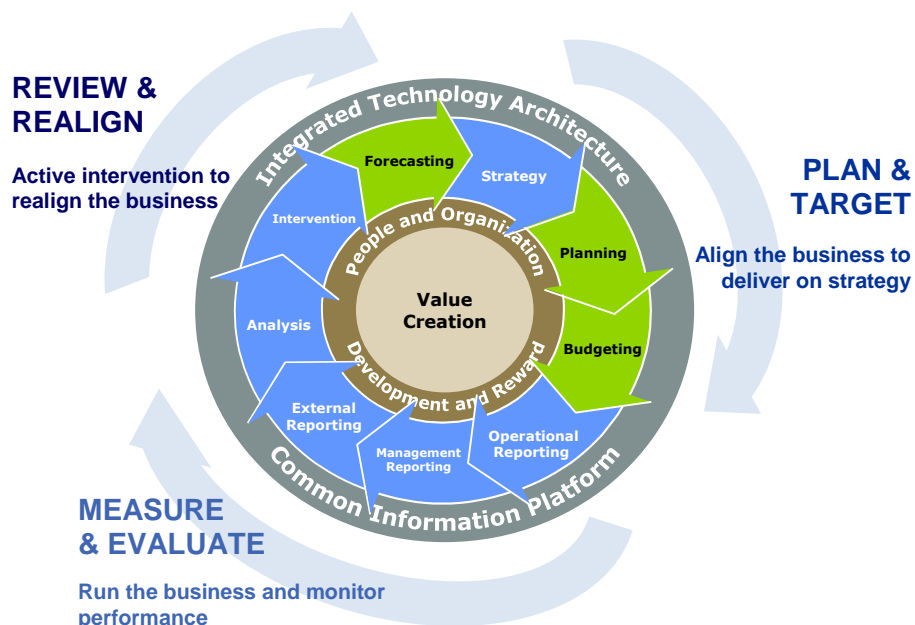
Forecasting is a time bound activity, assessing the probable outcome in an area of interest, using assumptions about the future state of influencing factors. Assumptions are normally based on historic trends, expectations around the future state of the environment, and the impact of intended actions to be taken by management.

A clear distinction can be made between a forecast and a target;

- A **forecast** is a business process, assessing the probable outcome in an area of interest using assumptions about the future.
- A **target** is an aspiration which allows activities to be determined, in order to achieve the target.

Using Deloitte's EPM methodology, the corporate performance management cycle of an organisation can be divided into three key phases; 'Plan and Target', 'Measure and Evaluate' and 'Review and Realign'. Forecasting forms an integral part of the 'Review and Realign' phase of this continuous process, supporting organisations to make necessary actions to refocus their activities, and is closely linked with the planning and budgeting processes.

Figure 2 Deloitte Enterprise Performance Management (EPM)



## **Planning and Budgeting**

Planning is the first part of the 'Plan and Target' phase of the corporate performance management cycle, and helps organisations define the actions required to deliver their long term strategic objectives. Budgeting follows the planning stage and sets financial targets against the defined actions that have been identified in the planning process, often over a shorter period of time. The financial targets are then allocated to specific regions, business units, departments and projects within the organisation. Organisations use these targets as a key tool for financial control, to monitor the performance of different areas of the business. The budgeting process typically takes place annually, and is often also used to communicate short term performance expectations to stakeholders.

### **3.4 Predicting a complex outcome**

Forecasting plays a critical role in investment appraisal; providing estimations of required resources, expected timescales, as well as the costs and benefits associated with the investment. This allows organisations to compare different investment options and their potential impact on future performance, thereby supporting the investment decision making process.

Forecasting for significant investments or complex outcomes can represent a different set of challenges than BAU forecasting. This extra risk is dependent on the level of certainty, the availability of quality information and the experience of the personnel involved.

## 4. Overview of leading practice forecasting



# 4. Overview of leading practice forecasting

## 4.1 Section summary

- Forecasting is an essential part of the corporate performance management process which allows organisations to take proactive actions against risks and opportunities in today's increasingly uncertain environment.
- Leading practice forecasting requires the right balance and combination of different elements within an organisation. These organisational elements are examined using the Deloitte TOM methodology and the key enablers that support leading practice forecasting have been identified as:
  - **Customer enablers** – Forecasts are appropriate for the needs of the customer and support them in making good decisions and taking necessary actions in their role.
  - **Process enablers** – Forecasts are efficiently and effectively produced using appropriate skills and technology, through collaboration across the organisation.
  - **People enablers** – Forecasts have ownership and accountability by appropriate people, and users have sufficient knowledge, skill and exhibit the appropriate behaviour.

## 4.2 Introduction

This section of the report outlines leading practice forecasting, drawing upon our understanding of forecasting methodologies, as well as Deloitte's internal network of practitioners and their experience across multiple organisations across all sectors. In our view, leading practice forecasting is delivered through a combination and balance of good organisational behaviour, key organisational enablers, which may vary by industry and their market dynamics.

## 4.3 The importance of forecasting

Corporate performance management cycles allow an organisation to plan and monitor its performance against target. Organisations are facing increasing uncertainty in today's operating environment, and the 'new norm' of continued volatility in the market place presents a greater risk to their performance. Forecasting provides organisations with a view of the potential future risks and opportunities, upon which they can proactively take action. Forecasting allows organisations to:

- take pre-emptive actions to mitigate risk and pursue opportunities;
- reassess organisational targets;
- improve organisational responsiveness to fluctuations in the market;
- provide shareholders and the wider market with the latest performance expectations;
- identify customer trends and new market opportunities;
- direct money to where it will deliver optimum stakeholder value and away from low value activities;
- plan and acquire additional resources required to achieve targets;
- assess future cash position and ability to support the organisation's liabilities; and
- provide the basis on which long term strategic plans of the organisation can be reassessed.

## 4.4 Deloitte Target Operating Model (TOM) methodology

Deloitte TOM is a structured approach to help our clients align their operations to execute their strategy. It provides a diagrammatic representation of an organisation deconstructed into key constituent layers. These layers are inter-dependent and all contribute to the realisation of business vision.

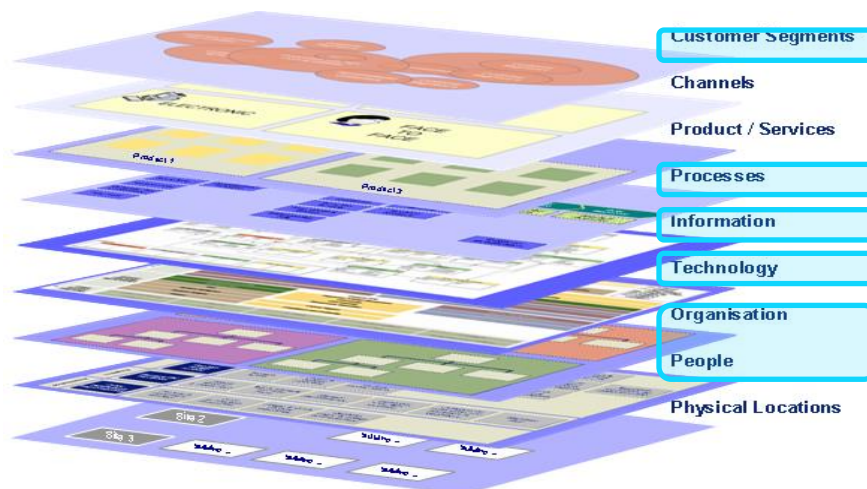


Figure 3 Deloitte Target Operating Model (TOM)

For the purpose of this review, the TOM has been applied to forecasting processes of private sector organisations in order to identify the characteristics of their key constituent layers that enable leading practice forecasting.

The following layers of the TOM methodology have been identified as areas of interest through discussion with the NAO, and reviewed in detail in section 5:

- Customer;
- Processes;
- Information;
- Technology; and
- Organisation and People.

## 4.5 Enablers of leading practice forecasting

Leading practice forecasting requires the right balance and combination of different elements within an organisation. TOM methodology helps to define these organisational elements into key constituent layers of an organisation as shown above. Different organisations will require different approaches and combinations of the TOM layers that are tailored to their unique business situation and needs. However, the following common enablers of leading practice forecasting have been identified in private sector organisations:



Figure 4 Leading forecasting enablers

- **Customer enablers** – Forecasts are appropriate for the needs of the customer and support them in making good decisions and taking necessary actions in their role.
- **Process enablers** – Forecasts are efficiently and effectively produced using appropriate skills and technology, through collaboration across the organisation.
- **People enablers** – Forecasts have ownership and accountability by appropriate people, and users have sufficient knowledge, skill and exhibit the appropriate behaviour.

# 5. Leading practice forecasting explored

# 5. Leading practice forecasting explored

## 5.1 Section Summary

- The Deloitte TOM methodology was used to examine the individual elements of an organisation which impact the enablers of leading practice forecasting as discussed in section 4.5
- The top attributes of leading practice forecasting have been identified as follows:
  - Corporate culture that strives to achieve excellence in planning and forecasting at all levels of the organisation;
  - Collaboration of all business areas to understand and consider the drivers and objectives of other functions;
  - One version of the truth in the information used and produced by forecasting, often facilitated by integrated technology platforms;
  - Focus on key business drivers, helping the organisations to direct its efforts towards what is important for the business overall; and
  - Ability to adapt to change, achieved through continuous evolution of forecasts and plans in response to changing business conditions.

## 5.2 Introduction

This section of the report expands on Section 4.5 Enablers of leading practice forecasting. The individual elements of an organisation which impact the enablers of leading practice forecasting will be analysed using TOM, as well as the examples researched from Deloitte's internal network of practitioners and their experience across multiple private sector organisations.

As mentioned in section 4.4, the following layers of the TOM methodology have been identified as areas of interest through discussion with the NAO, and detailed review of each has been carried out:

- Customer;
- Processes;
- Information;
- Technology; and
- Organisation and People.

## 5.3 Customer

### Understanding the customer

Forecasting is only useful if the information produced supports the customers of the forecast to take action that will benefit the organisation and help the organisation achieve its target. This means that leading forecasting must start with a clear understanding of who the customers are and how the forecasts will impact their decision making. In order to achieve this clear understanding, the following questions must be addressed:

- Who are the customers of the forecast?
- How do they use the forecast?
- What types of decisions or actions are taken as a result of the forecast?
- What are the key drivers and information that will influence their decisions and actions?
- Do the customers have the right skills and capabilities to use the information in the forecasts?

### Multiple needs of customers

Organisations often have many different customers using the same forecast as the basis for their decision making. These customers may be responsible for different aspects of the organisation's plan and use the forecast with a different focus, resulting in different interpretations or different application of the same information from the forecast.

For example, a sales forecast of a leading UK supermarket is used by various departments of the business to aid their operational planning and decision making process. The retail buying team uses the sales forecast to determine the level of stock required to fulfil the projected sales demand. The same forecast is also used by the marketing team to understand whether a recent promotion in a store was successful and to assess the feasibility of rolling out the promotion to another store. These forecast customers have contrasting uses of the same sales forecast and consequently conflicting requirements from the forecast. This is reflected in the table below;

	Customers	
	Retail Buying Team	Marketing Team
<b>Customer Objectives</b>	To determine the required level of stock to fulfil forecast sales, avoiding 'stock-outs'	To assess the forecast sales uplift impact of recent limited store promotion and decide whether further roll out is justified
<b>Key Questions</b>	What stock level is required to fulfil the sales forecast and how much stock needs to be available? What buffer stock is required?	What are the latest minimum sales uplift projected from the promotion? Does this justify roll out of the promotion in another store?
<b>Data Required</b>	Maximum potential sales forecast by Stock Keeping Unit (SKU)	Forecast sales post promotion and baseline pre-promotion, per store
<b>Potential consequence of incorrect forecast use</b>	Increased risk of stock out or waste	Drive poor investment decision making, either missed opportunities or poor allocation of resources

Organisations with leading forecasting practices recognise the importance of fully understanding their customers' varying uses and how stakeholder interpretations of the information provided might differ. This can be managed through a controlled distribution list and regular reviews of the distribution list to maintain relevance of the forecasts to the customers.

## 5.4 Process

### Frequency of forecasting

Leading organisations see forecasting as an integral part of their corporate performance management process. It is a part of their routine activities that adds substantial insight and value to the way they plan and operate. For example, in retail and fast moving consumer goods (FMCG) industries, certain organisations forecast their key business drivers as often as weekly, and some even daily in highly fluctuating operating environments.

The frequency of a leading practice forecasting process reflects the volatility of the environment that the organisation operates in. Sufficiently frequent forecasting will help an organisation to gain an informed view of expected outcomes, and consider the options to mitigate any deviations from their plan and targets. The effort and cost of producing forecasts at these frequencies should be carefully considered and offset against the benefits of frequent forecasts. Although the frequency may vary between industries leading practice organisations commonly prepare forecasts at fixed intervals communicated through a timetable, with a rolling timeframe looking beyond the year end. Typically, leading organisations will look to develop a rolling forecast up to twelve to fifteen months which encourages the business to be more 'forward looking'.

### Suitable forecasting approach

There are many forecasting methods available and leading organisations adopt the method which best accommodates their business requirements. This is dependent up on many factors including:

- context of the forecast;
- requirements of customer;
- dynamics of the operating market;
- degree of accuracy required;
- relevance and availability of information;
- forecasting time period;
- time and resources available to the organisation; and
- the cost/benefit of the forecast to the business.

In a consumer goods manufacturing business with a clear view on the historical demand trends and a good understanding of the drivers of their demand, a driver-based forecasting technique maybe used in conjunction with statistical extrapolation techniques to reflect their historical trend in forecasts. Equally, a capital-intensive property development company may use a bottom-up forecasting approach to reflect the latest view of individual development projects' capital expenditure forecasts.

## Operational and financial forecasting

Operational and financial forecasting processes are collaborative and are run in parallel in organisations exhibiting leading practice forecasting. In the most advanced organisations, this is enabled by an integrated operational and financial system and supporting infrastructure, which allows the impact of change in one side of the forecast to flow straight through to the other.

For example, in a professional recruitment services organisation, the regional sales teams update their weekly fee forecasts on a rolling six week period basis. They upload the latest view of candidate placements and fees using an operational system (PeopleSoft) that is directly linked to the financial reporting tool (Oracle), from which the finance team runs a report upon which to base their weekly financial forecasts. This allows the latest operational sales forecast to pull directly through to the financial forecasts on operating profit and gross margin.

Some organisations without an integrated system between operational teams and finance still strive for leading practice of collaborative forecasting processes by holding joint review meetings and aligning their forecasting timelines and processes with each other. The jointly held forecast review meetings provide both parties with an opportunity to cross-review with their peers and gain clarity over the factors impacting the different forecasts. It also provides an opportunity to challenge assumptions and discuss potential process improvements.

## Collaboration across functions

As well as the collaboration between operations and finance, leading organisations display cooperation across the 'enterprise' to produce their forecasts. This allows each business function to understand the interdependencies and capture the potential impact of the actions of other parts of the business. Due to the potential for sales & marketing activities to impact demand, resource requirements and cash flow across all functions, these are key areas to involve in collaborative forecasting activities. Leading organisations often provide a central forum through which the business functions can communicate across the organisation, most commonly through a central or group team. More advanced and dedicated organisations install a 'forecasting champion' in each area of the business. The champion is ultimately responsible for working with other functional forecasting champions, establishing common forecasting assumptions to drive consistency and compatibility, and ensuring significant actions and events in their own business area are fully communicated to other potentially impacted business functions.

## Continuous Improvement

The majority of successful forecasting organisations take the time to review and analyse the actual outcome against the previously forecast outcome. The variance of the actual outcome from the forecast is often due to unforeseen events or circumstances, or misjudgement of the impact of a known event. However, leading organisations recognise that the differences may be due to organisational bias in the process. This drives these organisations to invest time and resources into identifying and analysing the variances, to confirm whether the bias in the process can be addressed. Bias can be addressed either by, exposing and challenging the behaviour, increasing capability and experience, or by eliminating the flaw within the models or assumptions. A strong focus on forecasting accuracy can sometimes result in actual performance being 'managed' to forecast in order to avoid a gap. Leading organisations recognise the importance of the cultural aspect of forecasting to continue producing challenging and realistic forecasts.

In advanced organisations, the feedback loops for forecasting cover a wider scope than just the process itself and consider the culture of forecasting in the organisation. A leading UK supermarket holds a quarterly Finance Planning and Analysis (FP&A) forum. All stakeholders involved in forecasting and budgeting are invited from across the business. The forum is primarily used to discuss the latest budgeting or reforecasting cycles, but it is also used to discuss methods to improve process transparency, how to increase operational input, and how to improve the process overall. The forum gives the stakeholders a chance to contribute feedback and make recommendations on improvements, as well as providing an opportunity to up-skill the stakeholders and address any knowledge gaps on how to use and interpret forecasting.



## 5.5 Information

### Quality of input

The quality of information that goes into a forecast significantly impacts the quality of the forecast outputs. High quality information can help reduce the variance of the 'judgemental' element of forecast processes. Leading organisations continuously seek to balance the quality of information with the effort required to produce it. Some organisations include a data quality measure or indicator against critical data inputs and drivers, which help the customers of the output to understand the level of reliability that can be expected.

It is also important for organisations to have a consistent taxonomy and a standard way of capturing information. This standardisation of definitions can prevent misunderstanding and misuse. For example, at a major pharmaceutical company, the Sales team talk about sales by referring to gross revenue, whereas Finance refer to net revenue. This lack of standardisation has resulted in mistrust and the perception that each function does not understand the business. The business is now looking at the benefit of creating a global information steering model, to support better decision making.

### Transparency

Forecasts are used to make important decisions on operational, tactical and strategic issues across various business functions. These business functions all have different roles to play within the achievement of the organisation's overall strategy resulting in their own functional targets, often without a clear understanding of the interdependencies between each other's activities.

For example, at a leading consumer business, the sales forecast is used to challenge the sales force to raise their performance, the Manufacturing team then has to interpret the forecast to drive production and logistics, while Finance must take both forecasts and apply a level of challenge before producing a forecast for the private equity owners. Prior to this, transparency and understanding of the drivers behind each functional forecast was lacking, each business function and customer used the information differently, worked in silos and as a result drove inefficiency across the business.

It is acceptable to have forecasts with different purposes if there is transparency of the purpose of each forecast and the information used, to maintain the 'buy-in' of all stakeholders and eliminate any uncertainties of bias. Leading organisations maintain transparency about their information sources and the forecasting process, which encourages collaborative working relationships across the different functions in the organisation, as well as providing an open forum to make effective challenge through better understanding.

### Outputs of the forecast

Information provided to the business through forecasting forms the basis of many critical decision making processes, and therefore should be provided at a level of accuracy, reliability, transparency, timeliness and understanding that will enable decision making. Leading practice organisations present their forecast outputs at an appropriate level of granularity to enable understanding and provide necessary detail. These outputs are often tailored to the needs of the users of the forecasts, and presented alongside the KPIs and targets of interest to the user, as well as providing a comparable view of prior performance.

For example, a sales forecast report for the South East region of a UK based mobile phone retailer includes a three month rolling sales forecast for the region, which is compared against budget, prior period forecast, prior year actuals and the three month rolling sales forecast for the whole of UK. This structure of forecast output allows the regional sales team to assess their performance against their own targets, and to compare their performance trend against that of the UK to identify if there are overriding trends in the market impacting their performance.

## 5.6 Technology

### Automation of forecasts

Some organisations automate their forecasting through the use of forecasting software. Other organisations develop in-house Excel models tailored to their unique business situation, and produce semi-automated forecasts by updating the models, on a regular basis, with the latest actual data available. Technically advanced approaches to forecasting allow the forecasting process to be carried out more efficiently. However, technology should enable

forecasting and decision making rather than simply provide an answer; not all variables and factors can be modelled or included. This means that human judgment is not obsolete.

For example, a forecast may show a SKU being delivered to a customer, as a loss-making product, but the model may not capture the known sell on revenue that might be received downstream. In leading organisations, the approach to forecasting is often a combination of both automated predictions and manual adjustments. This approach reflects the historical trends in the forecasts, whilst also capturing the potential impacts of known future events or anticipated changes.

For example, the leading practice forecast of expected call volumes for a telecoms provider considers inputs including;

- the automated historical analysis of call volumes;
- the analysis of the call distributions throughout the day and week; and
- the automated analysis of the latest actual voice traffic through the network.

This information is manually overlaid with various known events, such as a bank holiday or the launch of a new series of reality television show. Leading organisations automate parts of forecasting process through appropriate technology where it is possible to do so without comprising quality. This enables the organisation to free up time and resources to focus where judgement and interpretation are required in forecasting.

## Integrated systems

By using organisation-wide technology platforms, businesses can manage potentially significant amounts of data that may be required and created by the forecasting process. Many leading organisations have introduced integrated planning and forecasting platforms to replace numerous spread sheets and multiple databases. This can reduce the risk of potential errors and decrease the time spent on consolidation. Shared information from a 'single source of the truth' supports increased transparency, common data definitions and collaboration across different business functions. In the best practice organisations, a regular 'global housekeeping' is carried out on the integrated systems and platform to archive old datasets and redundant historic data, and maintain a single set of data definitions and 'one version of the truth'.

Integrated systems can also be used to cascade forecasts throughout the organisation quickly and efficiently. Setting multiple layers of user security matrices, leading practice organisations allow only the necessary information to be efficiently disseminated to the appropriate customers of the forecasts.

Additionally, exceptions reports and alerts are deployed based on predefined business rules which ensure that management can be notified quickly and automatically of any significant deviations from target to help a quicker response to risks.

## 5.7 Organisation and people

### Culture

For an organisation to embrace leading practice forecasting, there needs to be an open and transparent environment in which people from different areas and functions of the business can collaborate and share information. Organisations with leading forecasting practices foster a culture of open communication and trusted cooperation. These cultural characteristics are driven by long term commitments from executive management, through investing time and resources to nurture their workforce. Implementation of an integrated system for forecasting, introduction of forecasting community forums, and the nomination of forecasting champions can all help organisations develop a culture which supports effective forecasting.

### Ownership and accountability

Clearly defined roles and responsibilities can support the development of effective forecasting processes by clearly allocating ownership and clarifying accountability and responsibility. Forecasting should not be perceived as a 'finance exercise'; all those involved in the forecasting process should understand the impact of their actions on the different forecasting outputs.

Organisations often face difficulties in gaining and maintaining the support and 'buy-in' of the people that have the greatest impact on the resulting forecast. This is often due to their lack of visibility or understanding of what the



forecast is used for, and no direct ownership or accountability of the challenges that the forecasts are used to address. For example, when a leading UK supermarket experienced a serious shortage in cash flow at year end, the UK finance director decided to increase the frequency of the organisation's cash flow forecast from fortnightly to weekly. This had the biggest impact on the development managers who had to review all their project purchase orders twice as frequently as before, and the change was heavily resisted by the development managers as they had not been informed of the cash shortage situation.

In such instances, leading organisations provide workshops and training to raise the awareness of the stakeholders and educate them on the importance of forecasts and how their actions impact each type of forecast. These events not only provide a sense of being part of the bigger picture for the stakeholders, but provide an opportunity to gain insights from the 'front line' of the organisation.

## **Skills and knowledge**

To enable leading practice forecasting in an organisation, the people producing the forecasts need to have an appropriate level of technical skill and forecasting knowledge, as well as a good understanding of the organisation's business environment. Leading organisations use capability matrices to assess whether their employees have the right skills to deliver high quality business activities required in their roles. Where gaps exist, organisations provide training to the existing employees, or look to fill the gap by attracting the right talent from the market.

Leading forecasting organisations also invest in training to support the employees using the forecasts to attain and maintain the right capabilities to interpret and utilise the information from forecasts. These training sessions leverage the experience and knowledge of the producers of the forecasts, and provide an opportunity for face-to-face interaction with the users of the forecasts. This can help facilitate their working relationships and encourage collaboration.

## **Rewards and incentives**

Most leading practice organisations have embedded forecasting performance into their employees' performance objectives and variable remuneration. The most successful use of the forecasting performance related incentives include only the aspects that can be directly influenced by the employee, such as timely delivery and accuracy of forecasts.

## 6. Analysis of case studies

# 6. Analysis of case studies

## 6.1 Introduction

Case study reviews of three private sector organisations were undertaken to inform review findings. The case study organisations were reviewed in order to gather primary data, initially by means of a structured forecasting questionnaire, followed by a focused interview. The case studies were used to:

- test the hypotheses created at the visioning stage;
- understand how leading practice is applied in the private sector; and
- provide insight into some of the issues that private sector organisations may have in the application of leading practice.

The case studies were chosen to align with areas of government in which the NAO expressed particular interest, as described below.

Characteristics	Private sector example	Rationale
<ul style="list-style-type: none"><li>• Long term benefits realisation</li><li>• Large investments</li><li>• Complex and public projects</li><li>• High profile</li><li>• Regulated</li></ul>	A major UK airport	<ul style="list-style-type: none"><li>• New terminals and runway investments requiring long term planning</li><li>• Forecasting supports both BAU operations of the terminals, as well as long term planning</li></ul>
<ul style="list-style-type: none"><li>• Large staff base</li><li>• Constant fluctuations in demand</li><li>• Direct contact with the public</li></ul>	A leading UK high street retailer	<ul style="list-style-type: none"><li>• Centralised capability for forecasting across a large geographic foot print and staff base</li></ul>
<ul style="list-style-type: none"><li>• Large staff base</li><li>• Significant operational planning within a constrained environment</li></ul>	A top twenty global pharmaceutical organisation	<ul style="list-style-type: none"><li>• Demand forecasting involving many stakeholders and users of the forecast and outputs</li></ul>

As part of the case study reviews, the three private sector organisations were analysed to:

- understand how forecasting was carried out in these private sector organisations;
- identify what types of challenges the organisation experienced; and
- discover any leading practice forecasting methods used to overcome these challenges.

## 6.2 Highlevel case study findings

The case studies in our review reflect real-life examples of leading practice attributes discussed in Section 5.

Leading practice forecasting examples	Challenges in achieving leading practice forecasting
<b>Major UK airport</b>	
<ul style="list-style-type: none"> <li>• Strong long term strategic focus underpinned by a fifteen year master plan, to drive day-to-day decision making</li> <li>• Supportive culture that incentivises and rewards effective risk management and accurate forecasting</li> <li>• Collaborative working between operations and finance to provide peer review and challenge</li> <li>• Tailored forecast outputs to meet differing customer needs by way of fifteen year, two year and three month forecasts</li> <li>• Driven by regulatory requirements, a risk based approach to project portfolio management supports the accuracy of project cost forecasting</li> <li>• Development of a database to support knowledge retention and improve the accuracy of capital costing and forecasting</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of integrated systems making it more difficult to collaborate across functions</li> <li>• Third party vendor resource planning requiring more granular forecasting accuracy achieved by a shorter-term view</li> <li>• Infrequent availability of information on key underlying drivers of forecasts means that financial reforecasts can only take place twice a year</li> <li>• Changes in regulation will see further scrutiny placed upon the delivery of large scale capital projects</li> </ul>
<b>Leading UK high street retailer</b>	
<ul style="list-style-type: none"> <li>• Forecasts managed and reviewed by individuals with the appropriate skill set</li> <li>• Understanding of business value drivers supports cost reduction and enables the reduction of production effort</li> <li>• Centre of forecasting focus is on customer needs and output templates are designed to facilitate understanding</li> </ul>	<ul style="list-style-type: none"> <li>• Forecasting is a long iterative process, often taking four or five cycles to settle on a view</li> <li>• Multiple models for forecasting used in MS Excel to provide outputs tailored to customer expectations but difficult to govern consistency</li> <li>• Budget and forecast focus on next financial year and run in parallel, whilst cash flow forecasting is a completely separate process</li> </ul>
<b>Global pharmaceutical company</b>	
<ul style="list-style-type: none"> <li>• Existing technology leveraged to support collaboration across functions and the subsequent sharing of knowledge with the other manufacturing division, to increase process efficiency</li> <li>• Local ownership of demand forecasts to leverage local knowledge of market and regulations and encourage affiliate buy-in</li> <li>• Finance working with other functions to improve the organisation's project cost forecasting and tracking capability</li> </ul>	<ul style="list-style-type: none"> <li>• Dual users of forecasts with non-congruent KPIs, with one user having dominance over the outputs and impact of the forecasts</li> <li>• Lack of transparency as to how the forecasts are used, and misalignment of expectation to reality leading to organisational tension</li> <li>• Parallel processes for forecasting within the organisation, resulting in inefficiency and multiple versions of the truth</li> <li>• Budget focused culture encouraging 'forecasting back to budget', rather than projecting the latest view of business performance</li> <li>• Project cost forecasting suffers from optimism bias, particularly when non-financial departments are responsible for running the project</li> </ul>

## 6.3 Case study: A major UK airport

### 6.3.1 Key findings

#### Long term strategic focus

The fifteen year 'Master Plan' is at the centre of the organisation, providing overall guidance on day-to-day activities, and providing discipline for investment decision making.

#### Forecasting embedded in the culture

The organisation has a forecasting supportive corporate culture that embraces 'forward-looking' behaviours and rewards good forecasting performance.

#### Forecasts designed for their customers

Tailored forecasting outputs are designed with a good understanding of the customers of the forecasts. These allow the customers to use the forecasts with confidence, assured that the information they are using is relevant for their purpose.

#### Physically working together to overcome systems shortfall

Operations and Finance collaborate to share information and work collectively through joint review sessions and deep-dive sessions, despite the lack of an integrated forecasting platform.

#### Risk based project portfolio management approach

Regulatory requirements on the organisation drives a risk based approach to project portfolio management, which supports the accuracy of project cost forecasting.

#### Knowledge retention through a database

A database supports knowledge retention on project costing, and improves the accuracy of capital costing and forecasting.

### 6.3.2 Background

The organisation reviewed in this case study is a major UK airport. In addition to business as usual (BAU) resource consumption, it is currently experiencing significant changes to its infrastructure, through on-going large transformation projects, new capital investments and major maintenance. This organisation is an important part of one of the most critical infrastructures in the UK and is highly regulated by various bodies.

Forecasting is important to the organisation because;

- The large scale capital investment is subject to scrutiny from regulatory and public bodies; and
- Resource requirements for daily operations involve third party costs, which should be proactively managed to keep down costs.

### 6.3.3 Primary forecasting focus

This case study considers the BAU forecasting carried out from an operational and financial perspective. Forecasting in this organisation is an integral part of their corporate performance management cycle and has the follow focus:

<b>Long Term Planning</b>	The organisation uses a fifteen year master plan to drive short term strategy and objectives. Operational and financial forecasts allow the organisation to review its longer term plans, and assess relevance and applicability of the plan against latest projections.
<b>Internal Resource Planning</b>	Operational forecasts provide the latest projections on future passenger numbers, and this is used to assess the capacity required at terminals and runways to service the projected passenger numbers.

### Third party vendor management

Operational forecasts of passenger projections also drive resource requirements from third party vendors, and this is used to drive the procurement and management of third party vendors.

## 6.3.4 Forecasting approach

Financial re-forecasting is carried out twice a year. The frequency of forecasting is driven by the availability of information of their key driver: passenger numbers. This information is only provided by the airlines in March and October of each year, when the airline schedules are updated. Operational forecasting is carried out more frequently using information on the latest actual passenger numbers, as this feeds the internal capacity and resource planning, as well as the resource planning of third party vendors. The organisation has an integrated forecasting process led by finance, with inputs from across all parts of the organisation.

### Customers

#### Forecasting for customer needs

Operations carry out forecasting to provide the business with projected passenger numbers, which is the key driver used by all parts of the organisation to plan and track their performance. There are three different forecasting models to address the different needs of customers of the forecasts;

- **Strategy and planning team** is provided with projected passenger forecasts driven by a fifteen year projection model. The model uses complex econometric methods including regressions, price elasticity, Gross Domestic Product trends and growth curves. The forecast produced is then used to support the airport in making long term capital investment decisions (i.e. new runway, additional terminal etc.). These decisions impact future passenger capacity.
- **Capacity management teams** are provided with passenger forecasts driven by a shorter term, two year projection model. This model is based on the information provided by airlines about projected sales, passenger numbers and airlines' maximum capacity. This passenger forecast is then used project the capacity required to be planned.
- **Third party vendors and internal resourcing teams** are provided with projected passenger forecasts driven by a short term, three month forecasting model. This model uses the latest information received from airlines on their actual ticket bookings and sales, which is submitted several times a week. These forecasts are used by the customers to schedule security staff, UK immigrations staff, and retail staff. They are normally prepared weekly, but reviewed on a daily basis.

### Process

#### Collaboration of Operations and Finance

Financial reforecasting in the organisation takes place twice a year, following the update of the airline schedules. The airline schedules provide information on projected capacity which is then used by the operations team to forecast passenger numbers. Finance use this output as the key underlying driver of the financial reforecasts, along with the latest view of risks and opportunities, and the latest actual financial performance of the organisation.

There is a close interaction and collaboration between the Operations and Finance forecasting teams despite their different focus. This is supported by monthly joint review meetings and joint 'deep-dive' reforecasting sessions which are held twice a year. These sessions allow the stakeholders to provide peer review, clarify any issues and make challenges.

#### Frequency of financial reforecasts

The organisation understands the benefit of regular financial reforecasting and wants to introduce a more frequent reforecasting cycle. However, the key underlying driver of the financial forecasts is passenger numbers, which are only available at the two trigger points when the airlines publish their revised schedules. A high level outlook is reviewed and forecasted on a periodic basis instead, to provide management with the latest financial projections.

## Information

### Forecasting accuracy

Current accuracy of operational forecasts of passenger numbers is adequate for managing internal capacity and resources. However, there are often minimum 'lock-down' periods for securing third party resources (for up to two months in advance). Requesting last minute resources due to unforeseen demand can be costly and is not always possible. There is a lot of value to be gained from improving the forecast accuracy earlier in the process, and the organisation is currently investigating ways to support this.

## Technology

### Multiple systems used in forecasting

Operations currently use a resource planning tool which is outdated and is not integrated with the systems in other parts of the business. Finance previously used a system linked to the resource planning tool; however the limited capability of the system was not 'fit for purpose'. They are currently using Data Warehouse, Microsoft Excel and Visual Basics which offers more flexibility to create tailored forecasting models. However, the lack of integrated systems makes it more difficult to collaborate across functions, as there is no transparency between finance and operations in the information used in their forecasts and data has to be shared manually.

## People and Organisation

### Culture of planning and forecasting

The organisation has a fifteen year 'Master Plan' at its core. This is a relatively high level plan but has a strong strategic focus which aids day-to-day decision making as well the large long term investments in the organisation. This encourages a 'forward-looking' corporate culture which instils discipline in planning and forecasting, ultimately helping the organisation become much more proactive in addressing risks to their long term goal.

### Performance related incentives

The organisation has a cultural expectation that risks and operations are appropriately flagged in a timely manner and this is driven by performance related incentives. For example, the employees who are responsible for the passenger number forecasts have KPIs in their objectives based on the timely delivery and accuracy of the forecasts.

## 6.4 Case study: A UK high street retailer

### 6.4.1 Key findings

#### Leveraging a centralised capability

The process is executed by appropriately skilled centrally employed staff, with no input from the in-store staff.

#### Information is tailored for different customers

In-store employees receive a tailored output from the forecast to support independence and drive behaviour.

#### Multiple iterations are required

The forecast is used as a tool to manage back to budget. Due to the political nature and importance of the forecast, it takes three or four iterations to get sign off from management.

### 6.4.2 Background

The organisation reviewed in this case study is a leading UK high street retailer. It has a large employee base that is spread over a large geographic footprint. The organisation is a listed company, therefore requiring forecast processes to support internal management decisions and communications to the market.

### 6.4.3 Primary forecasting focus

This case study considers the BAU forecasting carried out from an operational and financial perspective. Forecasting in this organisation is a key management tool, used to drive decision making and support communications to the market.

The retailer's forecast is linked to their annual budget process and the five year strategic plan. The five year plan is used to articulate the businesses mid to long term goals. The budget is used to fix the target trading margin for the next twelve months. The budget process is executed over a four to five month period, involving a bottom up build. The forecast process is executed with varied effort levels depending upon the time of year. It is used as a mechanism for re-determining how the business will achieve its target trading margin.

<b>Annual Budget</b>	<ul style="list-style-type: none"><li>• The annual budget covers a twelve month time horizon</li><li>• The process takes approximately four to five months to complete in full</li><li>• There process involves “negotiation” between the “top down” view and the “bottom up” build</li></ul>
<b>2<sup>nd</sup> Quarter Forecast</b>	<ul style="list-style-type: none"><li>• A “light-touch”, top down approach</li><li>• Using the budget as a base</li><li>• Finance and commercial departments are “informed” of the output</li></ul>
<b>3<sup>rd</sup> Quarter Forecast</b>	<ul style="list-style-type: none"><li>• Starts with a “bottom up” build</li><li>• A complete reforecast, with major focus on the known business drivers</li><li>• Finance and commercial departments are consulted during the process</li><li>• Three to four iterations</li></ul>
<b>4<sup>th</sup> Quarter Forecast</b>	<ul style="list-style-type: none"><li>• A “light-touch”, top down approach</li><li>• Using the 3<sup>rd</sup> quarter forecast as a base</li><li>• Finance and commercial departments are “informed” of the output</li><li>• More attention required to make sure that the forecast year end position is certain</li></ul>

### 6.4.4 Forecasting approach

Financial re-forecasting is carried out quarterly. The frequency of forecasting is driven by the desire to make timely management intervention and communicate with the market. The forecast is centrally managed with information shared with the customers in a timely manner to allow intervention.



## Customers

### Forecasting for customer needs

The forecast process is designed to help the senior stakeholders deliver targeted business performance. The first iteration provides the latest view of business performance. It then allows initiatives to be identified to deliver the budgeted trading margin. Multiple iterations provide confidence that the initiatives will deliver the targeted business performance.

Customers receive the output in a template format that has been tailored to support their understanding and information requirements. This means that different customers get different information. For example, senior stakeholders get a more complete view of business performance than people in-store. Senior stakeholders are informed of forecast 'true' profit. However, in-store staff receive a forecast view of 'notional' margin. This allows the retailer to maintain the business principle of independence, while supporting in-store management with volume forecasts that allow a clear understanding of expected performance levels. The forecast time horizon is set to the end of the performance year, as the focus of the forecast is on delivering the targeted year end performance, rather than serving as an on-going management tool.

## Process

### Multiple iterations are driven by the purpose of the forecast

The purpose of the forecast is to identify initiatives that will allow the business to deliver the trading margin target, which was set during the budget process. The business is reliant on the first iteration of the forecast providing a realistic view of expected outturn, based on known factors. This allows management to determine a set of initiatives to test during a second iteration. These initiatives and the underlying assumptions are refined during further iterations until management is satisfied that the expected outturn can be delivered with a degree of certainty.

### Frequency of financial reforecasts

The forecast frequency is set at quarterly, due to the relatively stable nature of the main line of business. Customer contracts expire at known dates and as such there is a fairly predictable demand. This stability is reflected in the varied effort in forecasting throughout the year. The 'top down and bottom up' budget is executed over a four to five month period, while the quarter three forecasts is a full 'bottom up' forecast. The forecasts in between the two 'bottom up' processes are focused on a review of assumptions and the main drivers.

## Information

### Forecasting accuracy

Forecasts are deemed to be accurate, with business performance usually matching forecast performance. It is believed that the performance delivered is due to the deep understanding of the impact of initiatives, rather than the business only delivering what it had been asked for.

This knowledge of the impact of initiatives has been retained by individuals, instead of being captured in a formal manner. These skilled individuals are heavily reliant on the quality of the information that they are provided with. To help preserve the high quality of input data, the retailer purchases the latest view of the total market population and market share from a third party provider. This information is a vital component of the forecast as it is required to support the calculation of all further major drivers of business performance.

## Technology

### Reliance on tailored models

Over time, the business has developed a series of excel models that are used to forecast different elements of the business. For example, one model takes the external market data, and supports the forecast of volumes and trading margin. An output from that model is subsequently used to derive forecast 'full time equivalent' resource requirements, which in turn is used to forecast payroll requirements.

These excel models are centrally managed and deemed fit for purpose. They do, however, result in high manual effort and manual data manipulation.

## People and Organisation

### Appropriately skilled staff

The forecast process is executed centrally by people that are deemed to have the appropriate knowledge and capability. Based upon results and forecast accuracy, management feel justified in centrally managing this process, rather than relying upon store level input.

## 6.5 Case study: A global pharmaceutical company

### 6.5.1 Key findings

#### Collaboration of divisions in sharing leading practice

Supply Chain Y shares how it leverages existing technology with Supply Chain X, as part of a continuous improvement programme within the business.

#### Local ownership of demand forecasts

Demand forecasts are owned and accounted for by the Sales and Marketing affiliates, who leverage their local knowledge of market and regulations in their forecasts.

#### Use of existing technology to facilitate forecasting

One of the Supply Chains (Supply Chain Y) uses an existing system (SAP) to collect and consolidate demand forecast submissions from all EMEA Sales and Marketing (S&M) affiliates. This provides efficiency and eliminates error in manual consolidation.

#### Cross functional improvement driven by finance

Finance is working with other functions of the organisation to improve the organisation's project cost forecasting and tracking capability.

#### Optimism bias in forecasting

Project cost forecasting often suffers from optimism bias, especially when non-financial departments are responsible for running the project.

#### Lack of transparency and alignment of expectations

Customers of the forecasts can grow dissatisfied and develop poor organisational behaviour, if the forecasting is not transparent and expectations are not managed.

#### Conflicting objectives of multiple 'customers' of forecasts

Non-congruent KPIs and silo-behaviour may lead to inefficient ways of working and failure to optimise working capital.

#### Limitations of budget focused culture

If the purpose of the forecast and its relationship with the budget is not clearly defined, then both tools can be misused. In this organisation, the budget is used to determine the ambition for growth, while the forecast is limited to charting a course to achieving the targeted, budgeted performance, rather than providing the latest view of expected performance.

### 6.5.2 Background

The organisation in this case study is a global pharmaceutical company with a significant sales force in EMEA. The organisation has ambitious growth targets, and commercial effectiveness is at the centre of their focus. The organisation has country or region specific Sales and Marketing (S&M) affiliates across EMEA who are responsible for the sales activities in their local market and these affiliates are supported by two European manufacturing Supply Chains. These two manufacturing Supply Chains provide different products to the affiliates and function as two distinctly separate entities with different processes and procedures.

### 6.5.3 Primary forecasting focus

This case study specifically reviews the stock demand forecasts produced by the S&M affiliates. These are sent by the S&M affiliates to the Supply Chains to request the amount of stock required to satisfy local market demand.

There are two key focuses of the demand forecasts:

<b>S&amp;M Affiliates</b>	<p><b><i>Receive sufficient stock shipments</i></b></p> <p>The demand forecast allows the S&amp;M affiliates to request a sufficient level of stock from the Supply Chains to meet the sales predictions and adhere to any minimum stock level requirements imposed by regulators.</p>
<b>Supply Chains</b>	<p><b><i>Maximise Supply Chain efficiency &amp; ensure no 'stock-outs'</i></b></p> <p>The demand forecast allows the Supply Chains to plan their manufacturing schedule for maximum efficiency. Also, it allows the Supply Chain to ensure there are no shortages in the affiliates at any time.</p>

#### 6.5.4 Forecasting approach

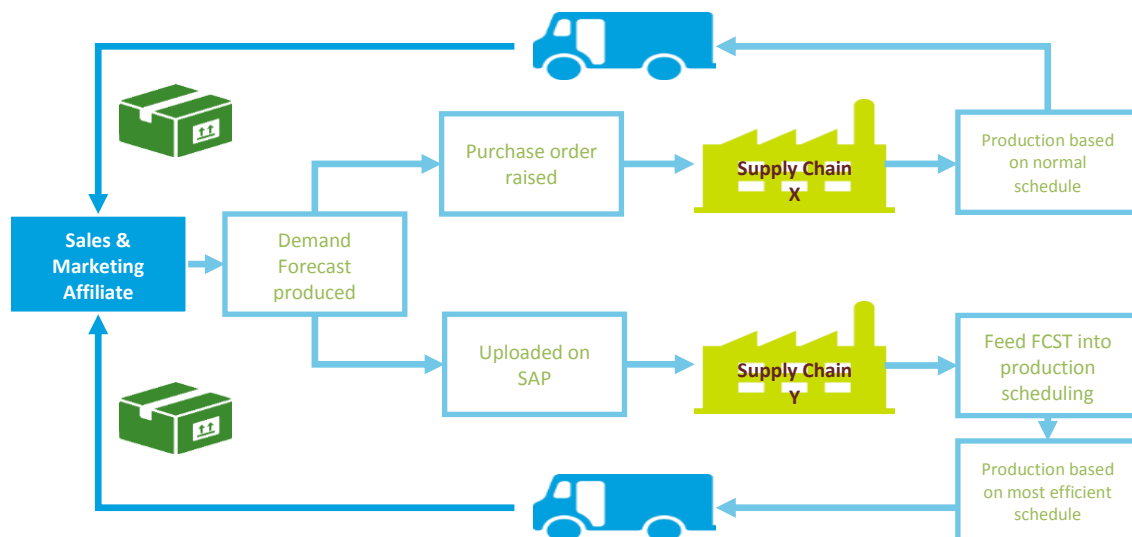
The demand forecasts are prepared by the S&M affiliates using their local sales forecasts and market knowledge, for the subsequent twenty-four months on a rolling three months basis. For each affiliate, two demand forecasts are produced, to be sent to the two European manufacturing Supply Chains.

#### Process

##### Parallel process for submitting forecasts and their different uses

For Supply Chain X, the S&M affiliates request specific batch order quantities for products they require by raising a purchase order (PO) once the demand forecast is complete. This means that the batches received from Supply Chain X are normally in line with the affiliate's expectations (excluding a 15% tolerance driven by Supply Chain or distribution capacities).

Figure 5 Stock demand forecast to shipment process



However, Supply Chain Y receives all the affiliates' demand forecasts through a SAP upload, which automatically consolidates the stock requirements for all EMEA affiliates by individual products. Supply Chain Y then uses this information as a component in calculating the most efficient production scheduling and shipment quantities. These schedules are driven by Supply Chain focused KPIs. This often results in production of some products being postponed until there is enough demand from across EMEA, or certain products being produced in greater quantities than requested and then being pushed out to the S&M affiliates. This leads to the affiliates often having to accept more products than they have forecasted to sell, causing dissatisfaction in the local management and increases in their working capital.

## Customer

### Different users of forecast with conflicting objectives

The demand forecast is primarily used by the S&M affiliates to make sure that they receive the right level of products so that they can meet their local market demand and adhere to the local regulations. However, the demand forecast is also used by the Supply Chain Y as an input in formulating efficient production schedules. This creates a discrepancy between the expectations on the outputs of the forecast, since the two customers (the affiliate and the Supply Chain) have different key drivers. In this instance, Supply Chain Y has the overriding control since it determines the production schedule.

## Process

### Lack of transparency

Despite the efforts of the S&M affiliates to use their local knowledge to produce good quality demand forecasts, there is a lack of transparency for the affiliates on how their forecasts will be used to drive the production schedules at the Supply Chain Y. This means that, to a certain extent, the quality of their demand forecasts does not influence the amount of products that they will receive. The perception of the S&M affiliates is that they have no control over the shipments they receive and that it is solely controlled by Supply Chain Y.

### Success from supply chain's point of view

Forecasting, from the view of Supply Chain Y, is an efficient process that allows effective planning and scheduling of production and distribution. An existing technology platform is leveraged to collect data and consolidate into an easy-to-use input for the Supply Chain's own forecasting purposes. The forecasting process into Supply Chain Y is currently being shared as leading practice with Supply Chain X, as a continuous improvement programme across the organisation.

## Technology

### Inconsistent use of systems

Supply Chain Y uses an existing SAP system to collect the demand forecast from all S&M affiliates. The system then automatically consolidates the forecasts and provides the Supply Chain with 'one version of the truth' on the overall demand for EMEA. However this is not used for Supply Chain X, which uses a manual purchase order system, meaning that the affiliates have to carry out another process to submit the demand forecast, which is more manual and time consuming.

## Information

### Local forecasting submitted but overridden by Supply Chain Y

Demand forecasts produced at affiliate level include all of their local market knowledge; this includes the local legal requirements on the minimum stock level required for some products (i.e. at least three months' supply is required for some lifesaving drugs). Since the Supply Chain does not dispatch the exact requested amount of stock to the affiliates, they apply a buffer stock assumption to all products (including products with no minimum requirements) when calculating production batch quantities. This results in the affiliates often receiving overstock, especially for products with no minimum stock requirements.

## People and Organisation

### Budget focused culture

The organisation has a main focus on delivering the budgeted revenue and costs, which is driving a 'forecast to budget' attitude. This encourages the Supply Chain Y to drive their production and distribution solely on Supply Chain KPIs, without any focus on the actual requirements of the affiliates. This is made worse by the lack of focus from the senior management on the working capital efficiency of the affiliates and the Supply Chains.

## 7. Specialist area case studies

# 7. Specialist area case studies

## 7.1 Introduction

This section of the report analyses two additional private sector organisations that display characteristics that were highlighted by the NAO as business situations of specific interest:

Characteristics	Private sector example	Rationale
<ul style="list-style-type: none"> <li>• Large staff base</li> <li>• Constant fluctuations in demand</li> <li>• Direct contact with the public</li> </ul>	A major international sporting event organiser	<ul style="list-style-type: none"> <li>• Resource planning for a contact centre, with highly fluctuating demand</li> <li>• Direct contact with the public</li> </ul>
<ul style="list-style-type: none"> <li>• Businesses under stress</li> <li>• Departments rapidly spending their allocated budget at year end; or conversely hurried cutting of projects to the detriment of value due to overspends elsewhere.</li> </ul>	A global media agency	<ul style="list-style-type: none"> <li>• Business under stress as lack of cash focus in the organisation led to large debt on the B/S with no foresight into global cash flow position</li> <li>• Cash flow forecasting introduced as quick solution</li> </ul>

As part of the case study reviews, the two private sector organisations were analysed to:

- understand how forecasting is carried out in the organisation under specific business situations;
- identify what types of challenges the organisation experiences; and
- discover any leading practice forecasting methods used to overcome these challenges.

The individual aspects of the organisation's forecasting process have been analysed in detail using the Deloitte TOM methodology, as previously applied in Section 5 in exploring leading practice forecasting attributes across the different 'layers' of an organisation as per the Deloitte TOM methodology.

## 7.2 Highlevel case study findings

The specialist area case studies in our review reflect real-life examples of leading practice attributes discussed in Section 5.

Leading practice forecasting examples	Challenges in achieving leading practice forecasting
<b>International sporting event organiser</b>	
<ul style="list-style-type: none"> <li>• High quality inputs gained through a deep understanding of demand drivers (e.g. types of calls and queries) to produce more accurate forecasts, leading to efficient procurement of outsourced contact centres</li> <li>• Collaboration with other departments to include</li> </ul>	<ul style="list-style-type: none"> <li>• Limited historical information available that could be used as a basis for understanding demand trends, due to the unique business situation of the organisation with no real comparable data</li> <li>• Lack of ownership and accountability of operational plans, resulting in changes to the</li> </ul>

Leading practice forecasting examples	Challenges in achieving leading practice forecasting
the impacts of events and understand risks driven by other departments	schedules of planned events which significantly influence demand and impact forecast accuracy.
Global media company	
<ul style="list-style-type: none"> <li>• Up-skilling and coaching for employees to improve and maintain capability within the business</li> <li>• Change management and governance used to 'make it stick'</li> <li>• Ownership of the cash flow forecast assigned to the appropriate level of the business to promote accountability, and ensure that the business critical process sits with a decision maker</li> <li>• Follow-up discussion or calls to clarify and challenge submitted forecasts and drive a common understanding of the outlook</li> <li>• Decisions to sanction spend controls taken at a senior level in light of the overall funding requirements of the business</li> </ul>	<ul style="list-style-type: none"> <li>• Higher level of resistance to change under a stressed business situation, with a large gap between 'problem owners' and 'solution implementers' driven by lack of understanding at operation level</li> <li>• Addressing the knowledge gap within the business; changing the periodic mind-set of management to bi-weekly review of cash; and up-skilling the business on producing, interpreting and using the cash forecasts</li> </ul>



## 7.3 Resource planning case study: An international sporting event organiser

### 7.3.1 Key findings

The most efficient allocation and procurement of resources came from a sensible and realistic forecast of demand. This was driven by:

#### Focusing on true demand instead of historical data

Demand forecasts were based on what was expected to happen and not overly reliant upon historical information.

#### Using a composite forecast

A combination of historical and industry analysis, future expectations and expert assumptions created high quality inputs that were used to produce the forecast.

#### Gaining a deep understanding of the demand drivers

It was imperative to understand the key drivers for the calls being received at the contact centres.

#### Understanding the impact of non-quantitative events

The impact of these events, which were normally driven by other parts of the business had substantial influence on demand patterns and were usually planned in advance or known. A central communications channel and a point of contact in each part of the business helped to update and manage these.

### 7.3.2 Definition

Resource planning is the process of assessing the level of resources (people, materials, money etc.) required to deliver a defined and desired outcome or volume of products and services. This often involves an initial process of creating a forecast of market demand for the organisations' products and services, which will allow the organisation to form an expected view of their future sales and drive their supply.

A key focus of resource planning is to drive the 'efficient and effective' procurement and allocation of the organisations' resources, to help manage the costs and ensure the ability to meet demand.

### 7.3.3 Background

The organisation was responsible for overseeing the planning and development of a large international sporting event. This organisation designed and procured a number of outsourced contact centres for the international sporting event. Over a three-year period, the organisation's project team was responsible for:

Design	Planning the resource requirements of the 'to-be' contact centres
Procure	Procuring the contact centres from outsource suppliers based on their initial resource plan
Manage	Managing and resource planning for the outsourced contact centres on a BAU basis for two years

### 7.3.4 Objectives

There were two key objectives for resource planning at the organisation:

- To produce the most realistic predictions of the 'to-be' contact centre resourcing requirements, in order to receive the best value quotations from potential contact centre suppliers; and
- To produce an operational resource plan on an on-going BAU basis over two years, to ensure sufficient service delivery to customers.

### 7.3.5 Approach

The organisation's project team used the Deloitte TOM model to design the initial resource planning process for the contact centres and to address any gaps against managing the resource requirements throughout the operational life of the contact centres.

#### Customer

##### Users of the resource plans and recipients of output

At the initial design stage, the organisation was required to provide the potential outsourcing suppliers with an indication of the organisation's resource requirements, so they could provide quotations for their services. The resource planning team was also an integral part of financial forecasting of the costs associated with setting up and running the contact centres.

During the operational life of the contact centres on a BAU basis, the resource plans were used by the purchasing team to manage the volume of services procured from the outsourcing suppliers. They were also used by finance to review and re-forecast their latest spend projections.

#### Information

##### Understanding the demand

An integral part of building the resource plan was to form a view, based upon available information, of the future demand that would drive activity levels in the contact centres. This required a good understanding of the organisation's external customer base and the factors that influence their behaviour. Such factors included:

- Types of calls and queries;
- Duration of calls and 'wrap-up' times;
- Distribution of call volumes in a day, week or month;
- Other contact methods (e.g. online help, ticket office walk-in);
- % of call backs (versus first call resolution); and
- Influence of non-quantitative events (e.g. marketing and promotional activities).

In order to achieve the above understanding, a detailed analysis was carried out on information collected from:

- Previous international sporting events of similar nature and size; and
- Contact centres in other industries with similar drivers of demand (e.g. ticketing agencies).

All the information used in the analysis was examined and challenged thoroughly to make sure it was fit-for-purpose. Using tools such as SWOT (Strengths, Weaknesses, Opportunities and Threats analysis) and PEST (Political, Economic, Social and Technological analysis), internal and external drivers of the organisation were identified and used to overlay any necessary assumptions. When information was not available from similar events or organisations, simulations were carried out in mock-up contact centres to understand the organisation's projected capabilities (average call durations and wrap-up times specific to their products and services).

#### Process

##### Building a 'to-be' demand forecast

The information gathered from the analysis and simulations was used to produce a composite demand forecast for the contact centres to be procured. Using a forecasting model (MS Excel), the project team forecasted:

- Call volume predictions per call type (based on average call duration and historical trend);
- Call volume distribution curve per call type (based on time of day and day of week); and
- Amendments to reflect the impact of any planned events (such as mailshots, ad campaigns and application deadlines).

The forecasts for each call type were consolidated to provide an overall call demand forecast for the contact centres. This output was fed into the resource planning process.

### **An on-going review of demand forecast**

During the two year BAU operational period, the organisation's resource planning process was focused on reviewing the variance between the previous forecast and the actual performance. The forecast was then updated to incorporate lessons learnt. As per supplier agreements, a revised resource request had to be submitted to the contact centre suppliers before a rolling six week lock-down period. It was therefore imperative for the client to be able to forecast as accurately as possible for up to the next six weeks. The demand forecast was revised on a weekly basis using:

- The latest actual performance data and trends from the contact centres;
- The most up-to-date schedule of planned events across the organisation with potential impact on demand; and
- A risks and opportunities tracker highlighting any potential spare capacities or shortages in the pipeline.

As the programme progressed, the actual performance trends and drivers of demand could be identified with increasing confidence, including:

- Peaks and troughs in call distribution for specific service types and call types;
- The result of failure in other channels of contact (i.e. internet site being down, ticket office being close etc.); and
- The impact on demand from targeted marketing activities (such as e-shots and special events).

## **Technology**

### **Resource planning based on demand forecast**

The demand forecast was then used to feed into Erlang. Erlang is a resource planning tool which is widely used in contact centre organisations to calculate the number of agents required to support a forecast demand and target service level. Erlang also supported sensitivity analysis and scenario analysis, to ensure that potential changes in demand had been considered and could be dealt with in a timely manner.

## **Organisation and People**

### **Optimising forecast accuracy and resource efficiency**

In order to improve their resource planning performance, the organisation focused on:

- Continuous improvement through on-going review of trends, risks and opportunities;
- Rigorous challenging and testing of all forecasting assumptions;
- Encouraging the involvement of stakeholders across all functional departments in the organisation; and
- Ownership and accountability for operational plans and forecasts.

## 7.4 Business under stress case study: A global media company

### 7.4.1 Key findings

#### Ensuring capability of employees

Up-skilling and coaching for employees should be provided to address the knowledge gap and ensure capability exists within the business to support forecasting.

#### Accountability through appropriate ownership of forecasts

Ownership of cash flow forecasts should be assigned to the appropriate level of the business to ensure that the accountability of business critical processes sits with a decision maker.

#### Management understanding of forecasts

Follow-up discussion and cash calls help to clarify and challenge the forecast submissions, and drive a common understanding of the outlook.

#### Managing resistance to change

There is a higher level of resistance to change under a stressed business situation. Road shows and workshops help to gain 'buy-in' from employees. Change management and governance is required to 'make it stick'.

#### Decision making at the right level

The Corporate Centre acts as Treasurer, with a board consisting of senior management making decisions to postpone or cut spend based on the knowledge of the overall funding requirements of the business.

### 7.4.2 Background

The organisation reviewed in this case study is a global media company with presence in over 100 countries. The company traditionally focused their attention on driving revenue and margin, with little focus on cash and working capital from a global perspective. This put the organisation under increasing pressure as continuing M&A activities for growth began to increase the debt on their balance sheet. As a result, the organisation had to quickly form a strategy to help their business under stress (BUS) state, and implement changes to bring them back to BAU. They recognised the need for increased visibility and tighter controls on cash and working capital across the organisation, and a potential opportunity to release trapped cash through the implementation of a global cash forecasting process.

### 7.4.3 Objectives

There were three key objectives in introducing a global cash forecasting process across the organisation:

<b>Increase visibility</b>	A global cash forecasting process to give visibility of the cash position of the organisation going forward. It would allow the organisation to anticipate any potential risks in the pipeline and devise appropriate plans to mitigate the impact.
<b>Accountability for cash at a local level</b>	A formal forecasting and reporting process for cash to encourage the ownership of cash activities at a local level.
<b>Continuous improvement</b>	For the then current approach to managing cash within the business to be reviewed and challenged through the cash forecasting process.

### 7.4.4 Approach

The organisation pulled together a project team using resources from their internal treasury team and external consultants. This project team worked alongside the various finance departments to support the development and implementation of a consistent bottom up cash forecasting process across the entire organisation.

## Technology

### Using Excel as a forecasting tool

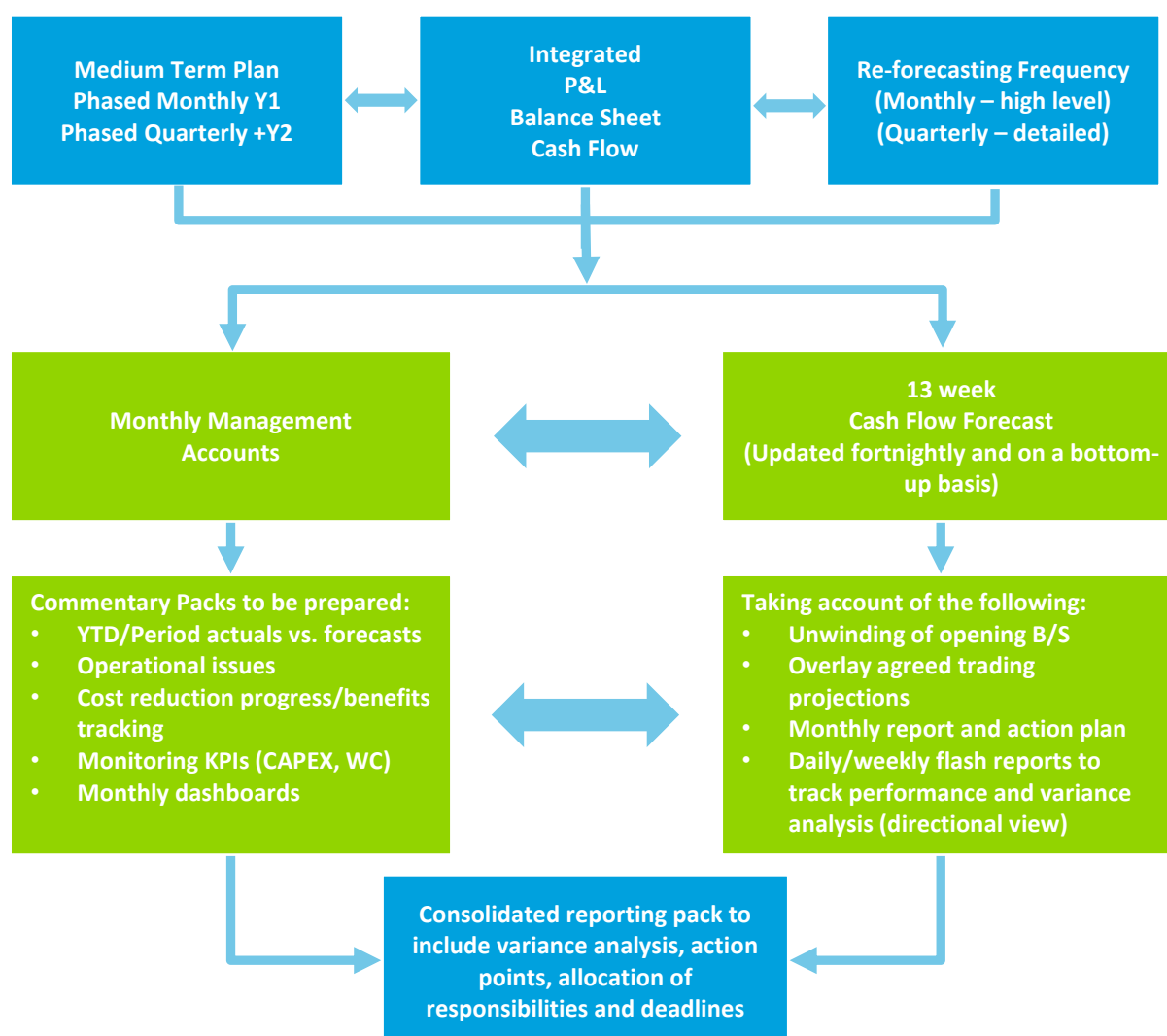
As this was an implementation in a 'stressed' business with tight timescales, MS Excel was used as the tool for cash flow forecasting and submission for consolidation. This allowed the cash flow forecasting process to be implemented much more quickly, as there was no requirement for a new system to be installed or systems training to take place.

## Process

### Forecasting in line with periodic reporting

The cash flow forecasts were produced and consolidated fortnightly (in line with payroll scheduling) in an integrated process with B/S and P&L projections. An existing systemised data aggregation tool was used to ensure confidence in the input data used for forecasting.

Figure 7 Overview of planning, reporting and forecasting process



### Follow-up cash calls

Submitted cash flow forecasts were followed up with fortnightly cash-calls led by the CFO and the Treasurer, to provide clarity and an opportunity to make challenges on the submissions. This helped to drive a new behaviour to understand the variances in cash flow forecasts, and to proactively discuss the future cash position and potential actions to mitigate any risks.

## Sanctioning Spend Controls

The Corporate Centre acted as treasurer, making decisions at a senior level based on the overall cash flow forecast information provided from all business areas. Where it was necessary to reserve cash, the following two methods were employed by the centre:

1. **Postponing or cutting significant discretionary spend** items such as capital spend and bonuses. A board of senior management evaluated the discretionary spend portfolio in light of the overall funding requirements of the business.
2. **Enforcing more aggressive cash management imperatives** on to operations. This included tightening targets regarding cash collection and seeking extended credit terms.

## Organisation and people

### Transition phase

To help the local finance and operations teams understand expectations, the organisation permitted a transition phase for the introduction of cash flow forecasts. The project team provided the up-skilling of staff and support during this four month transition phase.

### Road shows and up-skilling staff

The project team held road shows around the globe to up-skilling the local finance and operation teams on filling out the cash flow forecasts, step by step. This ensured that the methodology and assumptions were consistent across regions.

## 7.4.5 Challenges

The organisation faced some significant challenges in implementing the new cash flow forecasting process:

### Multiple levels of stakeholders



Group management owned the problem of improving cash flow visibility and maximising cash opportunities. However, it was the local management and operational teams that had to be up-skilled and make time investments to add cash flow forecasting to their day to day activities. This created a gap between the benefits of change and the people implementing the change. This gap increased the resistance to change, and made it much more difficult to get buy-in from the operations teams at end of the chain.

### Knowledge gap

The organisation was always focused on profitability and financial position which drove a periodic mind set. This made it difficult to shift towards a fortnightly focus on cash flow forecasting, and required the project team to up-skill and coach stakeholders in order to give them the confidence in the accuracy of the output and an understanding of how it should be interpreted. For the first few cycles of the cash flow forecasting, the project team carried out the process, with the finance and operations teams acting as observers to learn the process.

## 7.4.6 Other typical challenges for businesses under stress

Businesses often experience common challenges under stress, and there are simple enablers that can help address them:

	Issues	Enablers
Technology	• Systems are not sufficient to support	• Make necessary updates in systems

	Issues	Enablers
	<ul style="list-style-type: none"> <li>quick decision making</li> <li>Multiple versions of the 'truth'</li> </ul>	<ul style="list-style-type: none"> <li>architecture</li> <li>Create a centralised database</li> <li>Use a common data model ('one version of the truth')</li> </ul>
<b>Process</b>	<ul style="list-style-type: none"> <li>Multiple ad-hoc reports and analysis</li> <li>Lack of ownership and accountability</li> <li>Lack of governance</li> <li>Failure to co-operate across different functions</li> <li>Labour intensive, time consuming processes</li> <li>Absence of a nominated decision maker to respond quickly in urgent situations</li> </ul>	<ul style="list-style-type: none"> <li>Provide strong executive sponsorship</li> <li>Encourage cross-functional cooperation</li> <li>Establish a governance process over changes being made from BAU</li> <li>Schedule regular check points and reviews</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>Employees are not fully aware of the 'stress' that the business is under, and have no understanding of their direct impact on the business performance</li> <li>No incentives are set to encourage employees to deliver against the new focus of the business under stress</li> <li>Employees are solely measured on BAU targets, driving low expectations and under delivery</li> </ul>	<ul style="list-style-type: none"> <li>Allow a "phase in" period to help employees understand expectations</li> <li>Foster a culture of ownership through being an important part of managing the business under stress</li> <li>Educate employees on how they can directly affect the business performance under stress</li> <li>Only hold people accountable for what they have control over</li> <li>Review employee incentives and adjust to reflect the new business focus under stress</li> </ul>

## 8. Private sector challenges in delivering leading practice forecasting



## 8. Private sector challenges in delivering leading practice forecasting

This section of the report analyses the general challenges faced by private sector organisations in delivering leading practice forecasting. The Deloitte TOM explained in Section 5 of the report has been applied alongside the experience of Deloitte's practitioners across multiple private sector organisations to identify the challenges and highlight the three most common areas of the organisation in which these issues are experienced.

### People & Organisation

#### Balancing demands

Forecasting is not the primary business activity, often only seen as a finance process. Organisations often lack management focus or dedicated resources for forecasting, as the demands of their primary business activities take priority.

#### Conflicting objectives

Organisations have to manage the conflicting objectives of different business functions to maintain focus on the key business drivers and produce forecasts that are focused on what is good for the business overall.

#### Functionally driven structure

Functional alignments of organisations often cannot provide full visibility of forecasting requirements, resulting in lack of alignment. Silo structures often create a sense of entitlement to budget within divisions, encouraging 'forecast-to-budget' or 'money-grab' behaviour.

#### Lack of appropriate forecasting skills and absence of incentives to facilitate accuracy

A level of financial sophistication within the organisation's divisions, in particular among the operational forecast developers, is not always sufficient to provide significant business value. Finance also often lacks the business insight that adds commercial value to the forecasts produced. Furthermore, there are no incentives for accurate forecasts and no penalties exist for inaccuracy.

### Technology

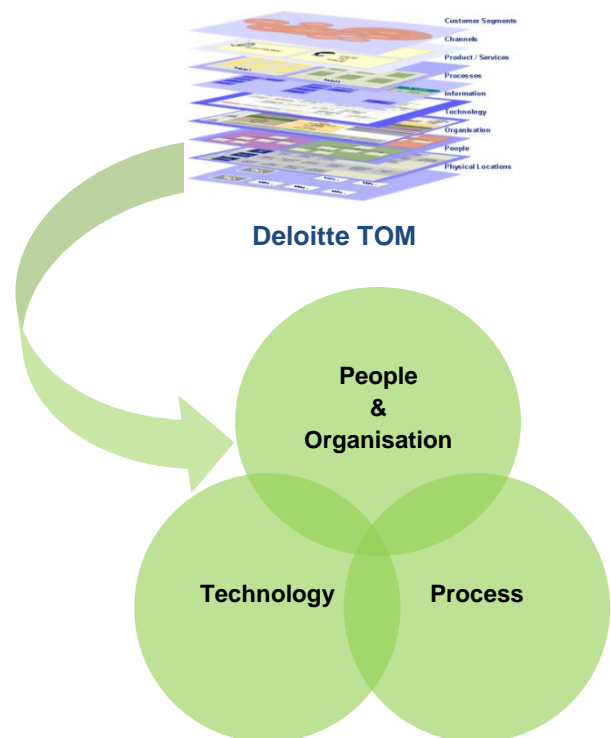
#### Cumbersome, manual and labour-intensive tools and processes

Organisations often experience inconsistency and inaccuracy in their forecasts due to their forecasting tools being outdated or too complicated to use. Some organisations' forecasting processes rely heavily on time-consuming and manual spread sheets to create forecasts and perform analysis.

#### Data availability, quality and granularity

Data quality and availability is hindered by multiple source systems that are often inaccessible or not usable by key stakeholders.

Figure 6 Common areas of challenge in leading practice forecasting



### Process

#### Insufficient detail in forecasting

Organisations often lack sufficient cross-divisional communications and due diligence that allow detailed forecasting that considers all aspects of the business as well as the impacts to the business.

#### Inadequate forecasting timeline and frequency

Significant resource and time is spent on forecast production, but a relatively small proportion of the time is dedicated to value-add analysis of the forecasts. Forecasts are carried out too often or too infrequently to provide sufficient decision making support.

#### Lack of process governance

Unlike the governance given to planning and budgeting, forecasting in organisations can often be ungoverned, leading to inconsistencies and inaccuracies, as well as inefficiencies that are overlooked by management.

## 9. Applicability of findings to the public sector

# 9. Applicability of findings to the public sector

## 9.1 Introduction

This section of the report evaluates the findings of our review on the leading practices of forecasting in the private sector in terms of their applicability to forecasting challenges within the public sector. Leading practice attributes identified in Sections 5 and 6 of the report have been reviewed against some of the potential forecasting challenges faced in the public sector.

## 9.2 Findings

Potential forecasting challenges in the public sector were shared in a discussion with the NAO. These challenges, alongside knowledge from our own industry experts, derived the potential challenges in the public sector, outlined in the table below. The challenges have been reviewed against the leading practice attributes identified during our review and documented in this report.

Potential forecasting challenges in the public sector	Applicable findings from leading practice forecasting in the private sector
<b>Customer</b>	
<ul style="list-style-type: none"> <li>Lack of senior management appetite for forecasting</li> <li>Customers of forecasts do not have the right capabilities to challenge/use forecasts effectively</li> </ul>	<ul style="list-style-type: none"> <li>Senior management sponsorship and support for forecasting, driven by long term commitments from the executive team to invest time and resources in nurturing their workforce</li> <li>Forecast customers that effectively use forecasts, enabled by workshops and up-skilling</li> <li>A good understanding of forecast customer needs and requirements through direct liaison, enabling tailored forecasts</li> </ul>
<b>Processes</b>	
<ul style="list-style-type: none"> <li>Disconnect between producers of forecasts, finance and policy officials</li> <li>Insufficient time spent on forecasting, often under pressure to fit in with policy making cycles</li> <li>Lack of monitoring and risk strategies</li> <li>Focus on avoiding overspends, rather than protecting value and delivering reasonable forecasts</li> </ul>	<ul style="list-style-type: none"> <li>Collaboration between business functions supported by open communication and facilitated by an integrated system</li> <li>Aligned forecasting timescales in line with business requirements and dedicating time and resources to produce forecasts that are informative and timely to support business decision making</li> <li>Forecasting as a fundamental business process rather than just a finance process, forming an integral part of corporate performance management, carried out at regular intervals on a rolling basis</li> <li>Risk and opportunity tracking alongside forecasts, to drive actions and interventions in managing risks and exploiting opportunities</li> </ul>
<b>Information</b>	
<ul style="list-style-type: none"> <li>Difficulties in accessing sufficiently robust, relevant and timely information</li> </ul>	<ul style="list-style-type: none"> <li>Standardised information achieved through consistent definitions and standard data capture tools, enabling</li> </ul>

Potential forecasting challenges in the public sector	Applicable findings from leading practice forecasting in the private sector
	information consistency and transparency <ul style="list-style-type: none"> <li>• Integrated systems to facilitate data capture and consolidation, which is easily accessible by defined forecasters</li> <li>• Employee incentives (or penalties) for accuracy of forecasts to drive rigorous testing of assumptions, quality of inputs and timeliness of forecasts</li> </ul>
<b>Technology</b>	
<ul style="list-style-type: none"> <li>• Systems not providing sufficient access to information for use in forecasting</li> <li>• Lack of robust analysis/modelling tools</li> </ul>	<ul style="list-style-type: none"> <li>• Organisation-wide integrated technology platforms with in-built modelling capability and scenario analysis, accessible by all key forecasting stakeholders. 'One version of truth' to support transparency within the forecasting data and facilitate stakeholder confidence in the outputs of forecasts</li> </ul>
<b>Organisation and People</b>	
<ul style="list-style-type: none"> <li>• Pressure to produce supportive forecasts</li> <li>• Tendency to avoid overspend or underspend</li> <li>• Projects cut where easiest and not based on VfM</li> <li>• Insufficient skills and knowledge to carry out forecasting and modelling which can often be complex</li> </ul>	<ul style="list-style-type: none"> <li>• Senior management has the appropriate level of knowledge and capability to use forecasts effectively, not as an exercise to confirm 'performance back to budget' but as a review of potential risks and opportunities in achieving budget and take proactive action against them</li> <li>• Forecasting focus is on the key business drivers to provide discipline in decision making at functional level, and consider what is good for the business overall</li> <li>• Open and transparent environment to encourage collaboration between functions, facilitated by integrated systems platform and transparency in information</li> <li>• Training and up-skilling for forecasting stakeholders to maintain appropriate level of capability and knowledge to use and produce forecasts</li> </ul>

### 9.3 Conclusion

Based upon the research undertaken and input from Deloitte subject matter experts, there appears to be many similarities between the attributes of leading practice forecasting across the sectors. Equally, there is significant commonality between the challenges faced in each sector. However, there are some notable differences between the sectors and their customers, cultures and capabilities that drive different behaviours.

The organisations that participated in this study are reflective of private sector organisations that recognise that there is room for improvement in the way that they forecast. Each demonstrates leading practice traits, which provide some insight into potential solutions that may be applicable to the public sector.

Many of the directly applicable solutions found in the private sector relate to the process, information and technology layers of the Deloitte TOM framework. Due to the differing organisations and forecasts required, the public sector should not seek a single solution or process for forecasting, but should draw on the experiences of the many private sector organisations that face similar challenges from forecasting resource consumption or capital investment. There are also examples of leading practice forecasting traits within the public sector across the aforementioned TOM layers that should be considered when seeking to improve forecasting.

Solutions or leading practice traits that might be more difficult to directly transfer private sector experience to the public sector, relate to organisational behaviour, capability and customer expectations and needs. For this reason, it is recommended that further consideration is given to the environmental and organisational factors that drive spending and forecasting behaviour in public sector organisations. Performance management is used as a tool for

changing behaviour within the private sector. However, accountability and spending cycles are currently managed differently across the two sectors, meaning that specific examples highlighted in these case studies may not be directly applicable to the public sector.

Leading practice forecasting requires a balance across all of the TOM layers. For example, an efficient forecasting process, enabled by technology and high quality input data will have limited impact if the customer's expectations are not addressed, or the people executing the process do not have sufficient capability to challenge assumptions or provide insight. Public sector organisations will need to consider how they can achieve balance, as they seek to improve forecasting performance.

Another challenge that the public sector will need to address is identifying the appropriate level at which change should be initiated. Senior sponsorship is paramount to successful change initiatives, across sectors. In order to achieve change, clear and visible sponsorship must be in place. Without the right level of sponsorship, it will be difficult to implement sustainable changes, especially in customer expectations, information and resource capability and behaviour.

# Appendices

# Appendix 1: Forecasting hypothesis

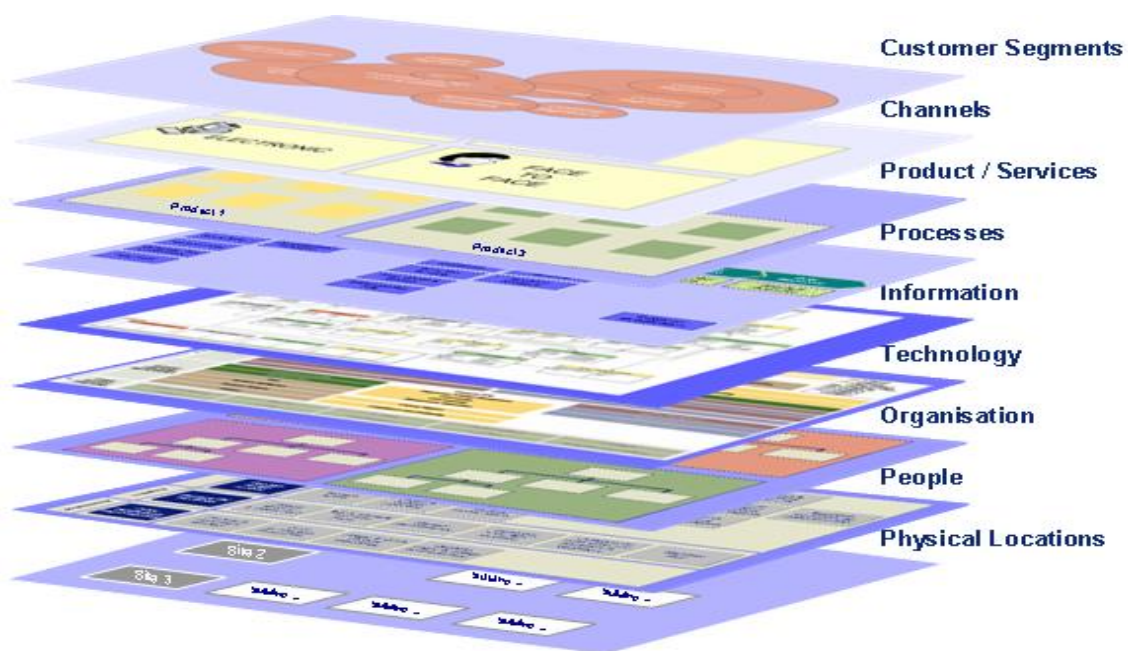
	Hypothesis	Description	TOM
1.1	<i>“A good forecasting process focuses on the needs of the customer and requires a defined governance structure with clarity of roles and responsibilities”</i>	<ul style="list-style-type: none"> <li>• A good forecast should be relevant to its customers’ needs and be presented at an appropriate level of granularity to enable understanding and action.</li> <li>• Clarity of roles and responsibilities within the forecasting process provides greater accountability, which improves forecast quality.</li> <li>• A robust governance structure and assurance process ensures that forecasts are challenged and scrutinised appropriately.</li> <li>• Good forecasting should involve a cyclical process whereby lessons learned are used to improve the process and inform future forecasts.</li> </ul>	<ul style="list-style-type: none"> <li>• Organisation</li> <li>• Customer</li> <li>• Menu of Services</li> <li>• Process</li> </ul>
1.2	<i>“Good forecasting is enabled with an appropriate balance of skilled resource and technology”</i>	<ul style="list-style-type: none"> <li>• Those with formal accounting qualifications working alongside relevant business areas will normally result in a more robust forecasting process.</li> <li>• Good technical skills and resource and long-term forecasting experience will, in most cases, enable people to produce forecasts in a more robust and efficient manner.</li> <li>• Organisation-wide development of forecasting best practice and training will improve the forecasting process.</li> <li>• Organisations outside of central urban areas may find it more difficult to attract and retain talent.</li> <li>• There should be appropriate and continued investment in technology as an enabler for robust and effective forecasting.</li> </ul>	<ul style="list-style-type: none"> <li>• People</li> <li>• Technology</li> <li>• Organisation</li> <li>• Location</li> </ul>
1.3	<i>“Good forecasting is reliant on timely, relevant and reliable data”</i>	<ul style="list-style-type: none"> <li>• Data inputs that are reviewed regularly and based on relevant and robust sources and assumptions enable good forecasting.</li> <li>• Data inputs should be set at an appropriate level of granularity so as to ensure material upsides/downsides are identified in the forecast outputs.</li> <li>• Technology can enable the appropriate management and delivery of data for a forecast in a timely and efficient manner.</li> <li>• Organisations should review their technology forecasting capabilities and regularly take advantage of new techniques where appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>• Technology</li> <li>• Information</li> </ul>

	Hypothesis	Description	TOM
1.4	<i>“True accountability will improve forecast quality”</i>	<ul style="list-style-type: none"> <li>Strong accountability of forecasts is an important factor for ensuring robust assumptions are applied and risks are highlighted.</li> <li>Performance rewards should be based upon successful delivery of time, cost and quality targets in order to promote forecasting as a critical value-add process.</li> </ul>	<ul style="list-style-type: none"> <li>Organisation</li> <li>People</li> </ul>
1.5	<i>“Good forecasting is enabled by combining cross business insight with financial information”</i>	<ul style="list-style-type: none"> <li>Financial forecasts produced in isolation provide limited useful information and can result in low business confidence.</li> <li>Good forecasting integrates sales, operations and financial forecasts, providing consensus on outputs.</li> <li>By integrating non-financial activities and output drivers, financial forecasts have substance and are more reliable.</li> </ul>	<ul style="list-style-type: none"> <li>Organisation</li> <li>Process</li> <li>Location</li> </ul>
1.6	<i>“Good forecasting embraces a proactive and open approach to mitigating risk and uncertainty”</i>	<ul style="list-style-type: none"> <li>Forecasts should present the sensitivity of the output to plausible alternative scenarios, enabling management to create appropriate mitigation strategies.</li> <li>Forecasts should enable customers to identify risks and deviations from plan at the earliest possible juncture to enable the development of mitigating actions.</li> <li>A forecast position should be independent of any plan, budget or pre-determined point of view.</li> <li>Effective forecasting focuses resources on the key risks and issues, considering the materiality and volatility that will ultimately affect business performance.</li> <li>Assumptions of key drivers should be regularly re-visited with deviation from previous forecasts and associated commentary reported in a timely manner.</li> </ul>	<ul style="list-style-type: none"> <li>Information</li> <li>Channel</li> <li>People</li> <li>Process</li> </ul>
1.7	<i>“Decision makers have the skills and capacity to use and challenge forecasting information effectively”</i>	<ul style="list-style-type: none"> <li>Assumptions of key drivers should be clear and visible to decision-makers.</li> <li>Senior management should have sufficient time to formally review and scrutinise forecasts.</li> <li>For major commitments or complex forecast models, assumptions are verified by internal or external experts.</li> <li>Forecasting can be improved with effective challenge from finance business partners.</li> </ul>	<ul style="list-style-type: none"> <li>Process</li> <li>People</li> </ul>
1.8	<i>“An open and fair culture supports a balanced approach to forecasting”</i>	<ul style="list-style-type: none"> <li>Aggressive ‘blame’ cultures can result in forecasting that is too prudent as well as an unwillingness to raise differences to plan, budget or forecast.</li> <li>Conversely, a culture that does not drive accountability could result in little ownership of any published forecast.</li> <li>The right balance of challenge and support should be applied to foster the best culture for forecasting.</li> </ul>	<ul style="list-style-type: none"> <li>People</li> <li>Organisation</li> </ul>



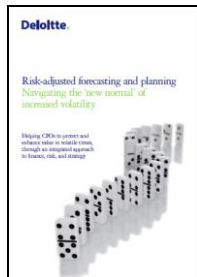
# Appendix 2: Target Operating Model (TOM) methodology overview

- Target Operating Model (TOM) is our structured approach to help our clients align their operations to execute their strategy.
- It provides a diagrammatic representation of an organisation deconstructed into key constituent layers. These layers are inter-dependent and all contribute to the realisation of business vision
- For the purposes of this engagement, TOM will be used to develop our understanding of what drives good forecasting and costing within the private sector and what can be applied to improve public sector performance



# Bibliography

## Deloitte market intelligence and thought leadership



### Risk-adjusted forecasting and planning

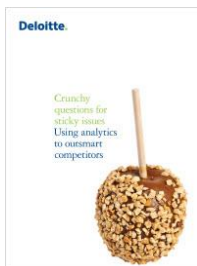
Following the turmoil in the financial markets and resulting disruption elsewhere many companies are reassessing how risk is built into their decision making.

The risk-adjusted forecasting and planning paper outlines how these capabilities should be a key component in the strategic toolkit for CFO's. Risk-adjusted planning helps finance executives to better demonstrate how the company is taking an integrated approach to managing the business in such challenging times.



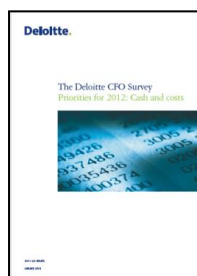
### Rethinking the Numbers Game – Putting “value” front-and-centre in planning, budgeting and forecasting

This 2009 report explores the practical implication of a value-driven planning, budgeting and forecasting (PBF) processes: done right, PBF takes less time and effort. One consumer products company took “standard costing” out of the process because it took too long and added so little value. By focusing, instead, on the drivers of operating costs, the company achieved a more rational plan in 35 per cent less time.



### Using Analytics to Outsmart Competitors

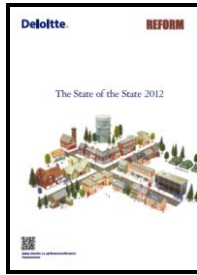
Business analytics is the practice of using data to manage information and performance – and make smarter decisions. It can apply to almost any "sticky" business issue, but most organizations tend to focus on five main areas of decision-making and operations: customer, supply chain, finance, workforce, and risk.



### Deloitte CFO Survey

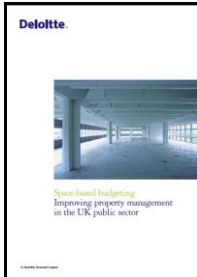
As a part of the highly regarded Deloitte Global CFO Programme, the Deloitte CFO Survey is seen as one of the preeminent insights into corporate strategies both in the UK and globally, and is regularly quoted in the media and also by the Bank of England in its Quarterly Bulletins; and its regular Financial Stability, Inflation and Trends in Lending reports.

The UK is one of 29 countries for which we currently survey top CFOs on a quarterly basis: Results from the UK and elsewhere are summarised into a Global CFO Survey



### State of the State

A 2012 report providing a clear sense of the near, medium and long-term challenges for government as it undergoes change. The State of the State is a call to action: a route map for how government and the private sector can work together to confront the UK's biggest public sector challenges.



### Space based budgeting – Improving property management in the UK public sector

Deloitte and our partner, CFO Research Services, examined how successful companies use performance management to generate value. After developing the research agenda, interviews were held with senior finance executives at more than 25 top performing companies in North America and Europe.

## Other resources

Beyond Budgeting in Statoil: Ownership towards Ambition to Action

*Stine Hjartaker and Stine Kristiansen (Norwegian School of Economics NHH, 2012)*

Seven Symptoms of Forecasting Illness / Business Forecasting: Six Design Principles for Healthier Forecasts

*S.Player and S.Morlidge, Beyond Budgeting Roundtable (IBM, 2010)*

Driving Profitability in Turbulent Times with Agile Planning and Forecasting

*CFO Research Services in collaboration with SAP and Deloitte (CFO Publishing Corp. 2009)*

Managing through change: The power of rolling forecasts

*S.Player (IBM 2009)*

Freed from the Budget

*Russ Banham (CFO.com, 2012)*

Advanced Demand Planning: Sunny skies or rainy days? How to increase forecast accuracy.

*Dr Tomek Jekot, Stephen Povey and Clinton Houston (Deloitte & Touche, 2010)*

Managing and Measuring for Value: The Case of Call Centre Performance

*Bernard Marr and Andy Neely (Cranfield School of Management and Fujitsu, 2004)*

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# Contact Details



**Andrew Harris**

*Engagement Partner*

Tel: +44 20 7007 1558  
andrharris@deloitte.co.uk



**Gillian Russell**

*Partner*

Tel: +44 20 7303 0960  
gilrussell@deloitte.co.uk



**Sacha Nathan**

*Forecasting and Costing  
Subject Matter Expert (SME)*

Tel: +44 7825 842 642  
sacnathan@deloitte.co.uk



**Nigel Cooke**

*Forecasting and Costing  
Subject Matter Expert (SME)*

Tel: +44 115 936 3946  
ncooke@deloitte.co.uk

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