

Perform™ - Assessing Performance through Structured Exploration
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1 Introduction

Perform™ is a methodology for marshalling evidence to support decisions in complex management environments. It stands at the intersection of two of the most fruitful ideas in current management practice: Problem Structuring Methods (PSMs) and performance measurement. A PSM aims to help decision-makers arrive at rationally defensible decisions in the face of complexity and uncertainty, while a performance measurement framework is designed to generate a set of well-defined, meaningful quantities - Performance Indicators (PIs) - which provide a sufficient basis for deciding a course of action.

At first glance, these two ways of reaching decisions seem to inhabit different worlds: PSMs deal with situations where the relationship between cause and effect is convoluted and blurred by uncertainty, while performance measurement relies on the possibility of establishing a clear and measurable link between actions and outcomes. In fact, the desired outcome in both cases is an ordered picture of the system under consideration which allows decisions to be made.

The difficulty in establishing an integrated framework for performance measurement, however, is that to do so successfully requires a clear understanding of the structure of the performance measurement problem in all its aspects, including what is to be measured, why, by whom and how.

Perform™ comes into its own when such an understanding does not yet exist. It exploits whatever knowledge and data is available to arrive at a meaningful assessment, while at the same time providing insights into each stage of the performance management process.

Perform™ has been developed by Polaris Consulting Limited through a combination of theoretical work and practical experience on a number of consultancy assignments. During this time, the simplicity of its underlying principles have allowed it to be applied beyond the realm of performance measurement *per se* to any problem where a decision relies on assessing data in a way that is poorly understood at the outset. This has enabled it to be used for investment appraisals where both the objectives and the available options are complex and poorly understood.

The aim of this paper is to explain the principles of the methodology, how it works in practice and the features which make it distinctive. The paper starts with an exposition of the methodology's defining principles and the different techniques which it can employ, before

moving on to illustrate how different techniques have been successfully applied to a wide range of problem types.

2 How Perform™ Works

2.1 Tackling the Challenges to Performance Measurement

Performance measurement is a question of relating data to objectives. The challenge in achieving this is twofold:

- expressing the objectives in terms of measurable outcomes (which can lead to management action)
- obtaining the necessary data to be able to make the measurements

In other words, a balanced set of well-defined PIs will be of no use if compiling them is infeasible. A successful performance measurement strategy must therefore address the organisational, cultural and technological issues surrounding the compilation of a set of PIs.

At the same time organisations need to measure performance *now*; a strategy does not itself solve the immediate problem, and may be hard to sell without some persuasive evidence that it will eventually bring results.

Perform™ tackles both of these problems at once; it takes the existing situation, with all its imperfections, as a starting point and systematically explores the relationship between the objectives and the available data. In this way it comes up with an assessment based on a well-defined and consistent set of PIs. In addition, however, the exploration will also have exposed the gaps between what needs to be measured and what the data can provide, as well as the issues in closing those gaps. In this way, it can set the terms for an integrated performance measurement strategy.

2.2 Principles

Central to the Perform™ approach is a template for representing the measurement problem which provides a consistent vocabulary for asking and answering questions about both

- objectives and outcomes, and
- ways of analysing and reporting the available data

This makes it possible to close the gap between the objectives and the data, whilst iteratively refining the PIs and the outcomes they measure. The principle is illustrated in Figure 2-1.

Around this central idea, Perform™ employs a range of methods for

- formulating the problem
- gathering data
- analysing the problem
- reporting the findings

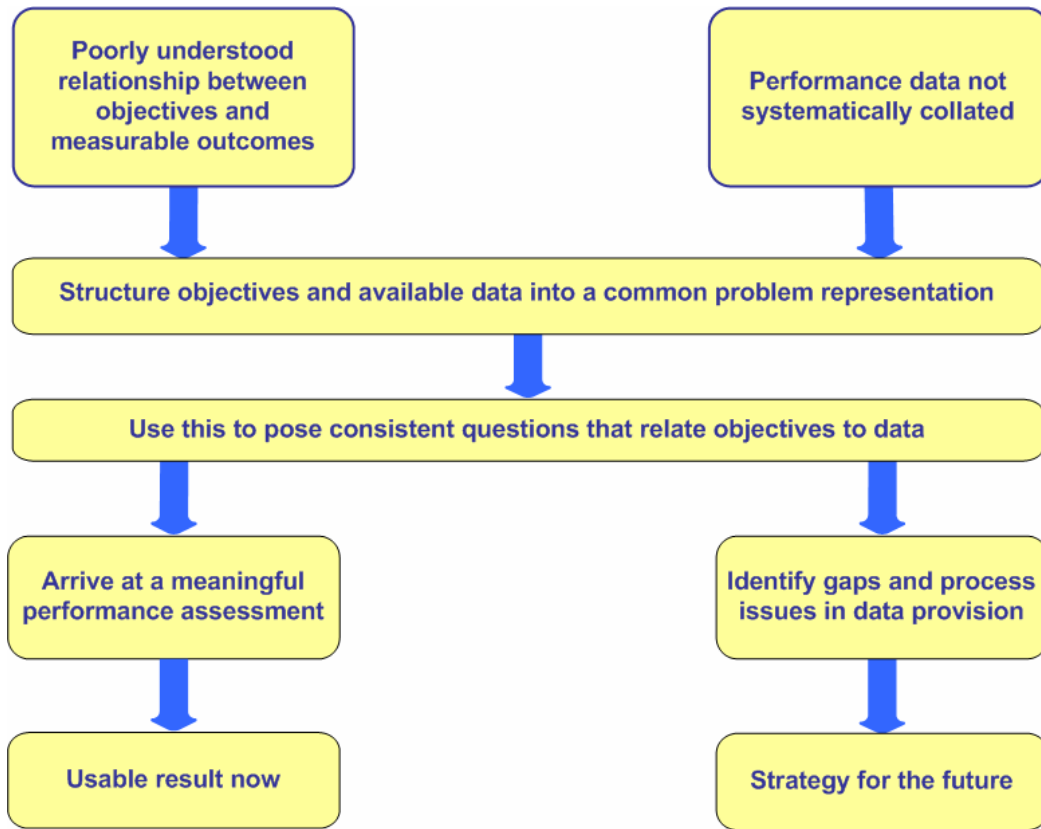


Figure 2-1 Using the Problem Representation to Relate Objectives to Data

These will be initiated in response to some kind of management question, and the findings will ultimately inform a decision, leading to action. These will then lead to new questions, or to a reformulation of the original question, so that the whole process can be seen as part of a cycle, as illustrated in Figure 2-2.



Figure 2-2 Iterative re-evaluation

The particular choice of method(s) for each of these stages will depend on the nature of the problem, as will their relative importance. The thing that binds them together is the common

representation of the problem, which provides the arena for analysing the problem and guides the processes of problem formulation, data gathering and reporting. A number of different techniques and formats may be employed in each of these areas.

Because the data analysis which informs the ultimate findings is the result of an open exploration, there are no ‘black boxes’ – everything is reproducible and can, if necessary, be independently verified.

2.3 A Template for Problem Representation

The great strength of the problem representation is that it is simple, and therefore versatile.

It comprises the following elements:

Entities. These are the things about which performance questions can be asked. What they actually represent will depend on the problem, but examples might include:

- a portfolio of projects in a programme
- requirements, or acknowledged deficiencies in organisational capability
- management or policy objectives
- alternative options for a course of action
- competencies

Attributes. These are values which characterise the entities. An entity may have several different attributes. They may be drawn from diverse sources and can represent all sorts of different things: financial data, status flags, subjective judgments on a categorical scale and so forth.

Cross-tabulations. These encapsulate statements like ‘project X has a high impact on management objective Y’ or ‘outcome A does not depend on resource B’. They can thus be thought of as tables with a row for each entity. The columns can then be thought of either as a family of related attributes or as a set of entities in their own right, in which case a cross-tabulation characterises the relationship between different *kinds* of entities.¹

The simplicity of this structure makes it extremely adaptable. Once a problem has been cast in this form, it then provides a common vocabulary for both posing questions and seeking answers.

A key step in any Perform™ project, therefore, is to express the problem in this format. How this is done is highly problem specific. In some cases, such as an assessment of a programme portfolio, much of the overall structure essentially comes ready made, but in other cases, where the structure of the problem is much less well understood at the outset, a Perform™ representation may be arrived at through a facilitated workshop. In these cases, the improved understanding of the problem which the participants gain from the workshop can be one of the most important outcomes of the whole exercise.

Once the overall structure has been established, it is iteratively refined as the analysis proceeds. Typically, this will involve adding new attributes and cross-tabulations or redefining existing ones.

A prerequisite for maintaining traceability throughout the process is to ensure that each element of the analysis is properly documented to indicate what it means, why it is there and how it can be used. Once again the template simplifies this process, by explicitly associating

¹ In any case, it is frequently helpful to assign attributes to the columns of a cross-tabulation. For instance, returning to the first example given above, we may wish to assign a priority level to each ‘management objective’, so that we can make statements like ‘project X has a high impact on management objective Y, which has low priority, and a medium impact on management objective Z, which has a high priority.’

textual information of this kind with each element of the data model, so that the whole model becomes self-documenting.

2.4 Data Gathering

The problem representation places no conditions on how data should be collected. In some cases it is perfectly feasible to extract data from previously compiled datasets and management information systems. In others data must be generated through a facilitated workshop, or compiled from a variety of pre-existing sources.

In all cases, however, data should be subject to some kind of validation. Data extracted directly from a management information system may already have been through a degree of quality checking, but in general some sort of peer review is needed before data can be used with confidence. In fact, experience has shown that it is often very fruitful to involve the generators of the data in collating and validating it, as this enables a richer and more informed evaluation of the data's meaning, reliability and completeness.

A number of techniques have been employed to engage stakeholders in this way. For large programmes an effective approach has been to initiate data collection with a proforma, pre-populated with any data which is already available, and which the recipients are invited to complete. This is then followed up by validation sessions, which are somewhat like facilitated workshops, where stakeholders are invited to assess the resulting data set for consistency and correctness. An alternative approach, where both the volumes of data and the numbers of stakeholders are smaller, is to capture data primarily through a workshop setting. In practice, these and other techniques are often used in combination.

One common feature, however, is that data gathering is always more effective if there is genuine engagement with the people providing the data, including:

1. briefings on why recipients are being asked to provide data
2. written guidance
3. individual assistance, either by telephone or face to face

While this can represent a non-trivial investment of expert resources, the return on this investment can be threefold:

1. a significantly higher proportion of proformas will be returned, and they are more likely to be completed fully and correctly
2. because they feel involved and supported, recipients are more likely to support the exercise and buy into its longer term objectives
3. the richer degree of interaction between analysts and stakeholders allows issues to be captured and insights shared, which might otherwise be missed

In practice, nevertheless, Perform™ has often been employed in cases where there have been huge gaps in the data, both as regards its completeness and its reliability. In these cases, it has proved possible to extract a surprising amount of usable information. This represents a striking success for the methodology, and is down to the process of exploration, which enables optimal use to be made of the available data.

2.5 Exploration

Once an initial structure has been established and – if only partially – populated with data, exploration can begin. Any quantity which can be computed from the available data is a candidate PI. The analyst is therefore at liberty to try out alternative sets of PIs and ways of presenting them.

Within the problem representation, a PI is expressed as a function of entities, attributes and cross-tabulations. Similarly, any question about objectives and outcomes will also be

expressible in the same terms. This makes it possible to identify any mismatches between questions we *want* to ask of the data and questions that we *can* ask of the data. These mismatches will then generate insights into:

- new ways of asking the management question which are more amenable to measurement with the existing data
- new ways to identify, collect and classify relevant data
- differences in viewpoint and approach between the generators of the data and the decision-makers
- mismatches between the actual processes which generate the data, and assumptions about those processes which underlie the measurement questions

2.6 Reporting

The raw output from the analysis can comprise tables, charts and narrative. The best medium to present this information depends on the nature of the management question, the needs of the target audience and the key findings to which their attention needs to be drawn.

In practice, this has resulted in wide variety of formats being used. These have ranged from highly detailed study reports which document the full justification for each finding, to one-page executive summaries. There have also been cases where a key set of charts have made their point so eloquently that they were presented on their own, without any kind of paper report.

3 Examples of Perform™ in Action

3.1 Audit of a Programme Portfolio

Perform™ originated from work to conduct value for money assessments of research programmes. The UK Ministry of Defence (MoD) sponsors a £300M/annum programme of applied research divided into a number of ‘packages’ in support of different areas of military need. For each such package, there is a rolling portfolio of research projects. The budget for each package needs to be justified each financial year, in an environment where the total budget has been under chronic pressure.

Programme sponsors must therefore be able to demonstrate that their research money is being well spent. This is complicated by the fact that both the outcomes and benefits of a research programme are inherently uncertain. It is possible, however, to demonstrate alignment with a range of objectives, relating to future capability, cost reduction and other drivers. In addition it is possible to understand the performance of existing projects by measuring their rate of progress and the likelihood of the research being exploited. Perform™ allows this evidence to be marshalled succinctly and cogently. In one instance, a one page summary report from a Perform™ assessment was enough to reverse a 5% cut in a portfolio budget worth approximately £35 million.

Perform™ has been used to assess the performance of packages with annual budgets ranging in value from £5 million to £300 million. Assessments vary in duration depending on the size and complexity of the portfolio but typically last between 3 and 6 months.

In an assessment of this kind, setting up the initial problem template is relatively straightforward, as the entities are simply the constituent projects. In most cases the criteria that these projects are to be scored against are also known, at least in principle. Relating these to the available data is where things get interesting.

While some basic data on budgets and timescales can be drawn from existing sources, the data needed to assess performance against the kinds of drivers mentioned above can rarely be obtained in this way. Information on the alignment and performance of the research packages

is obtained from the technical managers responsible for their commissioning and execution. Much of this information is, by its very nature, judgemental, and requires validation to ensure consistency across the package. This is achieved by holding validation meetings with the technical managers and their peers, to arrive at a commonly agreed set of information for the audit. These sessions also help ensure ‘buy-in’ from this community, by increasing their confidence in the process and its aims.

Analysis is conducted within a framework of broad questions:

- Distinguishing between the *aim* of a project, and its *performance*. A project might be focused on an important objective but not delivering adequately, which requires different action to a poorly aligned project which is going to plan.
- Ensuring that *individual* projects are both well aligned and performing; and that the package as a *whole* is meeting all of the needs of the commissioning organisation. This is necessary because simply focusing on an ‘order of buy’ of projects which have high ‘scores’ can skew the package by failing to deliver against specific objectives.
- Differentiating between the *current* package and *future* options. The current package is likely to be contractually committed, calling for different action to be taken than future projects which have not yet been commissioned.

The outcome of the analysis consists of a series of observations, conclusions and recommendations supported by evidence. These may be technical and/or commercial in nature, building up a picture of how the package is performing and being managed at present, and how it might be improved in the future.

The conduct of an audit at regular, usually yearly, intervals also allows findings to inform how the management question is framed for the following audit. This applies not only to the projects within the portfolio but also to the assessment criteria themselves.

3.2 Investment Appraisal

The methodology has also been successfully applied to investment appraisal problems. Perform™ does not include techniques for conducting cost projections or detailed risk analyses, but these alone may not be able to provide a complete answer to the decision question. Perform™ is applicable where the problem is characterised by:

- Multiple, possibly conflicting, objectives and constraints
- Multiple solution options which may:
 - overlap
 - be large in number

In one example, Polaris was asked to assist in de-risking the business case for a novel technology for reducing the frequency of so-called ‘friendly fire’ (fratricide) incidents involving front line British soldiers.

In this case, the structure of the problem was not well understood at the outset. This was tackled through 2 facilitation sessions. The first aimed to understand the question and objectives for the analysis; it also acted as a start point for understanding the entire problem space. The second facilitation session was required to construct not only the entities and attributes, but also the performance criteria which would need to be derived from them. The entities in this case represented alternative solution options to the capability need which had been agreed at the first session.

It became evident that many of these options differed fundamentally from each other. Some of the options identified by the project team were technological solutions, whilst others involved changes and/or improvements to training or procedures. It was only at this point that

it became fully clear to all the stakeholders, that these various ‘entities’ represented alternative solutions to the same problem. Previously, this had been obscured by the radical differences between them, and the fact they were brought to the table by SMEs with differing backgrounds and expertise.

A final facilitation session, with area specialists, was held in order to score each of the options against each of the criteria. Using their experience, these specialists were requested to assess how they thought each of the options would impact against each criterion. The output of this final session acted as the basis for the initial analysis that was conducted and reported back to the customer.

Following this initial analysis, further exploration was conducted, in which selected combinations of options were bundled together to create sets of additional composite options. It was only the clarity introduced by the initial problem structuring exercise which made this possible.

The results from the analysis highlighted the fact that the preferred technological option was not necessarily the stand-out solution to the stated objectives. Through this analysis it became clear that bundling the training and procedural options together provided almost the same level of benefit as the technological options, but at vastly reduced procurement and through life costs. This evidence helped to inform a re-evaluation of the procurement strategy.

3.3 Business Performance Assessment

Perform™ has been used to assess the performance of a business enterprise as a whole. This approach serves to define a set of quantitative performance measures against defined management objectives, which may derive from the business’ strategic aims, the quality objectives set out in its Quality Management System and so forth.

In assessments of this kind, getting hold of data is rarely a problem, as large volumes of relevant data can be drawn from the business’s financial, management and quality reporting systems. The challenge, as ever, is to extract relevant information from these data sets.

The strength of the Perform™ assessment has proved to be its ability to draw conclusions from multiple indicators, rather than simply using a single measure of value to understand each business objective. Data from each source could be examined in a number of different ways, and linked to data and indicators from other sources to build up a richer and more representative picture of business performance.

Once again, this is due to the focus on systematically relating data to objectives. As a result, a Perform™ assessment can come up with a picture of the business which is geared to its strategic objectives, regardless of the headings under which the data happens to have been collected.

4 Conclusion

Perform™ is not rocket science. On the contrary, much of its power and versatility stems from its underlying simplicity. This simplicity, however, is the outcome of several years work, seeking to bring clarity to the complexities of performance measurement. The result is a methodology which has repeatedly delivered concrete benefits in return for a comparatively modest investment.