National Audit Office

Good practice guide
by the National Audit Office

Performance measurement by regulators

NOVEMBER 2016

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Our public audit perspective helps Parliament hold government to account and improve public services.

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Introduction

Aim and scope of this guide

1 Performance measurement is important in helping regulatory organisations to make sure that they are achieving their objectives, and making the best possible use of their resources. It is also important for accountability, since regulators are accountable for their activities to Parliament, to government departments, and ultimately to the public who depend on them. Stakeholders – particularly those who fund the activities of regulators – have an interest in whether the resources they provide to regulators are being used efficiently and effectively.

2 Performance measurement by regulators is particularly complex, because their intended outcomes (for example protection of consumers and improved service quality) are generally delivered by the organisations that they regulate. There are also many external factors outside regulators' control, and outcomes often do not become evident for several or even many years. Regulatory performance depends on the effectiveness of influence that they exert over regulated providers, as well as the outcomes that those providers deliver.[1] Past NAO reports on value for money achieved by regulators have acknowledged this complexity, while also pointing to weaknesses in performance measurement and making recommendations for improvement.

3 In this guide we aim to help promote improvement in performance measurement and reporting by regulators. It draws together relevant material from existing guidance on performance measurement, together with the NAO's experience from our past work and examples of good practice undertaken by regulators. Part One outlines the elements that promote a good performance measurement framework. Part Two sets out ways in which regulators can understand more clearly the influence that they have over their intended outcomes, and how effectively they use that influence. The report includes examples of how some of the challenges outlined have been approached; these are intended to inform regulators' thinking about these challenges rather than being prescriptive.

4 We are grateful to the regulators named in the report for their assistance, including completing a questionnaire to help us develop our understanding of existing performance measurement practice, and participating in a 'roundtable' event where we discussed the issues covered by this guidance. The content of the report has been shared with the regulators named in the report, to ensure that the evidence presented is factually accurate.

1 The strength of the powers made available to a regulator, through statute or other means, is an important factor in this.

Part One

Performance measurement frameworks

1.1 This part summarises existing guidance on good practice criteria for developing performance measurement frameworks and measures, drawing out some examples of existing good practice among regulators. It considers:

- the importance of clear goals in measuring performance;
- the establishment of effective performance frameworks and information; and
- important considerations for regulators in how they report and use performance information.

Understanding the environment and setting clear goals

1.2 Any framework of performance measurement begins with the objectives that the organisation seeks to achieve. Most sector regulators have objectives in statute, and they also set their own strategic objectives. Statutory and strategic objectives tend to be high level and general by nature. It is therefore important for effective performance measurement that these higher-level objectives are translated into lower-level, operational objectives that are more specific and capable of measurement. **Figure 1** shows an example of this. Additionally, regulatory objectives can potentially conflict or involve trade-offs – for example, in the energy and water sectors regulations to protect the environment can add to costs and increase pressure on affordability for consumers, particularly those on low incomes. In these cases it is important for regulators – or policymakers – to decide explicitly how those conflicts should be resolved.

Figure 1
Linking higher-level and lower-level objectives

The Health and Safety Executive (HSE) provides an example of setting out on one page in diagram form:

- Its mission.
- Its four aims for achieving its mission.
- Under each of the four aims, its key objectives for meeting its aims.
- Its enablers that help it deliver its mission, aims and key objective.

Source: *Health and Safety Executive Annual Report and Accounts 2014-15*, Page 9.

1.3 To be able to develop clear objectives, regulators need a clear understanding of the problems that provide the rationale for regulation. There are many rationales for regulation including the existence of or potential for monopoly power among providers, and asymmetric information between providers and consumers. Regulators should develop and maintain their understanding and assessment of factors such as potential harm to consumers and service users, the performance and behaviour of providers, and other developments (for example policy) and the extent to which these pose risks to their regulatory objectives.

1.4 Alongside setting clear objectives, the regulator should develop the criteria that it will use to judge whether it has been successful in achieving its objectives. These could include targets for specific objectives, or tolerance levels that outline when and how management might take remedial action if performance falls below those levels. Reporting objectives and success criteria in business plans, and again alongside indicators of actual performance in annual reports, helps external stakeholders understand what the regulator is aiming to achieve, and how well it performs against those expectations. **Figure 2** provides an example where a regulator links its high-level objectives, the outcomes it seeks to achieve and outcome indicators.

Figure 2

Linking objectives, intended outcomes and indicators

The Financial Conduct Authority has set out its intended outcomes and associated outcome indicators under each of its statutory objectives

Statutory Objectives	**Ensuring that financial services markets function well**					
	Securing an appropriate degree of protection for consumers		**Protecting and enhancing the integrity of the UK financial system**		**Promoting effective competition in the interests of consumers**	
Outcomes	Consumers have access to fair products and services, which deliver what they promise	Consumers can be confident that firms treat them fairly and fix problems promptly	Consumers can trust firms to be fit and proper and for financial markets to be clean	A respected regulatory system that lets good firms know where they stand	Competition contributes to improved consumer outcomes	Firms compete on clear costs and consumers have the information they need
Outcome indicators	Fair products and services	Building trust and engagement	Clean regulated markets	Attractiveness of market	Value for money products and services	Competitive markets
	Improved consumer experience	Effective remedies	Low financial crime	Respected, joined-up regulation	Getting better service	Clear and useful information

Source: Financial Conduct Authority, *Annual Report and Accounts 2015-16*, Page 13.

Developing a performance framework and performance measures

1.5 The NAO and others have published a range of guidance to public sector organisations on good practice in performance measurement. In particular, the NAO has published two reports on *Performance Frameworks and Board Reporting* (2009,[2] and 2011[3]), as well as a joint report with other organisations *Choosing the right FABRIC*, 2001[4], which provide greater detail on good practice criteria for performance frameworks. These are summarised in Figure 12 in the Appendix.

1.6 The performance measurement framework is a management tool linking all the performance information in the organisation. It encompasses various elements, for example: the people involved in collecting and analysing information; the information collected under the framework; and the systems and processes used to collect, organise and analyse information. It is important that management is clear on what (and who) makes up the performance framework, and what the framework is intended to achieve. **Figure 3** shows characteristics of good performance measurement frameworks.

1.7 Several of these characteristics are particularly important in the regulatory context. For example, regulators often operate in areas where the needs of providers and consumers can coincide or conflict, and a framework needs to give a balanced picture of both the outcomes to different stakeholders, and the effectiveness of the regulator's actions in promoting those outcomes. The costs of collecting performance information to providers can be substantial, and regulators need to proactively evaluate the purpose, benefits and costs of collecting such information.

Figure 3

Characteristics of good performance measurement frameworks

Focused	on the regulator's aims and objectives. Any performance measures used should clearly map onto the regulator's objectives and priorities.
Appropriate	to, and useful for, decision-makers within the organisation, and meeting the needs of stakeholders outside the organisation.
Balanced	giving a picture of what the organisation is doing, covering all significant areas of work.
Robust	for example to withstand organisational or personnel changes.
Integrated	with the organisation's business planning and management processes.
Cost-effective	balancing the benefits of performance information against the costs.

Source: *Choosing the Right FABRIC*, National Audit Office and others

2 National Audit Office, *Performance Frameworks and Board Reporting*, 2009.
3 National Audit Office, *Performance Frameworks and Board Reporting II*, 2011.
4 National Audit Office and others, *Choosing the Right FABRIC – A Framework for Performance Information*, 2001.

1.8 The indicators chosen to measure performance are central to the effectiveness of the performance framework. Different organisations can develop performance frameworks which appear similar in structure, whereas measures of performance are usually more specific to the organisation. They should however summarise the overall performance of the organisation, and it is helpful to have a range of indicators that span across inputs and efficiency; activity and outputs; and service quality and other outcomes. Good quality data is essential to providing useful and usable performance information, and the regulator should establish processes to validate or give assurance about data quality. **Figure 4** outlines characteristics of good measures and of the information that measures provides.

Figure 4
Some characteristics of good performance measures and information

Measures	Relevant	to the purpose of the performance framework and to what the organisation is aiming to achieve.
	Able to avoid perverse incentives	and should not encourage unwanted or wasteful behaviour.
	Attributable	the activity measured must be capable of being influenced by actions which can be attributed to the organisation; and it should be clear where accountability lies.
	Well defined	with a clear, unambiguous definition so that data will be collected consistently, and the measure is easy to understand and use.
	Timely	producing data quickly and frequently enough for the intended purposes, and informing timely decision-making.
	Reliable	reflecting stable and consistent data collection processes across collection points and over time.
	Comparable	with either past periods or similar programmes elsewhere.
	Verifiable	with clear documentation behind it, so that the processes which produce the measure can be validated.
Information	Accurate	providing a fair picture of performance, with sufficient accuracy for the intended purpose.
	Valid	recorded and used in compliance with relevant requirements, including the correct application of any rules or definitions.
	Complete	with processes for monitoring for, and acting on, incomplete, missing or invalid data.

Sources: National Audit Office, Audit Commission

1.9 It is for each regulator to decide on its measures of performance, taking into account factors appropriate to individual circumstances such as the nature of the sector or activities that it regulates, its priorities and objectives and the nature and scale of risks to those objectives. Whichever indicators are chosen, they should clearly link to the regulator's objectives and success criteria. **Figure 5** provides an illustrative example where the Pensions Regulator links objectives, success criteria and performance indicators. Regulators have acknowledged to us the difficulty in understanding and measuring their influence on outcomes as a key challenge, and Part Two of this report examines this issue in more detail.

1.10 The Pensions Regulator has sought to distinguish between measures of key outcomes it has identified, and measures of its own performance in influencing those outcomes. In its 2015-16 report (**Figure 6** overleaf), the Pensions Regulator separately lists Key Performance Indicators (KPI), which provide details of performance against indicators for the year under review; and Key Outcome Indicators (KOI), setting out how they link to the Pensions Regulator's statutory objectives, and an indication of longer-term trends in those indicators. This distinction also reflects the fact that some objectives can apply over longer than a single reporting period. In such cases it is useful to develop indicators capable of comparison across time periods. Similarly it can be useful for regulators to periodically report progress towards longer-term objectives or targets. There are benefits to maintaining stability of indicators to help show trends in performance, but indicators may need updating over time to reflect changes in business circumstances and needs.

Figure 5

Linking objectives, success criteria and performance

The Pensions Regulator linked overall objectives and priorities with indicators, success criteria and performance

Corporate Priority one: To promote good governance and administration of work-based pension schemes (extract)

KPI	Outcome
Scheme governance	"We achieved the target for this KPI. (Green)
"Usage of our Trustee toolkit among lay trustees to average 3,250 module passes per quarter"	A total of 17,385 modules of our Trustee toolkit were successfully passed in 2014-2015 against our cumulative target of 13,000; the highest number of passes since we launched the toolkit. We launched new modules in August to reflect the DB and DC codes. As a result, large number of users re-engaged and many new ones registered."

Note

1 DB = defined benefit; and DC = defined contribution

Source: The Pensions Regulator, *Annual Report and Accounts 2014-15*, Pages 18-38.

Figure 6

Identifying key performance indicators and key outcome indicators

The Pensions Regulator sets out six Key Outcome Indicators in its 2015-16 Annual Report and Accounts (extract)

KOI 4. DB entitlement

“Outcome	“Increasing members of DB schemes receiving their promised benefit entitlement.
Linked to our statutory objectives	To protect the benefits of members of occupational pension schemes.
Measure	Pensioner members in receipt of Pension Protection Fund compensation/total DB pensioner members.
Source	The Pension Regulator/Pension Protection Fund: Purple Book.
Trend”	Increasing year on year.”

Note

1 DB = defined benefit

Source: The Pensions Regulator, *Annual Report and Accounts 2015-16*, Pages 30-31.

Reporting and using performance information

Analysing and reporting performance

1.11 It is for the management of regulators to decide on the content and presentation of performance information, whether presented within the organisation or externally. Unlike information presented in financial statements, there are no formal standards with which organisations must comply in presenting performance information. External stakeholders may, however, have a strong interest in information on an organisation’s performance. The regulator should have clear and structured rationale and processes for deciding what information to report internally or publicly, and – for the latter – should be prepared to engage with external stakeholders as part of these processes, to understand what is most useful to them.

1.12 Presentation of clear, accessible performance information to external stakeholders is a key factor in demonstrating accountability to Parliament and to funders of the regulator’s activities. The Building Public Trust Awards recognise outstanding corporate reporting that builds trust and transparency. As part of this initiative, the NAO publishes an accompanying guide setting out the criteria used by the judging panel and examples of good practice identified in annual reports of organisations across the public sector, which provide useful guidance for regulators.[5] The categories covered in the guide are: strategy; risks; operations; governance; measures of success; financial performance; people factors; external drivers; and ‘understandability’.

5 National Audit Office, *Building Public Trust Awards – Examples of good practice in annual reports*, March 2016.

Using performance information

1.13 Performance information is only of value if it is used to assess whether objectives are being met, and to provide a mechanism through which improvements can be made. Our 2011 report identified four factors as crucial to getting full value from performance assessment and reporting:

- Clarity over the role of the board, the ability of the board to challenge on strategic management issues such as budget and performance reviews, and well-reviewed compliance with the Governance Code. It is key that the board keeps the performance framework as a whole under review. Our 2011 report included a maturity matrix for performance measurement frameworks and reporting to the board, incorporating a five-point scale which can be used as a self-assessment diagnostic by regulators to assess their progress and identify areas for improvement.[6]
- Performance and financial indicators should be structured around clear, well-evidenced business and logic models. A thorough understanding of the business and the factors that are most important to improving performance can be developed through (for example) logic models, delivery chains and process mapping.
- Better integration of financial and performance information is necessary to improve decision-making and scrutiny. This is a particularly challenging area, but by developing a more detailed and sophisticated understanding of the links between costs, activities and outcomes, and of the incremental effect on costs of changes in activity levels, organisations can assess more confidently whether they are delivering value for money. At a minimum, reporting should align costs and results in major areas of business. The Care Quality Commission is developing a costing model to help draw financial and performance information together more closely (Part Two).
- Contribution of frameworks to support decisions. Performance information is most useful to decision-makers within the organisation if it is timely and accurate, and provided with appropriate insight and context, including comparative information. Boards should regularly review whether the performance information that they receive is meeting their needs.

6 National Audit Office, *Performance Frameworks and Board Reporting II*, 2011, Appendix Three.

The importance of a wide evidence base and context

1.14 Even with narrative context, any individual indicator is unlikely to give a complete picture of performance in a particular area. Organisations can tend to measure and therefore focus on activities and outputs which are most easily measurable. There is also a risk that individual indicators begin to influence behaviour of the organisation or individuals in unintended ways, if they are used as both a measure and a target – and regulators should monitor for evidence of unintended consequences, alongside monitoring through performance information. The risk of over-reliance on individual measures can be mitigated through, for example, using a basket of indicators, or by building a body of evidence around individual measures. Qualitative evidence (for example obtaining stakeholder views on the regulator's activities, performance and quality of engagement) is important in supplementing information from quantitative measures.

1.15 Context provided by a wider body of evidence is particularly important in understanding performance in regulated sectors, because problems and their scale can be 'hidden', or take a long time to emerge. In network infrastructure sectors indicators of current service performance may not give a full picture, as it may take time for any underlying deterioration in health of assets to translate into worsening service. In financial services, the scale of mis-selling of payment protection insurance only became fully apparent over time; we noted in our 2016 report that complaints data provided an imperfect indicator of current mis-selling levels, because complaints may reflect past mis-selling rather than continued problems.[7] Regulators should therefore seek a combination of 'lag' indicators (which measure what has happened) and 'lead' indicators which can provide 'early warning' signs of potential problems in service provision. Whereas output and outcome measures tend to be lag indicators, lead indicators may be more orientated towards inputs, such as:

- people employed (for example, staff numbers on hospital wards), and
- expenditure (for example, spending on infrastructure asset maintenance, or on training for salesmen within financial services firms).

1.16 While performance information is generally gathered while regulatory activities are under way, it should not be viewed in isolation from information generated at other parts of the 'policy cycle'. It is a common requirement for regulators to appraise a regulatory intervention before it begins, with assessments of the likelihood of success and risks of intervening, combined with estimates of the associated costs and benefits. Less commonly, but also valuable, post-implementation reviews can be undertaken after an intervention has concluded or at a specified review point to evaluate the success of the intervention. Performance information should provide a link between appraisal and evaluation such that the regulator can assess whether the original purpose of intervention is being met and, if not, to identify at an early stage whether changes are needed.

7 Comptroller and Auditor General, *Financial services mis-selling: Regulation and redress*, Session 2015-16, HC 851, National Audit Office, February 2016.

Overall quality of performance measurement and accountability across government

1.17 In our work for this guide, and in our past value-for-money reports on regulators, we have observed progress in some aspects of performance measurement by regulators as a whole. But improvement has not been consistent across all regulators and the overall rate of improvement could have been faster, given the key role that performance measurement plays in both the quality of decision-making and the accountability of regulators. This finding is not unique to regulators – we have noted over a long period and a series of reports persistent weaknesses in the performance measurement and accountability among government departments.[8]

1.18 The government has introduced single departmental plans (SDPs) as a new basis for performance management and reporting in government. In July 2016, our report on progress with single departmental plans noted some signs of improvement in the way government departments plan and manage their activity, although from a low base.[9] But the NAO does not consider that there exists a coherent, enduring framework for planning and management of public sector activity. While regulators are not required to prepare single departmental plans, we expect regulators to similarly increase their focus on performance measurement and accountability and to be clear about links to SDPs of relevant government departments. We will look for a step change improvement in the maturity of performance measurement when we consider these aspects in our future value-for-money reports on regulators.

8 We noted these weaknesses in the Performance Frameworks and Board Reporting reports in 2009 and 2011, and in more recent reports: National Audit Office, *Managing Business Operations – what government needs to get right*, September 2015; Comptroller and Auditor General, *Accountability to Parliament for taxpayers' money*, Session 2015-16, HC 849, National Audit Office, February 2016.

9 Comptroller and Auditor General, *Government's management of its performance: progress with single departmental plans*, Session 2016-17, HC 872, National Audit Office, July 2016.

Part Two

Measuring influence on outcomes

2.1 This part considers the particular issue that regulators face in measuring whether they are achieving their intended outcomes through the influence they exert on regulated entities. It considers the challenges for regulators in measuring their performance and steps that regulators can take to help them to:

- Understand and measure outcomes and associated activities and costs.
- Understand and measure the linkages between those costs, inputs, outputs and outcomes.
- Identify how much influence the regulator has over intended outcomes.
- Draw together information on the use of influence to inform performance measurement and improvement.

It also considers the role of risks to regulatory objectives, and how regulators can assess these risks and measure their performance in mitigating such risks.

Challenges in measuring regulatory outcomes

2.2 Literature on performance measurement generally divides activity of public sector organisations into three categories:[10]

- **Inputs.** The resources that contribute to production or service delivery. These include people, physical assets and IT systems.
- **Outputs.** The final products or services produced by the organisation for delivery to the customer.
- **Outcomes.** The impacts or consequences (for consumers, the community or the environment) of the activities undertaken.

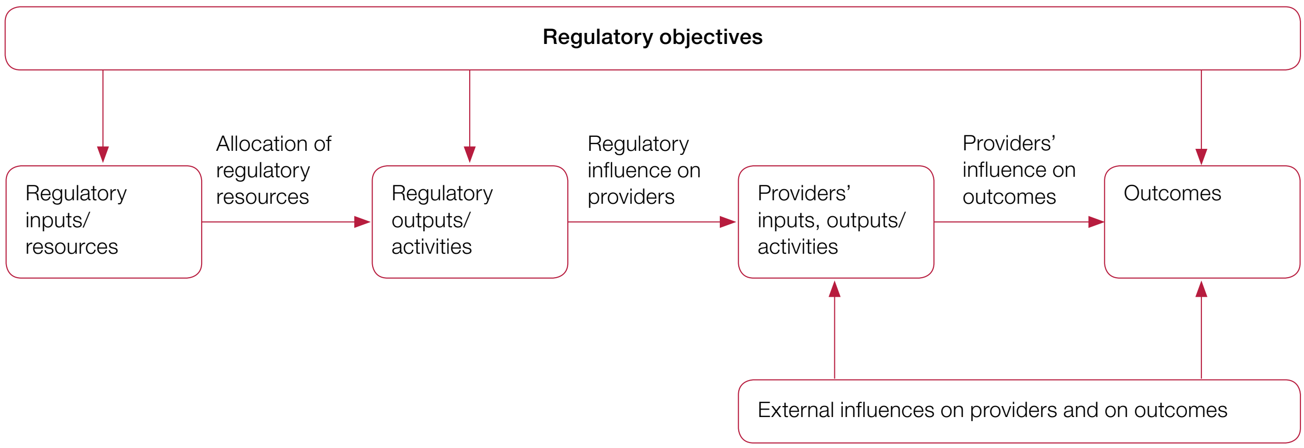
10 The exact definitions of inputs, outputs and outcomes vary in different contexts.

2.3 The outcomes that regulators aim to achieve can generally be delivered only though the actions and behaviour of the service providers that they regulate (**Figure 7**). The regulator's exercise of influence over regulated providers is key to delivery of its intended outcomes, therefore the measurement of that influence is important. Influence over providers is, however, difficult to measure. The effects of regulatory interventions requiring an individual provider to perform a specific action are more likely to be identifiable and measurable. It is much more challenging to measure, for example, the effectiveness of financial or other incentives for providers to deliver the regulated outcomes, or the deterrent effects of regulatory enforcement action on one or more providers.

2.4 Measurement of performance, and the organisation's ability to influence performance, is complex for other reasons. The 'landscape' differs substantially across regulators in terms of the characteristics (for example size, geography) and the risks that they present to achievement of regulatory objectives. Larger numbers of providers of widely differing sizes may present regulators with additional challenges in both regulatory effectiveness and performance measurement. There is rarely a one-to-one relationship between regulatory actions, because:

- Generally more than one regulatory action has an influence on any particular outcome, and an individual action can affect more than one intended outcome.
- There are external influences on outcomes including, in the regulatory context, external influences on the actions of regulated providers.
- There can be a time gap, sometimes very substantial, between regulatory actions and the associated outcomes becoming visible.

Figure 7
Inputs, outputs and outcomes in the regulatory context



Source: National Audit Office

2.5 One option would be to measure only the achievement of the outcomes that the regulator wants. But this would tell the regulator, and external stakeholders, little about whether the regulator is making any difference to the achievement of those intended outcomes with the resources provided by Parliament or by other funders, and whether it is using those resources efficiently. Further, it is possible that outcomes could be improved if the regulator knew more about which regulatory tools work best in influencing the behaviour of providers.

2.6 In our past value-for-money reports we have noted that regulators tend to measure and report on their activities and deliverables, which provides relatively little information on whether the regulator's intended outcomes are being achieved. In other cases regulators have reported on outcomes but have provided limited information which would indicate how well the regulator has used its influence to affect those outcomes. The following sections set out a series of steps that regulators can take to help them bring measures of activities and outcomes closer together, and gain a clearer picture of the effectiveness of their influence on outcomes.

Steps towards measuring influence on outcomes

Understanding and measuring inputs, outputs and outcomes

2.7 A useful starting point for regulators is to develop a clear understanding and definitions of the inputs, activities and outputs, outcomes and objectives of the organisation. This forms a foundation for developing an understanding of the linkages between inputs, outputs and outcomes:

- Inputs for regulators – people, assets and so on – are similar to those for other organisations.
- In the regulatory context of Figure 7, 'outputs' may cover the regulator's underlying activities (for example supervision or inspections, enforcement), or 'deliverables' (for example regulatory decisions, consultations), though it is helpful to draw a clear distinction between these.
- Outcomes (which in this context may include outputs produced by the provider) generally depend on the sector or activities being regulated, and can be articulated in terms of outcomes for consumers, for other stakeholders or for the environment. In formulating its objectives, the regulator might combine both its intended outcomes and a measure of the regulatory activities or influence through which those outcomes will be achieved.

2.8 Most sector regulators have long established processes for drawing together information on the performance of providers, since this is essential in allowing regulators to assess whether providers are delivering the regulator's intended outcomes, and whether regulatory intervention is required if providers fall short of the regulator's expectations. For example the Office of Rail and Road (ORR) publishes a periodic 'Network Rail Monitor' which provides data and narrative information covering measures of Network Rail performance, including: health and safety; train service performance; customer service; asset management; developing the network; and expenditure and finance.[11]

2.9 Information on providers' performance is an important element of measuring a regulator's own performance, but is considerably more useful if the regulator links that information to measures of its own performance. Indeed, linking the two is necessary to any assessment of how regulatory activities are contributing to intended outcomes, as set out in Figure 7. As an example, the Health and Safety Executive surveys a sample of organisations after inspections and asks for their views on aspects of the quality of inspections, and also the actions that their organisations had undertaken as a result of the inspection visit.[12]

Understanding costs

2.10 Recording cost data, and linking this to information on activities and outcomes, is important to decision-making. This is an area that regulators, and other parts of government, have struggled to do in a meaningful way. Good quality cost information includes a sound understanding of the 'direct' costs of regulation, such as staff and outsourcing costs, where costs are incurred and how they are affected by changes in activity. Combining financial and performance information allows the regulator to assess whether it is allocating resources to where the risks to its objectives are greatest, and whether it is using the most cost-effective tools to address particular problems and market failures.

11 Office of Rail and Road, *Network Rail Monitor.* Available at: orr.gov.uk/what-and-how-we-regulate/regulation-of-network-rail/monitoring-performance/network-rail-monitor

12 Health and Safety Executive Annual Report and Accounts 2015-16, pp. 17-18.

2.11 Understanding the costs of regulatory actions to providers is important to assessing whether the regulator is having a negative influence on outcomes. Regulatory requirements and actions impose 'indirect' costs on providers, and in some circumstances there can be risks that some requirements are not essential to the achievement of the regulator's objectives and intended outcomes. The costs or burden of any unnecessary requirements can affect the competitiveness of providers, and can affect consumers through the prices that they pay for services. It is therefore important for regulators to develop an understanding of the costs of regulatory requirements on providers, so that they can monitor whether costs are unnecessary or disproportionate to the intended purpose of the requirements. The NAO has worked with government over time to help improve the quality of assessments about the potential costs (and benefits) of regulatory proposals.[13] In June 2016, we reported on the government's approach to its target of reducing the cost of regulation by £10 billion.[14]

Understanding and measuring links between inputs, outputs and outcomes

2.12 From a value-for-money perspective, linkages between inputs, outputs and outcomes are important. In general terms value for money represents the economy, efficiency and effectiveness of an organisation, where:

- **economy** is the relationship between inputs and the resources used by those inputs;
- **efficiency** is the relationship between outputs and inputs; and
- **effectiveness** is the relationship between the outputs of the organisation and the outcomes that it achieves.

Inputs and efficiency

2.13 The extent to which a regulator can measure and compare the efficiency of its activities varies. Many of a regulator's 'core' activities can be relatively specialised (depending for example on factors such as statutory functions and the nature of the landscape that they regulate). But some of their activities are comparable across regulators and many other types of organisations. The Public Audit Forum has published performance indicators for communications, estates management, finance, human resources, information technology, legal and procurement activities.[15] These provide a common basis for measurement for a range of such activities and can be used by regulators for benchmarking performance of related functions.[16]

13 For example, Comptroller and Auditor General, *Better Regulation: Making Good Use of Regulatory Impact Assessments*, Session 2001-02, HC 329, National Audit Office, November 2001; *Delivering High Quality Impact Assessments*, 2009; National Audit Office, *Assessing the impact of proposed new policies*, 2010.

14 Comptroller and Auditor General, *The Business Impact Target: cutting the cost of regulation*, Session 2016-17, HC 236, National Audit Office, June 2016.

15 National Audit Office, *Public Audit Forum performance indicators*. Available at: www.nao.org.uk/report/public-audit-forum-performance-indicators-3/

16 We used indicators to compare the "back office" costs of the Food Standards Agency with those of organisations of a similar size and nature in our report: National Audit Office, *NAO efficiency review: Food Standards Agency – The delivery of meat hygiene official controls*, July 2013, Page 57.

2.14 Measuring economy and efficiency of 'core' activities requires drawing together performance and financial information. For some regulators (for example those with inspection functions), unit costs of activities provide a useful indicator of efficiency which can be measured over time. The Food Standards Agency measures the cost per unit of livestock inspected as an indicator of the efficiency of its inspections of compliance with official meat hygiene controls, and monitors this over time to identify and analyse trends in its efficiency. Measuring efficiency of other types of regulatory activities (for example economic regulation or supervision activities) is more challenging, but measures can be developed provided that activities and the associated costs are recorded. It is important that analysis of any measure of economy and efficiency takes account of the quality, as well as cost, of the activity, to be confident that efficiency savings are genuine.

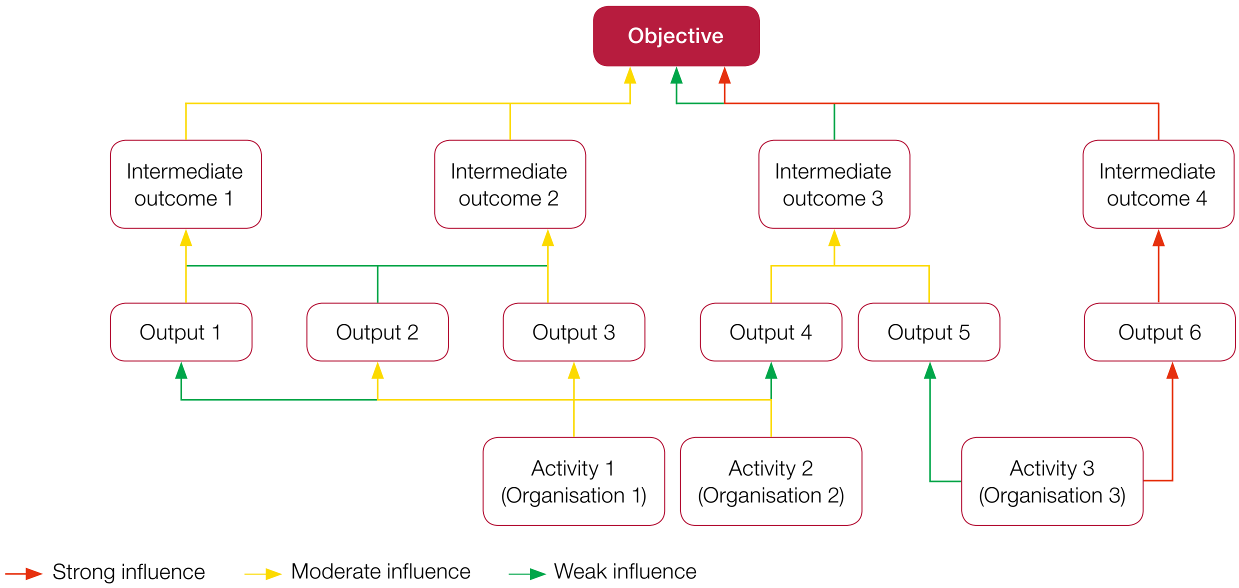
Activities and outcomes

2.15 Understanding the links between regulatory activities and intended outcomes is complex but important to understanding the regulator's performance. A causal model or strategy map is a good way of understanding the relationships between the regulator's activities and intended outcomes (**Figure 8**).

2.16 **Figure 9** overleaf illustrates how the Care Quality Commission has substantially revised its performance measurement approach, as part of which it identified and analysed the inputs, outputs and outcomes of its work.

Figure 8

A strategy map can help in linking activities, outcomes and objectives



Source: National Audit Office

Figure 9

Analysing inputs, outputs and outcomes

The Care Quality Commission (CQC) has been drawing together analysis of its inputs, outputs, outcomes and costs, in developing a new performance measurement framework

In 2014-15, the Care Quality Commission began to collate evidence of its activity, performance and impact to derive a baseline assessment of value for money following the transformation of its regulatory approach. The CQC drew on a range of sources, including performance information, in-house and external evaluation, management assurance and internal audit.

The CQC has (with consultants) analysed its work in terms of inputs, outputs and outcomes. It has developed this into an overall framework (set out in its Business Plan for 2016-17) for assessing whether the CQC is achieving its purpose. It assesses this at four levels:

- Impact: measured by the quality of the services that CQC has rated.
- Outcomes: measuring outcomes for providers; for people using services, their carers and the public; and for CQC's partners and others.
- Quality and effectiveness of its operating model: measured by, for example, the percentage of newly registered providers where the CQC needs to take regulatory action on first inspection, and the percentage of providers not meeting a fundamental standard and for how long.
- Internal capabilities: measured by, for example, registrations completed and inspections undertaken, CQC staff turnover, and customer service.

The CQC links these performance indicators to financial information through its costing model, through which CQC monitors and evaluates inspection costs and value for money. In its 2015-16 annual report and accounts, the CQC reported average cost per inspection data, and how these had changed over the year, for different parts of its operations. This provides a measure of efficiency over time, although the CQC also points to other factors that could influence the costs of inspections.

The CQC said it is monitoring and benchmarking its cost per inspection activity data and has used this to review the allocation of staff and resource to inspections to ensure they remain cost-effective, while still delivering an effective inspection.

Source: Care Quality Commission, *Annual Report and Accounts 2014-15* Page 48) and *2015-16* (Page 47), and *Business Plan for 2016-17* (Pages 5-6).

Identifying how much influence the regulator has over intended outcomes

2.17 Evidence of the effectiveness of different activities can be collected through evaluation methods. The NAO report *Evaluation in Government* provides guidance on factors that can help regulators organise their evaluation activities.[17] Some organisations have established methodologies to estimate the impacts that they achieve. The Office of Fair Trading (before merging with the Competition Commission to become the Competition and Markets Authority (CMA) in April 2014) estimated the average annual financial benefits to consumers of its work as at least £452 million between April 2011 and March 2014.[18] In March 2016, we reported that the National Crime Agency is developing approaches to measuring the impact of its activities in disrupting organised crime.[19]

17 National Audit Office, *Evaluation in Government*, 2013.

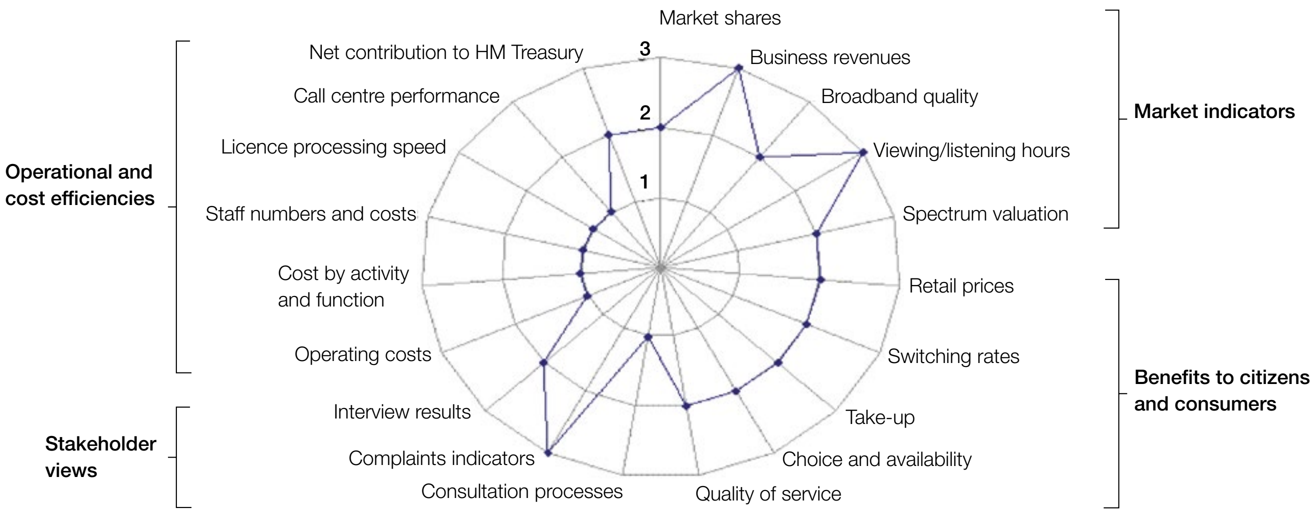
18 Office of Fair Trading, *Positive Impact 13/14 – Consumer benefits from the OFT's work*, 2014.

19 Comptroller and Auditor General, *Confiscation Orders: Progress Review*, Session 2015-16, HC 886, March 2016, paragraph 3.14. Some further information on the framework is provided in the National Crime Agency, *Annual Report and Accounts 2015-16*, page 14.

2.18 Since measuring influence in quantitative terms is complex, it can be helpful to use a relative scale to analyse the role of influence over performance. Figure 8 shows how a strategy map can also be used to assess the regulator's relative level of influence (with relationships described as 'strong', 'medium' and 'weak' influence). **Figure 10** illustrates how the NAO identified a range of measures describing different aspects of Ofcom's performance, in our 2010 report on Ofcom.[20] For each performance measure identified, we assessed the degree of relative influence that Ofcom held over that measure using a rating from 1 to 3, where '1' indicated measures where Ofcom had relatively more influence than external factors. This allowed us to develop a 'spheres-of-influence' description of relative influence, showing Ofcom's greater relative influence over factors scoring nearer the centre of the circle.

Figure 10
Assessing the regulator's relative influence over different measures of performance

In 2010, we worked with Ofcom to assess the relative level of influence that Ofcom has over its different activities



Notes

1 This example is historic, reflecting assessments made in 2010.

2 Measures were rated as follows:
1 = indicators more influenced by the regulator's actions than by other factors.
2 = indicators equally influenced by the regulator and by other factors.
3 = indicators more influenced by other factors than the regulator's performance.

Source: National Audit Office

20 Comptroller and Auditor General, Ofcom: *The effectiveness of converged regulation*, Session 2010-11, HC 490, National Audit Office, November 2010.

Drawing together information on the use of influence to inform performance measurement and improvement

2.19 Analysing performance measures by relative influence can help improve the focus of performance assessments. In our 2010 report on Ofcom, we produced an illustrative framework for assessing Ofcom's performance by allocating a rating to each of the measures identified in Figure 10. This "performance scorecard" approach can help users of performance information by separating measures of greater and lesser influence, and then focusing attention on performance against the measures where the regulator has relatively greater influence.

2.20 This analytical approach can also be used to help identify more clearly areas where regulators can focus actions for improvement. In our 2013 review of the efficiency of the Food Standards Agency's meat hygiene controls, we worked with the Agency's officials to identify the factors that affected the Agency's efficiency (**Figure 11**). We then ranked these factors according to both the Agency's potential influence over those factors, and the potential efficiency savings that could be made associated with each factor. This analysis allowed the Agency to prioritise its efforts to improve efficiency by focussing on the factor where their potential influence and the potential savings were both greatest.

Performance measurement and risks to regulatory objectives

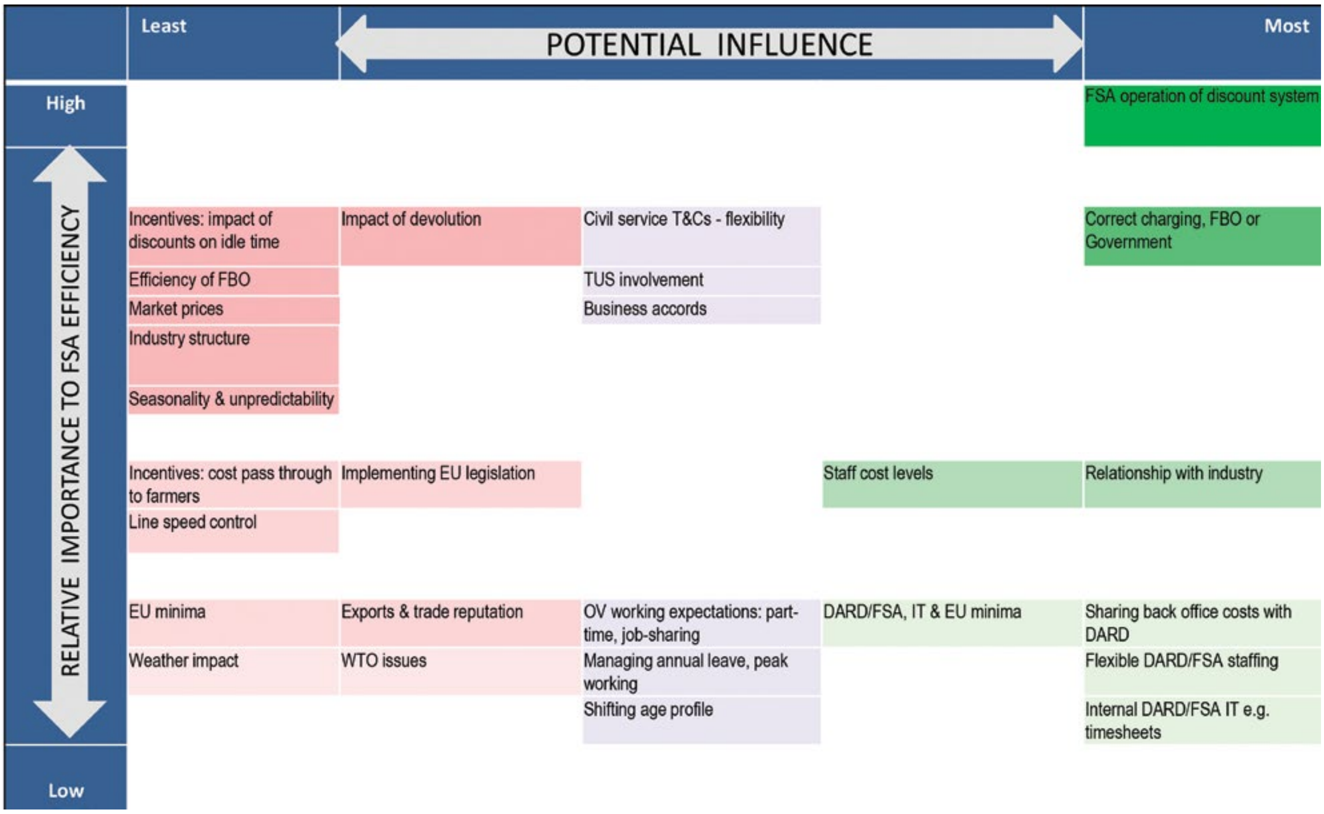
2.21 Most regulated sectors in the UK have characteristics that include undesirable outcomes for consumers (and possibly others, including taxpayers) if things go wrong – provider failures can, for example, result in disruption to essential services, financial costs, and potentially impacts on health and safety. Many regulatory activities therefore are aimed at mitigating the risks that these undesirable outcomes materialise. In these situations, performance information is important for regulators because they need to know and measure:

- where risks are greatest and their scale, to help direct regulatory resources; and
- whether their actions are effective in reducing the risk of undesirable outcomes where appropriate, or in mitigating the effects and recovering the situation after undesirable outcomes have arisen.

2.22 In some respects the principles involved in measuring these factors are similar to those outlined above. Regulators should set a clear risk appetite (the amount and type of risk that the regulator is willing to take in order to meet its objectives). In considering the management of risks to its objectives the regulator is, in part, assessing whether the performance of its controls and mitigation strategies is effective in reducing the level of risk to the agreed appetite level. In situations where risks of significant problems have materialised, it is likely that the regulator will set objectives for resolving those problems, for example restoring services to a 'normal' status.

Figure 11

Example of assessing potential influence



Note

1 This example is historic, reflecting assessments made in 2013.

2 DARD = Department of Agriculture and Rural Development; EU = European Union; FBO = food business operator; FSA = Food Standards Agency; IT = information technology; OV = Official Veterinary; T&Cs = terms and conditions; TUS = trade union side; and WTO = World Trade Organisation.

Sources: National Audit Office and Food Standards Agency

2.23 There are however particular challenges to consider in assessing and responding to risk:

- Detecting and quantifying emerging problems is complex because, as we have noted in past reports, these problems may not be transparent and may not immediately affect service quality or be revealed by indicators of current and past performance.
- Equally a 'black swan' event may not figure prominently in a regulator's assessment of the regulatory landscape due to low probability, but it will have a material impact should it crystallise.
- Some types of risks may repeatedly materialise but may not be sufficiently large to rise above a regulator's risk appetite thresholds, however they may be a warning of ineffective regulatory mitigation and more systemic problems within the regulated market or entities, which could justify regulatory investigation and action.
- As above, measurement is complex – it can be difficult to be confident that reductions in risk are attributable to either regulatory actions or influences. Since risk is dynamic, some mitigating actions by the regulator may be effective but not visible at the portfolio level, if the overall level of risk remains constant because new risks emerge in the portfolio.

2.24 Several regulators use risk 'ratings' or 'assessments' of the risks to their regulatory objectives posed by individual firms or providers that they regulate or supervise, either at the level of individual activities or for the organisation as a whole. These ratings and assessments are considerably more useful if, in addition to evidence of performance and risk observed in practice, they also contain forward-looking elements drawing together evidence and judgements about whether risks may increase in future. Approaches to risk can only be effective if they are underpinned by high quality data and robust models, subjected to a high level of intuitive and technical challenge. Lead indicators can provide regulators with 'early warning' signs of potential problems, to be used alongside indicators of current performance.

Appendix One

Methods and additional information

1 In preparing this report we were assisted by regulators who:

- met with us to discuss their approaches to performance measurement;
- completed a questionnaire helping us to develop our understanding of how they measure performance in practice;
- attended a round table discussion among regulators on the challenges they face in measuring performance, and potential solutions to these challenges; and
- provided comments on draft versions of this report.

2 We are grateful to the following regulators for their assistance to us and our report:

- The Care Quality Commission (CQC).
- The Environment Agency.
- The Financial Conduct Authority (FCA).
- The Food Standards Agency (FSA).
- The Health and Safety Executive (HSE).
- NHS Improvement (which includes the former regulator Monitor).
- The Office of Communications (Ofcom).
- The Office of Gas and Electricity Markets (Ofgem).
- The Office of Rail and Road (ORR).
- The Office of Water Services (Ofwat).
- The Pensions Regulator (TPR).

3 The following sources provide further information on performance measurement that may be useful to regulators:

- Audit Commission, Audit Scotland, CIPFA, Northern Ireland Audit Office and Wales Audit Office, *Improving information to support decision-making: standards for better quality data*, 2007.
- HM Treasury, Cabinet Office, National Audit Office, Audit Commission and Office for National Statistics, *Choosing the Right FABRIC: A Framework for Performance Information*, 2001.
- National Audit Office, *Performance Frameworks and Board Reporting*, 2009.
- National Audit Office, *Non-Departmental Public Bodies Performance Reporting to Departments*, 2010.
- National Audit Office, *Performance Frameworks and Board Reporting II*, 2011.
- National Audit Office, *Evaluation in Government*, 2013.
- Comptroller and Auditor General, *Managing Business Operations – What Government Needs To Get Right*, 2015.
- Comptroller and Auditor General, *Accountability to Parliament for taxpayers' money*, 2016
- ICAEW, *Reporting on Public Sector Performance: Assurance on Non-Financial Information in the Public Sector*, an ICAEW paper authored by Adrian Byrne, 2012.
- Measuring Regulatory Performance: *Evaluating the Impact of Regulation and Regulatory Policy*, by Cary Coglianese, published by the OECD, 2012.
- Measuring Regulatory Performance: *Evaluating Regulatory Management Tools and Programmes*, by Claudio Radaelli and Oliver Fritsch, published by the OECD, 2012.
- Malcolm Sparrow, *The Regulatory Craft: Controlling Risks, Solving Problems, and Managing Compliance*, 2000.
- Steve Montague, *Telling the Regulatory Performance Story*, 2012.

4 **Figure 12** overleaf provides a summary of good practice criteria for performance measurement, drawn from our past reports on the subject.

Figure 12
Overview of good practice criteria for performance measurement

Stage	Activity	Good practice criteria
Developing a performance measurement framework	Aims of the organisation and aims for the framework	Statutory and other high-level objectives are translated into more specific and measurable lower-level objectives. There should be a clear line-of-sight from high to low levels. The purpose and building blocks of the framework, and what it does/does not cover, should be clear and well understood. The performance measurement framework focuses on strategic and other main objectives. There should be arrangements with other organisations, where objectives are shared or common.
	Linking the framework and the business	The performance measurement system is well integrated with business planning, budgetary and operational processes. The roles and responsibilities of the board and others within the organisation for performance measurement should be clear. There should be clear and open communication channels between different parts of the performance measurement framework. The links between inputs, outputs and outcomes are well understood (through for example logic or causal models). Delivery maps are developed to show how required actions will be delivered. The resourcing needs, including information and information technology requirements, are well understood and taken into account in decisions about the framework. The costs of the performance measurement framework, including information collection, should be proportionate to the benefits that it provides.
	Performance indicators	It is clear (including externally) what performance indicators are being used. There are stated rationales and clear processes for selecting performance indicators. Performance indicators are prioritised if necessary. Performance indicators are relevant to the outcomes the organisation seeks to achieve. The performance measures give a balanced overall picture of what the organisation is doing, covering all significant areas of work. Performance indicators link overall business performance to the performance of individual business units, teams and activities. The framework incorporates leading indicators or forecasts of performance, where this might be appropriate. The activity measured is capable of being influenced by actions which can be attributed to the organisation. The influence on outcomes that the organisation exerts are separated from other influences on those outcomes. The framework monitors the success of significant change within the business.

Figure 12 *continued*
Overview of good practice criteria for performance measurement

Stage	Activity	Good practice criteria
Developing a performance measurement framework *continued*	Feedback and learning	The performance measurement framework is tested when first implemented, and where subsequent changes are made to it. There should be processes for managing change to the performance measurement system. Sufficient time should be allowed for the framework to 'bed in' before changes are made. The framework should be robust to withstand organisational changes or personnel leaving. There are mechanisms for learning about performance measurement within and from outside the organisation. Managers and staff at various levels should be involved in planning, implementing and challenging the system. The framework is informed by feedback from external stakeholders.
Reporting performance information	Data quality	The measure has a clear, unambiguous definition so that data will be collected consistently, and is easy to understand and use. The performance indicators and supporting information are well documented, to allow for validation. There are systems of control to check that data is accurate, reliable and robust. Baselines are set for measuring performance against indicators. Measures are capable of comparison with either past periods or similar programmes elsewhere. Data is produced frequently enough to track progress and quickly enough for the data to still be useful. Management decides on the appropriate balance between timely and accurate data, where these may conflict. The performance measurement framework draws appropriately on different data sources, including external sources where cost-effective. Performance information collected is relevant and proportionate to the purposes of the framework.
	Reporting in context	The organisation articulates success criteria for performance measures, with a stated rationale and clear process for selecting those criteria. Performance against indicators should be benchmarked against for example, similar organisations or functions.
	Presenting with analysis and insight	The organisation makes sufficient allowance (time and resources) for analysing and interpreting data. The information being collected (and presented) should be appropriate to, and useful for, (each of) the stakeholders who are likely to use it. The organisation has clear and structured rationale and processes for deciding what information to report internally, and what to report publicly. Performance information is presented in a way that is accessible and draws attention to the most important issues. Presentation includes structured analysis of performance information and includes insights into the factors influencing performance, and what the organisation is able to influence.

Figure 12 *continued*

Overview of good practice criteria for performance measurement

Stage	Activity	Good practice criteria
Using performance information	Linking performance and financial information	The performance measurement framework links performance and financial information (for example through Activity-Based Costing). Management uses linkages between performance and financial information to assess value for money.
	Guiding decision-making	The board is committed to performance measurement and has a clear approach to use of the performance measurement framework. The board reviews the performance measurement system periodically to satisfy itself that the board's needs are met and that its benefits exceed the costs. Performance measurement framework outputs feed into objectives and business planning. The framework helps to promote good governance and scrutiny of performance by non-executives and others. There should be processes to check for unintended outcomes (for example matters falling outside of established indicators).
	Creating a performance measurement culture	The organisation should promote and maintain a culture of performance measurement within the organisation.

Source: National Audit Office reports on Performance Frameworks and Board Reporting

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