

# Serving the Community Through Successful Project Delivery

## A User Guide to Post Implementation Reviews

February 2009

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# EFFICIENCY UNIT VISION & MISSION

## Vision Statement

To be the preferred consulting partner for all Government bureaux and departments and to advance the delivery of world-class public services to the people of Hong Kong.

## Mission Statement

To provide strategic and implementable solutions to all our clients as they seek to deliver people-based Government services. We do this by combining our extensive understanding of policies, our specialised knowledge and our broad contacts and linkages throughout the Government and the private sector. In doing this, we join our clients in contributing to the advancement of the community while also providing a fulfilling career for all members of our team.

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# FOREWORD

We published the Government Business Case Guide in May 2008 to assist departments in determining whether and how a project should be undertaken. This Guide closes the loop by advocating the need for Post Implementation Reviews (PIRs) and setting out a framework for doing so.

In managing our programmes and projects, it is essential that we assess whether the intended results have been achieved; if not, why not, and identify opportunities for further improvement. This can help improve our service delivery, ensure that public money is well spent and demonstrate accountability. It will also be useful in responding to queries from oversight authorities.

The PIR is a tool which aims to help us to achieve the above objectives. Much of the contents of this Guide will appear to be no more than common sense to experienced officers. Indeed, we believe all Bureaux/Departments constantly review the outcome of their programmes, but making PIRs a conscious part of the project cycle is a good practice of modern day public sector management.

This Guide is a first attempt to pull together information on how we might conduct PIRs for non-works and non-information and communications technology projects. It provides a variety of guidelines, tools and techniques to assist colleagues, but should not be followed slavishly. Departments should always exercise common sense in deciding how much time and resources should be devoted to a review. There will be occasions when the review will be no more than a short report on file. On other occasions it will be a minor project in itself. The most important thing is that a review is conducted.

The Efficiency Unit would warmly welcome any feedback on this Guide.

**Head, Efficiency Unit**

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# EXECUTIVE SUMMARY

## Purpose of the Guide

The purpose of this Post Implementation Review Guide (the Guide) is to inform civil service colleagues what a Post Implementation Review (PIR) is, and when and how to conduct one. It aims to provide a general framework and guidelines to assist departments in conducting PIRs on non-works and non-information and communications technology projects.

## What is a PIR?

A PIR evaluates whether the project has achieved its intended objectives, reviews the performance of project management activities and captures learning points for future improvements.

It is a learning process and should not be used for blame allocation.

## Why conduct a PIR?

The Government has a responsibility to make the best use of public resources to deliver services to the community, and to demonstrate accountability. A PIR helps departments to achieve these purposes.

## What projects should be reviewed?

In general, the cost of conducting a PIR should not outweigh its benefits. The importance, nature, purpose and outcome of projects are the common aspects for selection of projects for review.

It is not necessary to conduct a full-scale PIR for every project under review. For example, a simple minute may suffice for a small-scale project.

## When should a PIR be conducted?

Depending on the nature, complexity and duration of the project, PIRs may be conducted periodically during the implementation stage to ascertain whether the project is proceeding on the right track, and after project closure to assess the short-term and long-term outcomes. Nevertheless, a PIR should be planned in advance. In particular, the mechanism to collect baseline information, e.g. the service levels before project implementation, should be established at the project planning stage.

## How to conduct a PIR?

The Guide presents a four-stage model to conduct a PIR:

STAGE	TASKS	KEY ISSUES
Define review objectives and scope of assessment	<ul style="list-style-type: none"> <li>• Conduct preliminary research on the project under review</li> <li>• Identify special areas that need to be addressed</li> <li>• Finalise review objectives and scope of assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Are the pre-defined review objectives and assessment scope (if any) still valid?</li> <li>• Are there any issues that need to be addressed?</li> <li>• Can the review be completed within the time and resources constraints?</li> </ul>
Determine review methodology	<ul style="list-style-type: none"> <li>• Identify project outcomes to be assessed</li> <li>• Develop assessment method</li> <li>• Design data collection approach</li> </ul>	<ul style="list-style-type: none"> <li>• What project outcomes should be assessed?</li> <li>• Is the pre-project data available?</li> <li>• Are there any established performance measures? Are they relevant and adequate?</li> <li>• What are the most effective ways to collect the information required?</li> </ul>
Collect and analyse data	<ul style="list-style-type: none"> <li>• Collect data</li> <li>• Compare the actual performance against the expected performance</li> </ul>	<ul style="list-style-type: none"> <li>• Can we directly compare the expected and actual data on a “like with like” basis?</li> <li>• Are there any changes in project parameters and assumptions?</li> <li>• Are there any external factors that have affected the project outcomes?</li> </ul>
Identify issues and lessons learnt and reporting	<ul style="list-style-type: none"> <li>• Identify lessons learnt</li> <li>• Identify the root causes for under-performance, if applicable</li> <li>• Develop recommendations to improve the current project and future ones</li> <li>• Document and disseminate the review findings</li> </ul>	<ul style="list-style-type: none"> <li>• What went well and what went wrong?</li> <li>• Do the project outputs meet the actual needs?</li> <li>• What should be done differently to improve the delivery of the current and future projects?</li> </ul>

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# CONTENTS

<b>1</b>	<b>Introduction</b>	<b>6</b>
1.1	Purpose of this Guide	6
1.2	What is a PIR?	7
1.3	Why conduct a PIR?	8
1.4	What projects should be reviewed?	8
1.5	When should a PIR be conducted?	9
1.6	How long does a PIR normally take?	10
1.7	Who should conduct the review?	10
1.8	Pre-requisites for a successful PIR	11
<b>2</b>	<b>Define review objectives and scope of assessment</b>	<b>12</b>
2.1	Set review objectives	12
2.2	Define scope of assessment	13
<b>3</b>	<b>Develop review methodology</b>	<b>15</b>
3.1	Review project outcomes	15
3.2	Assess project management performance	19
<b>4</b>	<b>Collect and analyse data</b>	<b>20</b>
4.1	Collect data	20
4.2	Analyse data collected	20
<b>5</b>	<b>Identify issues and lessons learnt and reporting</b>	<b>24</b>
5.1	Identify issues and lessons learnt	24
5.2	Develop recommendations	27
5.3	Report findings	27
5.4	Implement changes and share findings	28
	<b>References</b>	<b>29</b>
	<b>Appendices</b>	
1	Impact evaluation	30
2	Typical data collection methods	31
3	Techniques for identifying underlying issues	32
4	PIR report template	39

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# 1 INTRODUCTION

## 1.1 Purpose of this Guide

The purpose of this Post Implementation Review Guide (the Guide) is to inform civil service colleagues what a Post Implementation Review (PIR) is, and when and how to conduct one. It aims to provide a general framework and guidelines to assist departments in conducting PIRs.

It mainly focuses on non-works and non-information and communications technology projects. It is relevant to projects delivered by both in-house staff and by the private sector.

This Guide should not be treated as a strait-jacket. It does not attempt to provide a one-size-fits-all approach for reviewing all types of projects. Readers must judge what sections and actions suggested in the Guide are applicable to their individual situations.

The target audience of the Guide includes:

- Project directors/project sponsors – the Guide serves to raise awareness of the need to conduct a PIR, and the requirement to prepare for a PIR during the project planning and implementation stage. This will help ensure basic information such as project objectives, and expected costs and benefits are clearly set out and well-documented
- PIR team members - to advise various steps, approaches and techniques that may be used to conduct a PIR.

The generic term “department” is used throughout the Guide to describe the various levels of Government organisational structures such as bureaux, departments and agencies.

The term “project” refers to both projects and programmes. A project focuses on delivering specific outputs or products. It has a definite life time. However, a programme concerns more with delivering outcomes and has a broad focus. It may not have a clear end date.

## 1.2. What is a PIR?

Various terms are used to address learning from project experience and reviewing project performance: post mortem review, project closure review, post project review, etc. In this Guide, we use the term PIR to describe the review process to evaluate project achievements in both qualitative and quantitative terms. The main purposes of a PIR are:

- to ascertain whether the project has achieved its intended objectives
- to review the performance of project management activities
- to capture learning points for future improvements.

It should be emphasised that a PIR is not merely for measuring whether the project has delivered its agreed outputs, but also to examine how well the outputs delivered were matched to the actual needs that the project aimed to fulfil.

### Example

A department has introduced a telephone booking service to improve its appointment booking service. A PIR was conducted to evaluate the project achievements. The review team found that the telephone booking service was delivered on schedule and within budget. Instead of making an appointment in person, customers can make use of an Interactive Voice Response System (IVRS) and complete the booking within two minutes. The project was considered a success on its own.

However, most of the department's customers are elderly persons and they are not used to making appointments through IVRS. As a result, the project has made little impact on improving the department's overall appointment booking service.

A PIR helps answer questions such as:

- whether the project was successful or not and for what reasons?
- to what extent has the project achieved its intended outcomes?
- to what extent has the project delivered its agreed outputs?
- what may be done to improve the current or future projects?

A PIR is essentially an internal learning process rather than a process of finger-pointing, blame allocation, etc.

### 1.3 Why conduct a PIR?

The Government has a responsibility to make the best use of public resources to deliver services to the community, and to demonstrate accountability. Specifically, a PIR can help:

- identify measures to improve the project being reviewed
- assess the contribution of the project to the department's business objectives
- provide an effective means to demonstrate accountability
- evaluate whether the intended project outcomes have been achieved
- improve benefits realisation and project implementation
- improve the delivery and outputs of future projects by learning from the past.

### 1.4 What projects should be reviewed?

The PIR process requires time and effort, especially for a full-scale review. Careful consideration should be given to selection of projects for review to ensure that the costs of conducting a PIR would not outweigh its benefits. The selection criteria are specific to the projects being considered and are different depending on the purposes of the review. Below are some suggested criteria:

- Importance: in terms of costs, resources and impact  
It is worthwhile to review projects which involve high costs and resources and/or have high impact.
- Purpose: pilot/exemplary projects and joined-up projects  
A PIR can be conducted to determine whether new approaches or service models should be continued, modified or adopted for wider application.
- Nature: on-going versus one-off projects  
A one-off project is less likely to be replicated in future. PIRs for this kind of projects may have a lower reference value.
- Outcome: successful and unsuccessful projects  
It is equally important to identify best practices/lessons from successful and unsuccessful projects.

It is perfectly acceptable for a PIR to conclude that a project failed. The important point is that the department learns from the experience. It is better to identify a failure early and terminate the project than to continue to repeat the mistake.

It is not necessary to conduct a full-scale PIR for all the projects selected. For instance, a simple minute or paper outlining the assessment results and recommendations may suffice for small-scale projects.

## 1.5 When should a PIR be conducted?

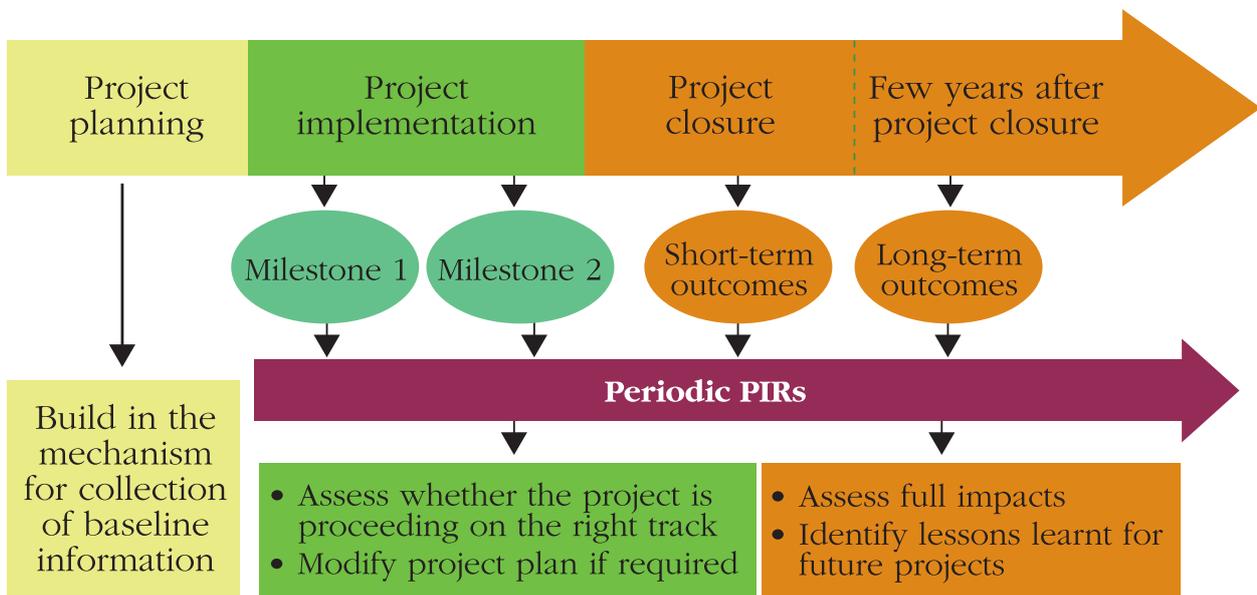
A PIR can be conducted after project closure to assess the full impact of the project and identify improvement opportunities for future projects. For long duration projects, it can be conducted at an appropriate time after completion of critical milestones or after the outputs or benefits are expected to materialise. It can also be conducted when major issues are encountered to see if there is a need to modify the original project plan. A PIR conducted too soon may not be able to assess the full impact, while a review conducted too late may fail to influence the delivery and outcomes of current project and/or future projects.

PIRs may not be a one-off exercise. A project may last for a long time and different outcomes may be achieved as the project proceeds, and some may take years to realise. For these projects, it may be useful to conduct PIRs periodically.

### Example

For an initiative on prevention of domestic violence, the short-term outcome may be increased awareness of domestic violence while the long-term one may be reduced domestic violence. A PIR can be conducted after the launch of a publicity campaign to assess the public awareness. When the reduction of domestic violence is expected to be more apparent, another PIR can be conducted to examine the change in the extent.

The diagram below shows the possible timing for conducting PIRs.



## 1.6 How long does a PIR normally take?

The time required for a PIR depends very much on the complexity of the project under review, the scope of the PIR and the availability of data. It may range from weeks to months. In an ideal case, if the project and the PIR scope are not complex and all the required information is readily available, a PIR may be completed within two to four weeks.

## 1.7 Who should conduct the review?

The main consideration here is whether the review should be conducted by the original project team or by an independent third party (i.e. one that has not been involved in the project). Using the original project team to conduct the PIR has the advantage that it can be conducted more efficiently as the project team is familiar with the project. However, the disadvantages are that issues which have been overlooked by the project team may probably be overlooked again in the PIR. Besides, the objectivity of the PIR may be challenged as the original project team may be defensive and biased.

A fresh independent team can evaluate the project with a fresh pair of eyes, but it may be more costly and would likely take a longer time as it needs to understand the project from scratch.

Given that both the original project team and the independent team options have their own merits and demerits, it may be more appropriate to establish a review team comprising a mix of independent parties and original project team members with the independent parties taking a leading role in the review.

## 1.8 Pre-requisites for a successful PIR

When planning and conducting a PIR, departments should:

- focus on identifying learning points for future improvements instead of fault finding. Evaluating the processes rather than the performance of individual stakeholders is more likely to gain the cooperation of those involved
- build in the PIR process at the project planning stage to ensure that baseline information such as project objectives, estimated costs, performance measures, deliverables, milestones, time frame and expected benefits are clearly set out. This would avoid the common pitfall of having insufficient baseline information, especially the service levels before project implementation, for comparison
- clearly document the approved changes to project assumptions and parameters
- express the project outputs and outcomes in measurable terms as far as possible
- ideally, establish the cause-effect relationship between the project and its outputs/ outcomes. However, this will rarely be possible for outcomes which may be subject to the influence of external factors. A possible way to overcome this issue is to conduct impact evaluation. More information is at **Appendix 1**
- get sponsorship from the management to (i) acquire the necessary resources to conduct the PIR, (ii) secure access to information, and (iii) get its commitment to consider / follow up the recommendations.

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## 2 DEFINE REVIEW OBJECTIVES AND SCOPE OF ASSESSMENT

Upon deciding that a PIR should be conducted, senior management should set out the review objectives and scope of assessment. A review team should then be appointed to carry out the review.

Departments may have already committed themselves to conduct a PIR in the business case report or funding paper, or there is an established mechanism to do so. In such cases, the review objectives and scope of assessment may have already been defined. Nevertheless, it is advisable to re-examine the objectives and scope of the PIR and, if necessary, refine them taking into account the latest development of the project/community.

Preliminary research should be conducted to understand the project background, its objectives and the key issues. Moreover, it is advisable to consult key stakeholders such as project sponsors, project team and end users on whether there are any specific areas that need to be addressed in the PIR.

### 2.1 Set review objectives

In general, a PIR aims to:

- review the achievement of project outcomes
- review the performance of project management
- draw lessons for future improvement

The focus of a PIR may vary depending on when it is conducted.

#### *During project implementation*

A PIR may be conducted at critical milestones during project planning and implementation, particularly for long-term and on-going projects. Given that the project outputs and outcomes may not be fully delivered at the time of review, PIRs conducted at this stage usually focus on:

- ascertaining whether the project is proceeding as planned

- assessing whether the project's goals, objectives and assumptions are still relevant and valid
- determining whether there is a need to modify the project plan or strategies.

### *After project closure*

A PIR may be conducted some time after the project closure. At this stage, all the outputs should have been delivered and short-term outcomes realised. Such PIRs would generally focus on:

- evaluating the project achievements and their contribution to the business objectives of the sponsoring department(s) or the government
- identifying improvement areas and drawing lessons for delivery of future projects
- ascertaining the value for money issues, if applicable.

For long-term projects it may be worthwhile to continue to conduct PIRs periodically, say every five years, to ascertain whether the project is still relevant and delivering services in the most cost-effective manner.

## 2.2 Define scope of assessment

Depending on the complexity of the project, a PIR can cover the whole project or a specific part(s) of the project. For example, a cross-departmental call centre project may involve setting up of the call centre, recruitment and training of call centre agents, procurement of equipment, establishment of service level agreements with participating departments and development of the knowledge base.

While there may be specific areas that warrant review, there are common areas that a typical PIR should cover. These areas include:

### *Project outcomes*

- achievement of project objectives
- realisation of projects benefits (financial and non-financial)
- unintended outcomes (positive and negative)
- user feedback.

### *Project management*

- scope – whether the project has produced the agreed deliverables
- time – whether the project is delivered on schedule. It covers both the overall project schedule and the schedule for individual milestones
- cost – whether the project expenditure is within budget. Both non-recurrent and recurrent cost should be examined
- quality – whether the project deliverables meet the required quality standards.

### *Lessons learnt*

A PIR should identify the areas for improvement and draw lessons for future improvement. Lessons can be broadly grouped into:

- Project-specific lessons for improving the subsequent phase(s) of the project being reviewed
- Lessons that can be generalised for improving the delivery of future projects.

### *Example*

A department has outsourced its cleansing services for the first time. A PIR was conducted three months after contract commencement. The review team found that the contractor frequently failed to respond promptly to workload fluctuations because it could not deploy its staff flexibly under the input-based contract specifications. The review team recommended the department use output-based specifications in its future cleansing contracts and consider extending the approach to other contracts.

For projects which have not yet been completed, it may not be possible to evaluate all of the above areas. The project plan should be examined to identify what are expected to be achieved/delivered at the time of evaluation.

Given the wide range of review areas, the challenge in this stage is to prioritise and focus on key issues to avoid information overflow and ensure that the PIR can be completed within the time and resources constraints.

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# 3 DEVELOP REVIEW METHODOLOGY

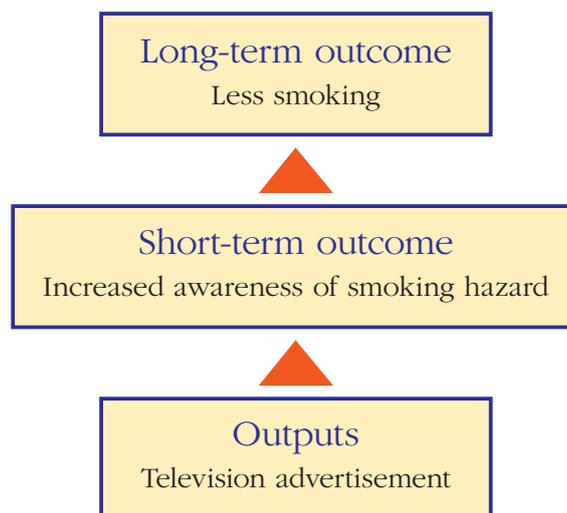
A key task of a PIR is to compare the actual project performance against the approved plan. For some aspects of project performance, this is a straightforward and easy task, for example, those relating to project management issues such as cost and time. However, for others, in particular those relating to project outcomes, measuring the actual performance can be a challenge. For example, to evaluate the outcome of an education project for disabled students aiming at helping them achieve independence in daily life activities, one would need to determine how to measure “independence in daily activities”.

## 3.1 Review project outcomes

### 3.1.1 Identify project outcomes

Before developing the method for assessing the project outcomes, the review team should determine the outcomes to be assessed. The review team should note that for some projects, it may take time for the outcomes to develop or materialise.

Below is an example of the possible outcomes at different stages of an anti-smoking campaign, which uses television advertisement to promote anti-smoking.



Since a project may produce different outcomes as it proceeds, the review team needs to determine what project outcomes are expected to realise at the time of review.

### 3.1.2 Evaluate project outcomes

The key steps in evaluating project outcomes include:

#### *Review existing documents*

Project outcomes and their performance measures<sup>Note</sup> may have already been defined in project documents such as business case report, project brief and funding paper. Therefore, the first step is to examine various project documents to see if suitable and adequate performance measures are already in place.

#### **Example**

In a project to outsource property management services, the expected outcomes were an improvement in the provision of security and cleansing services and the maintenance of the facilities. The review team examined the contract, and found that performance measures for these outcomes were already defined in the contract. They included end user satisfaction, the inspection results of the procuring department, the fault incidence rate and the complaint statistics.

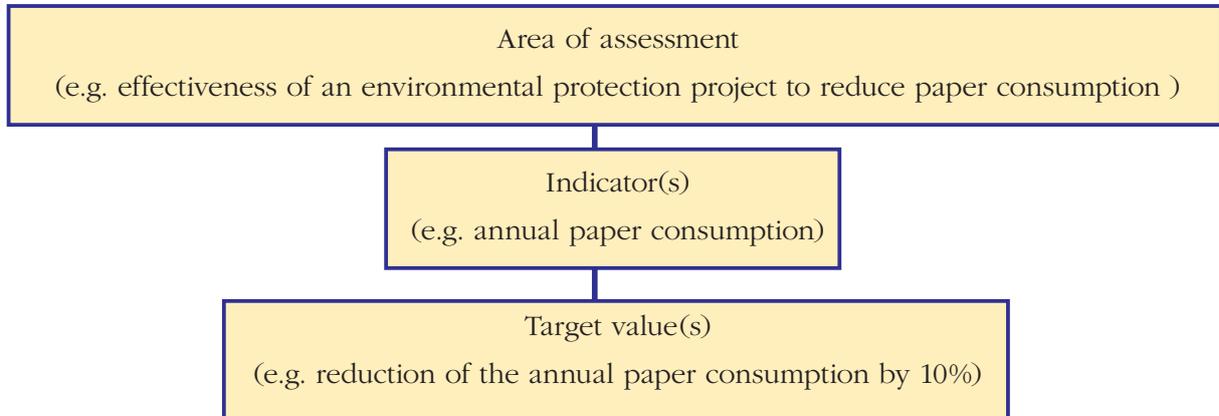
#### *Develop performance measures*

If the review team needs to develop new performance measures, several possible ways can be considered:

- consult end users on what should be measured, i.e. the service attributes that are important to an end user
- consider successful cases of similar projects to learn from their experience
- benchmark with other relevant local and overseas bodies to use standard values set by specialised agencies, for example, World Health Organisation, World Bank, Organisation for Economic Co-operation and Development, or use measures adopted by other government agencies
- discuss with stakeholders the basis for evaluation.

<sup>Note</sup> A performance measure is a quantifiable metric chosen to assess performance, e.g. customer satisfaction rate.

A performance measure should consist of three components: area of assessment, indicator(s) and target value(s) as illustrated below:



Below is an illustrative example of using multiple performance measures to assess the quality of a vocational training programme.

	<u>Areas of assessment</u>	<u>Indicator(s)</u>	<u>Target value(s)</u>
Quality of vocational training	Employability	Employment rate	> 93%
		Job nature	> 75% are full-time jobs
	Satisfaction	Satisfaction of graduate	> 90% are satisfied
		Satisfaction of employer	> 85% are satisfied

A good performance measure should have the following characteristics:

- direct– the measure should directly measure the outcome. For example, a programme to enhance children’s academic performance might use examination or assessment results rather than attendance rate of students as a performance measure
- measurable– measurable indicators should be used whenever possible in order to provide an objective assessment. For example, website performance can be translated into the number of hits, number of documents downloaded or time spent on the site

- specific– a target should be set in either quantitative or qualitative terms in order to provide a clear indication of the level of performance expected. For example, a programme to improve health conditions can be linked with specific targets such as reductions in the annual number of infectious diseases by a certain percentage. Many targets will change over time, becoming more demanding as the project progresses
- adequate– the measure should be sufficient to assess the outcome. Project performance can be reflected by a number of measures. Take tourism promotion as an example. Measures can be the number of visitors and/or per capita spending. The review team should consider whether the defined measure(s) is sufficient to assess the achievement.

### *Design data collection approach*

Data on performance measures may be located in readily available sources, e.g. performance reports, or need to be collected from other sources. The table below shows the possible sources of data for evaluation of project outcomes and their common data collection methods:

DATA REQUIRED	SOURCE OF DATA	DATA COLLECTION METHOD
<ul style="list-style-type: none"> <li>• Project objectives</li> <li>• Financial and non-financial benefits</li> <li>• Short term and long term outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Business case report</li> <li>• Project brief / funding paper</li> <li>• Inception report</li> <li>• Project initiation document</li> <li>• Computer records from Departmental Management Information System, Human Resources Management Information System, etc</li> <li>• Case files</li> <li>• Performance reports</li> <li>• Audit reports</li> <li>• Ombudsman reports</li> </ul>	<ul style="list-style-type: none"> <li>• Document review</li> <li>• Focus group / interview</li> <li>• Surveys</li> </ul>
<ul style="list-style-type: none"> <li>• User feedback</li> </ul>	<ul style="list-style-type: none"> <li>• End users</li> <li>• Complaints / suggestions</li> </ul>	<ul style="list-style-type: none"> <li>• Questionnaire survey (face-to-face, telephone, on-line, paper)</li> <li>• Focus group / interview</li> <li>• Feedback forms</li> <li>• “Mystery customers”</li> </ul>

Each data collection method described above has its pros and cons. The typical ones are listed in **Appendix 2**.

The review team can consider combining several different methods to maximise the merits and minimise the demerits of each data collection method. For example, to measure user satisfaction, a questionnaire survey may be conducted after the attributes which the users consider crucial are identified through focus groups.

### 3.2 Assess project management performance

Normally, the performance measures on “scope”, “time”, “cost” and “quality” are rather straightforward as they are usually well-defined in various project documents and document review is a common method used to collect these data. By comparing the planned data outlined in the business case report / funding paper against the actual data captured, the performance of project management can be objectively assessed.

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## 4 COLLECT AND ANALYSE DATA

The main task in this stage is to collect data on both the expected and the actual performance and compare them.

### 4.1 Collect data

The review team may be tempted to collect more data than actually required. This temptation should be avoided, as it may lead to:

- a significant increase in cost, time and complexity with no real gain to achieving the original objectives of the PIR
- the data collection process becomes so tedious that the data owners may not wish to take part in the process.

Before collecting data, the review team should consider whether it needs to:

- seek clearance and permission from appropriate authorities, in particular when dealing with sensitive information such as personal data
- explain clearly the objectives of the PIR as well as the purposes of collecting the data to the data owners in order to avoid any misunderstandings
- consider the appropriate timing for data collection to avoid the possibilities that the data is influenced by other unrelated factors. For example, to measure public perception on a particular government service during sensitive periods such as those right after the budget speech or policy address may unduly influence the results.

### 4.2 Analyse data collected

The review team should analyse the data collected based on the established performance measures to assess the achievement of project outcomes and performance on project management. Typical areas to probe in the analysis are:

*Project outcomes*

AREAS OF ASSESSMENT	AREAS TO PROBE
<ul style="list-style-type: none"> <li>• Project objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Are there any changes / improvements brought by the project?</li> <li>• Did the degree of changes / improvements meet the stated targets?</li> </ul>
<ul style="list-style-type: none"> <li>• Tangible and intangible benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Have the expected benefits (e.g. savings, improvement in service quality) been realised and to what extent?</li> <li>• Are there any unexpected benefits?</li> </ul>
<ul style="list-style-type: none"> <li>• User satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>• Are the end users satisfied with the services provided or the changes brought about by the project?</li> </ul>

*Project management*

## Scope

AREAS OF ASSESSMENT	AREAS TO PROBE
<ul style="list-style-type: none"> <li>• Range of services provided</li> </ul>	<ul style="list-style-type: none"> <li>• Do they match with those specified in the business case report?</li> </ul>
<ul style="list-style-type: none"> <li>• Service capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Does the service capacity meet the stated targets?</li> </ul>
<ul style="list-style-type: none"> <li>• Outputs / deliverables</li> </ul>	<ul style="list-style-type: none"> <li>• Have all the outputs / deliverables been produced?</li> </ul>

## Time

AREAS OF ASSESSMENT	AREAS TO PROBE
<ul style="list-style-type: none"> <li>• Completion of key milestones</li> </ul>	<ul style="list-style-type: none"> <li>• Were the key milestones completed on schedule?</li> <li>• Were the inputs / resources of the projects spent on time?</li> <li>• Were the outputs of the project produced on time?</li> </ul>
<ul style="list-style-type: none"> <li>• Full-live run / implementation date</li> </ul>	<ul style="list-style-type: none"> <li>• How does the actual project schedule compare with the approved schedule?</li> </ul>

### Cost

AREAS OF ASSESSMENT	AREAS TO PROBE
<ul style="list-style-type: none"> <li>• Project expenditure (non-recurrent and recurrent)</li> </ul>	<ul style="list-style-type: none"> <li>• Any deviation from the approved budget?</li> </ul>
<ul style="list-style-type: none"> <li>• Staff resources (non-recurrent and recurrent)</li> </ul>	<ul style="list-style-type: none"> <li>• Any deviation from the approved manpower plan?</li> </ul>

### Quality

AREAS OF ASSESSMENT	AREAS TO PROBE
<ul style="list-style-type: none"> <li>• Quality standards / service levels</li> </ul>	<ul style="list-style-type: none"> <li>• Do the outputs / deliverables meet the required quality standards / service levels?</li> </ul>

(Note: For projects which have not yet been completed, not all the areas described above need to be evaluated.)

### 4.2.1 Issues in data analysis

In conducting data analysis, the review team should pay special attention to the following issues:

#### *Time value of money*

The value of money changes as time goes by. A dollar today is not worth the same as five years before due to factors such as inflation. It may not be appropriate to directly compare the project costs and the financial benefits estimated in the business case with the actual figures as they were calculated at different time periods. It is necessary to remove the effect of the time value of money so that all values can be compared on an equal basis.

Discounting is a method used to compare costs incurred and financial benefits realised at different time periods, in which a discount rate is applied to convert future costs or benefits to the equivalent costs or benefits in today's values (or present value). Readers can refer to the Efficiency Unit's publication – A Government Business Case Guide<sup>Note</sup> for further information on the discounting method.

<sup>Note</sup> The guide is available at [http://www.eu.gov.hk/english/publication/pub\\_bp/files/Business\\_Case\\_Guide.pdf](http://www.eu.gov.hk/english/publication/pub_bp/files/Business_Case_Guide.pdf)

### *Changes in project parameters*

The business case and project plan were developed based on past assumptions and predictions about the future. As the project proceeds, the project parameters such as project schedule or even the project scope may have changed to meet the actual requirements at the time of implementation. The review team must be fully aware of these changes (approved or not) and understand the rationale behind. The approved changes should be used as the basis for comparison instead of the original parameters stated in the business case report / project plan.

### *Attribution issues*

The review team should examine whether the actual outcome is attributed to the project itself or other factors. A project outcome may be influenced by factors other than the project, and simply looking at the changes before and after the project may not be sufficient to make a credible evaluation.

#### *Example*

A PIR was conducted to evaluate the success of a mosquito prevention project at a particular district which aimed to reduce the ovitrap index by 5%. The review found that the ovitrap index decreased by 7% after the project was implemented and it seemed that the project had achieved its expected outcome. However, the decrease may be attributed to other factors such as the decrease in the number of construction sites in the vicinity and/or the amount of rainfall during the assessment period.

The review team should take into account any changes in the external environment during project implementation and assess whether they have had any significant impact on the project.

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# 5 IDENTIFY ISSUES AND LESSONS LEARNT AND REPORTING

## 5.1 Identify issues and lessons learnt

This stage identifies what went well and what went wrong so that the department can do better in the future. Identifying the reasons for project successes will enable the department to identify best practices and apply them in future projects, while lessons learnt from project failures will enable the departments to avoid making the same mistake next time.

The following are some common methods for identifying issues and lessons learnt:

### *Comparison between planned and actual data*

The review team has compared what actually happened against what was planned in the previous stage. The comparison would help identify what was done well and what was done badly. This forms the basis for further investigation to identify the underlying issues (or critical success factors) and to develop recommendations.

Common techniques for analysing the underlying issues are:

- cause and effect diagram
- interrelationship diagram
- 5 whys.

More information on these techniques is at **Appendix 3**.

### *Document review*

During project implementation, the project team may have used the following logs to facilitate their monitoring and control of the project:

- incident logs – to record the key incidents reported by the staff
- daily logs – to record the daily activities and work done by individual staff
- issue logs – to record the status of the resolution of all the issues raised by the stakeholders
- lesson logs – to summarise the lessons learnt by the project team.

The review team is advised to review these project logs to identify whether there are any issues that are worth further examination.

### *Focus group and interview*

Focus groups and interviews allow the review team to have a more in-depth discussion with stakeholders to identify the issues and solutions. The discussion would normally focus on what went right, what went wrong, and what can be improved. The hallmark of focus groups is the explicit use of the group interactions to generate ideas and insights. Interviews, on the other hand, are particularly appropriate in situations involving complex subject matters, high-status interviewees, and sensitive subject matters.

To begin, the review team can consider using the 3+3 survey, which asks the stakeholders to list three positive aspects and three negative aspects of the project. This helps the review team identify efficiently the areas which the stakeholders consider important.

The issues to be discussed with different stakeholders should be pitched at appropriate levels. Below are some suggested areas for discussion:

#### *With project sponsors*

- how well has the project met the business case objectives?
- how effective was the project delivery?
- are there any outstanding issues that need to be addressed?
- what are the learning points / improvement opportunities?

### *With project team*

- were there any problems / difficulties in project implementation? How were they resolved?
- are the project assumptions made in the business case still sound and valid? If not, how were they addressed?
- were there any unintended outcomes (both positive and negative) arising from the project?
- what are the reasons for the successes / failures? What should be done differently next time?
- are there any outstanding issues that need to be followed up?
- are there any factors outside the control of the project team that have affected the project outcomes?
- are there any further improvement areas?

### *With end users*

- does the project meet their needs?
- are the end users satisfied with the services provided? Why / why not?

### *On-site observation*

On-site observation is a method by which the review team can gather first hand data by observing the services provided at the point of delivery. It enables the review team to develop a more holistic perspective, i.e. an understanding of the context within which the services operate. It also allows the review team to learn more about issues that some stakeholders may be unaware of or that they are unwilling or unable to discuss openly. In some circumstances, on-site observation may be undertaken in the form of “mystery customer” so as to obtain the first-hand information.

### *Benchmarking*

Benchmarking is another way to identify problems and develop improvement measures. By comparing the performance data and the practices adopted in similar projects or industry / business standards, the areas which were “under” and/or “over” performing and the “best” practices can be identified.

## 5.2 Develop recommendations

Based on the issues identified, the review team can develop actionable recommendations with a view to bringing about future improvement. Recommendations should be specific as well as practical, and backed up by evidence. In general, the review team should:

- develop recommendations to rectify the problems identified, to realise benefits not fully met or to reap extra benefits. These may involve changes in project strategies, project plan, expansion / reduction of the project scope or even termination of the project
- consult relevant stakeholders and the potential users on the practicability of the recommendations
- develop an implementation plan
- generalise the lessons learnt for wider application to improve future projects. This may involve proposals to change policies and procedures.

## 5.3 Report findings

The review findings and recommendations should be reported to the senior management for consideration. A PIR report should be prepared to facilitate decision making and future reference. The report documents the effectiveness and efficiency of the project, the effectiveness of project management, lessons learnt, and best practices to be used in future projects.

The format and content of the PIR report need to be carefully considered to ensure that the report shows a good range of useful information in a concise and meaningful way. All key elements, costs and benefits (financial, economic and social) should be addressed in the report.

The content of a full PIR report could include the following:

- background of the project – what are the key drivers for implementing the projects? What are the project objectives?
- review objectives and scope

- formation of review team and the review methodology
- any limitations / obstacles in conducting the PIR
- achievement of project outcomes and reasons for variations
- performance of project management – does the project proceed as planned in terms of scope, cost, time and quality? If not, what are the reasons for deviations?
- implications for the current project and future projects - what are the lessons learnt from this project and how they should be addressed in future projects?

A template of a PIR report is at **Appendix 4**.

### 5.4 Implement changes and share findings

The results of a PIR are only meaningful when they are put into practice. Upon endorsement of the PIR report, the department should implement the recommendations and disseminate the lessons learnt.

Every effort should be made to ensure that the lessons identified are communicated and learnt so that the department can ride on its success and avoid making the same mistakes.

#### Example

A department has established the following mechanisms to disseminate the lessons learnt from the PIRs:

- organise de-briefing workshops to share PIRs' findings
- set up a knowledge base in its intranet to disseminate PIRs' findings

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# REFERENCES

Note: While some of the references quoted below focus on IT projects, the approaches used can also be applied to non-IT projects.

Department of Treasury and Finance, Government of Western Australia, Project Evaluation Guidelines (2002)

[http://www.dtf.wa.gov.au/cms/uploadedFiles/project\\_evaluation\\_guidelines\\_2002.pdf](http://www.dtf.wa.gov.au/cms/uploadedFiles/project_evaluation_guidelines_2002.pdf)

New South Wales Treasury, Australia, Post Implementation Review Guideline 2004

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[http://www.transport.qld.gov.au/Home/Projects\\_and\\_initiatives/Onq\\_project\\_management\\_methodology/Methodology/Generic\\_methodology/fp\\_post\\_implementation\\_review](http://www.transport.qld.gov.au/Home/Projects_and_initiatives/Onq_project_management_methodology/Methodology/Generic_methodology/fp_post_implementation_review)

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The National Science Foundation, U.S., User-Friendly Handbook for Project Evaluation (2002)

<http://www.nsf.gov/pubs/2002/nsf02057/start.htm>

Washington State Department of Information Services, U.S., Post Implementation Review

<http://www.isb.wa.gov/tools/pmframework/projectclosure/postimplementation.aspx>

# APPENDIX 1

## Impact Evaluation

Impact evaluation is defined by the World Bank as an assessment of the impact of a project on final outcomes. It assesses the changes that can be attributed to a particular project.

A key element in impact evaluation is identifying the “counterfactual”: What would have happened had the project not taken place? The most frequently used methods of identifying the counterfactual are:

### Randomised control trials (RCTs)

An RCT is a study that measures a project's effect by randomly assigning individuals (or other units, such as schools or hospitals) into a target group, which receives the services the project provided, and into a control group, which does not. After project implementation, measurements are taken to establish the difference between the target group and the control group. Because the control group simulates what would have happened if there were no project implementation, the difference in outcomes between the groups demonstrates that they are attributed to the project itself. However, this method may raise ethical concerns and requires a comparatively higher cost. Besides, it has to be planned before project implementation as the control group needs to be formed in advance.

### Quasi-experiments

Like RCTs, quasi-experiments assess the differences that result from a project and the result that would have happened without the project. However, the control group is not randomly assigned. Instead, it is designed on the basis of how to minimise any differences between the two groups (e.g. similar household incomes, social/education backgrounds). Use of this method may increase the risk of misleading results because of the difficulty in eliminating bias in the selection of control group.

The benefits and challenges of impact evaluation are well described by the World Bank Independent Evaluation Group ([www.worldbank.org/ieg/eccd/conduct\\_qual\\_impact\\_eval.html](http://www.worldbank.org/ieg/eccd/conduct_qual_impact_eval.html)).

## APPENDIX 2

### Typical data collection methods

METHODS	ADVANTAGES	DISADVANTAGES
Questionnaire survey (face-to-face, telephone, on-line, paper)	<ul style="list-style-type: none"> <li>• Good for gathering quantitative and descriptive data</li> <li>• Can cover a wide range of topics</li> </ul>	<ul style="list-style-type: none"> <li>• Tends to provide a “snapshot” of the position only</li> <li>• May not provide adequate information on context</li> <li>• Depends on the quality of the questions being asked</li> </ul>
Focus group	<ul style="list-style-type: none"> <li>• Group dynamics stimulates the thinking process of participants</li> <li>• Through participants’ interactions, information on specific topics is obtained from various viewpoints</li> <li>• Provide opportunity to explore topics in depth</li> </ul>	<ul style="list-style-type: none"> <li>• A few respondents may control the discussion</li> <li>• Need well-qualified, highly trained facilitators</li> <li>• May lose focus</li> <li>• May be difficult to transcribe the large volume of information</li> </ul>
Interview	<ul style="list-style-type: none"> <li>• Usually yield richest data, details and new insights</li> <li>• Provide opportunity to explore topics in depth</li> <li>• Allow interviewer to explain or help clarify questions, increasing the likelihood of useful responses</li> </ul>	<ul style="list-style-type: none"> <li>• Time-consuming</li> <li>• Need well-qualified, highly trained interviewers</li> </ul>
Document review	<ul style="list-style-type: none"> <li>• Inexpensive</li> <li>• Provide information on historical trends or sequences</li> </ul>	<ul style="list-style-type: none"> <li>• May be incomplete</li> <li>• Analysis may be time-consuming and access may be difficult</li> </ul>

# APPENDIX 3

## Techniques for identifying underlying issues

### Cause and effect diagram

#### *What is it?*

A cause and effect diagram is a tool used to identify the real causes of a given effect (or outcome). A typical cause-and-effect diagram shows the effect at the right and its main causes (or factors) along a horizontal axis. These main causes are in turn effects that have their subcauses, and so on, down many levels.

#### *How to use it?*

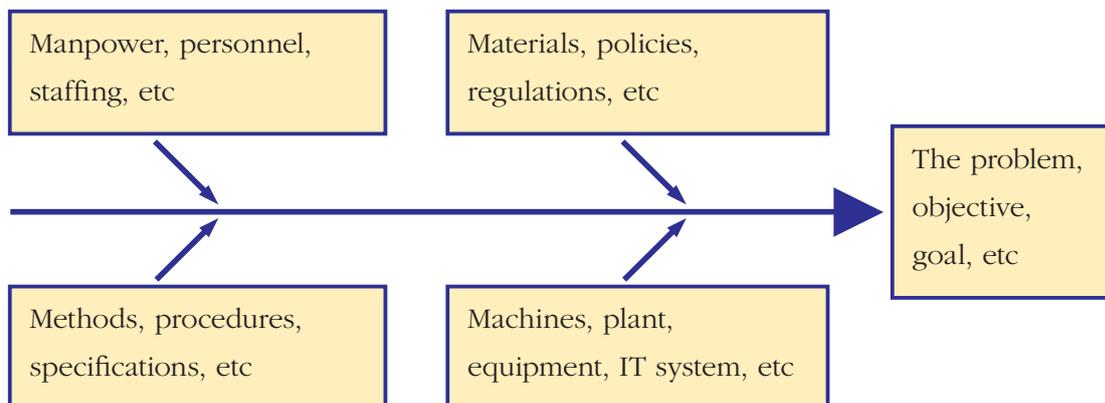
- (1) Specify the effect to be analysed

The effect can be positive (objectives) or negative (problems). Place it in a box on the right side of the diagram.



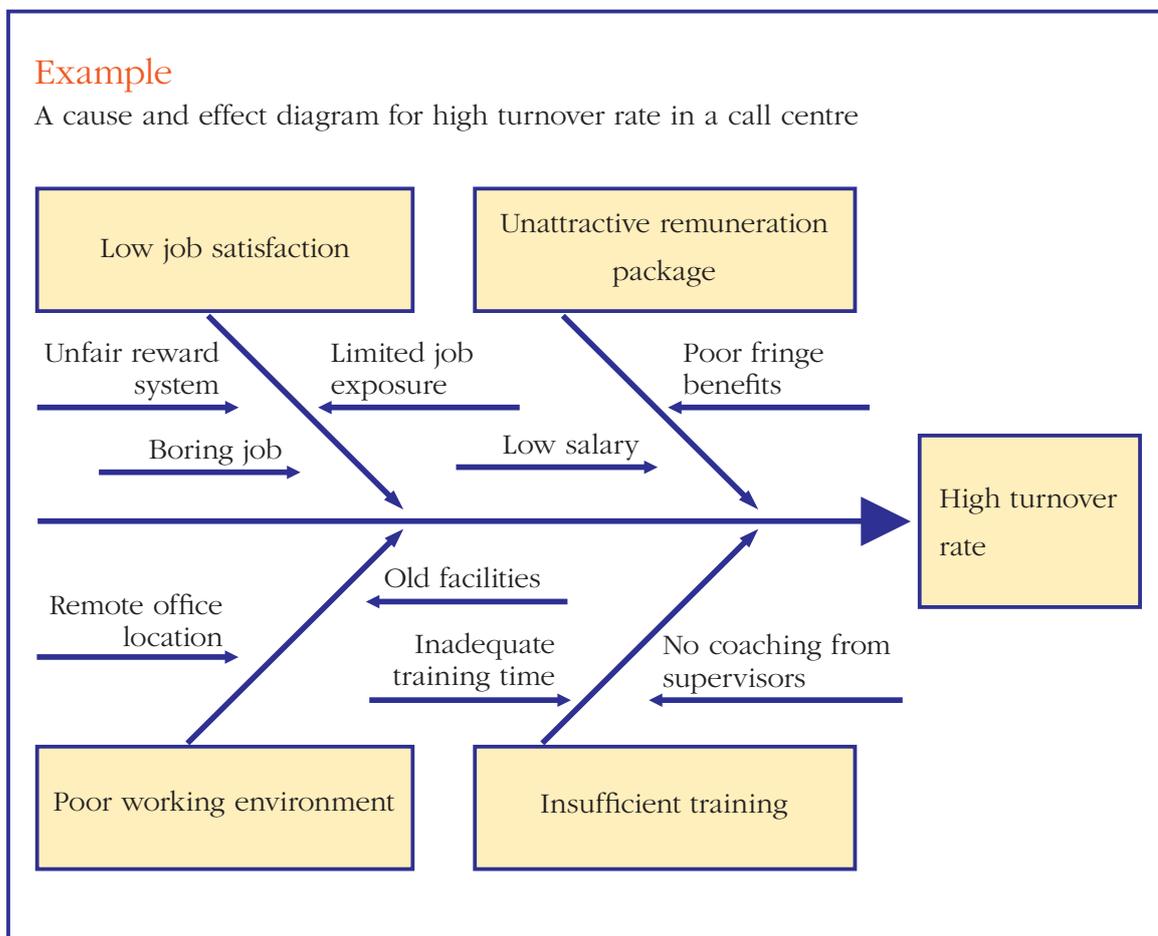
- (2) List the major categories of the causes that influence the effect being studied

The “4Ms” (methods, manpower, materials, machinery) or the “4Ps” (policies, procedures, people, plant) are commonly used as a starting point.



## (3) Identify causes and subcauses

Within each major category, identify the possible causes and subcauses.



## Interrelationship diagram

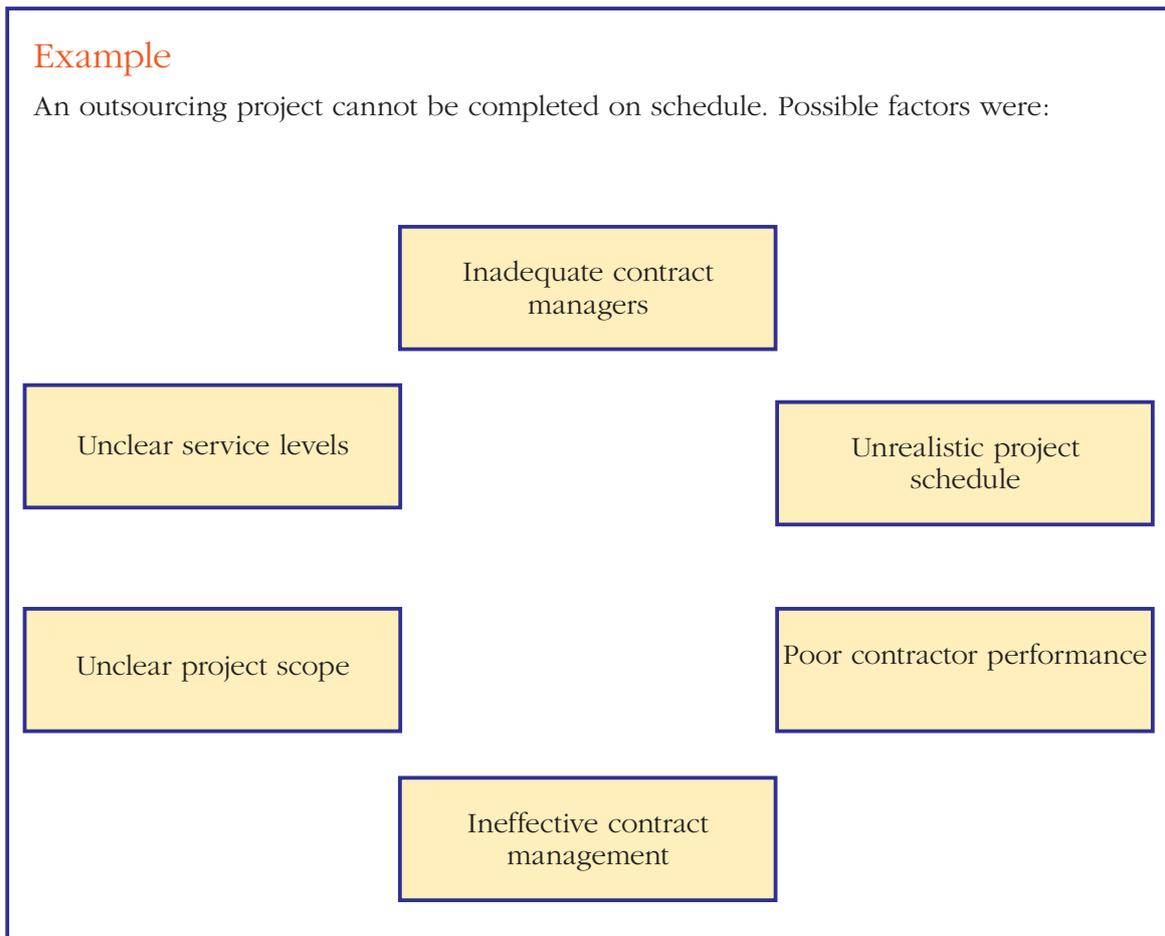
### *What is it?*

An interrelationship diagram is used to study the links and relationships between factors and identify which factor is the major cause. It is useful when there are a number of factors and you are unsure as to which factors have the most effect on the others.

As a process, an interrelationship diagram is often used after a number of factors have been identified through other tools such as brainstorming and cause-effect diagram.

### *How to use it?*

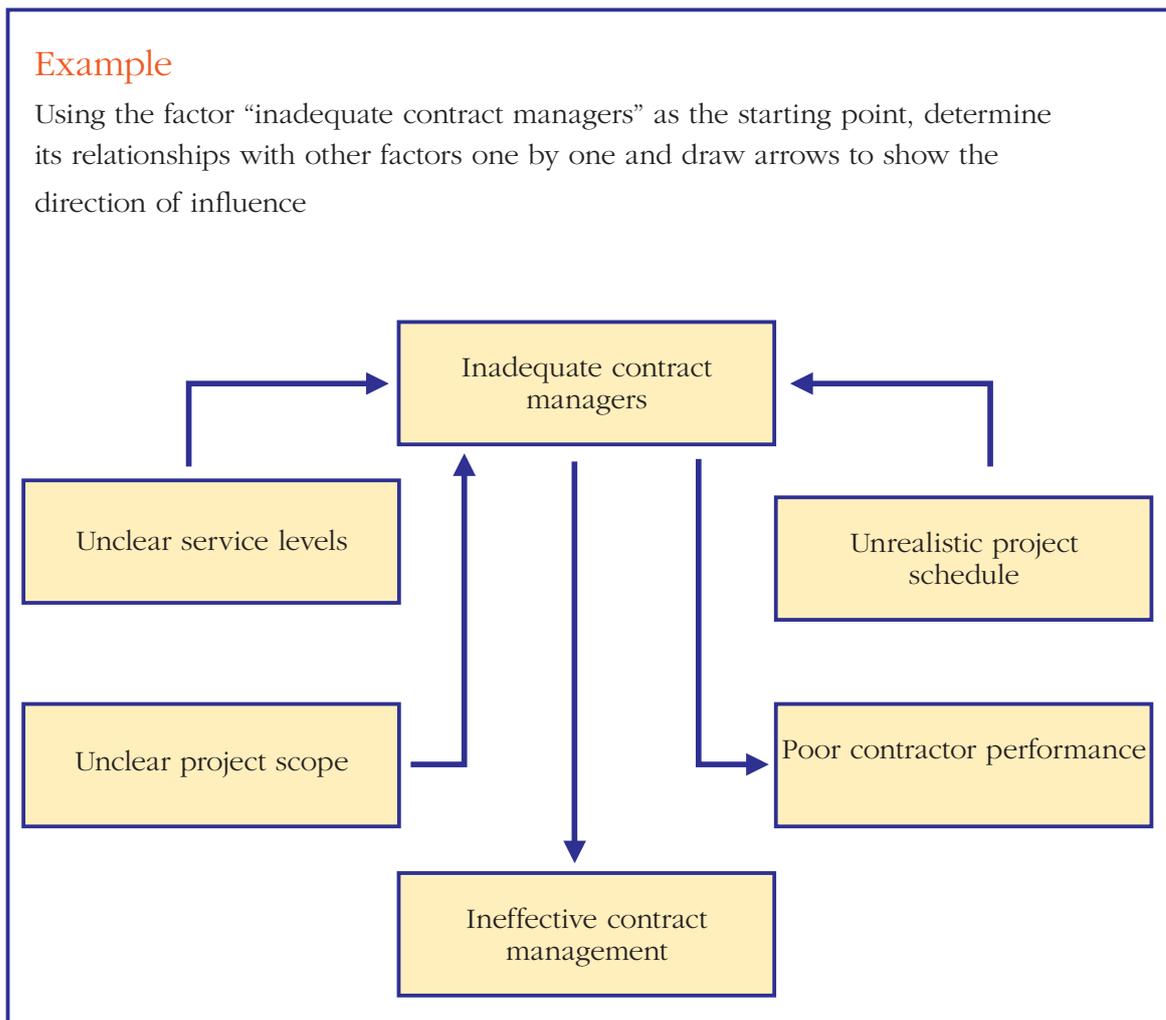
- (1) Arrange the factors in a circle



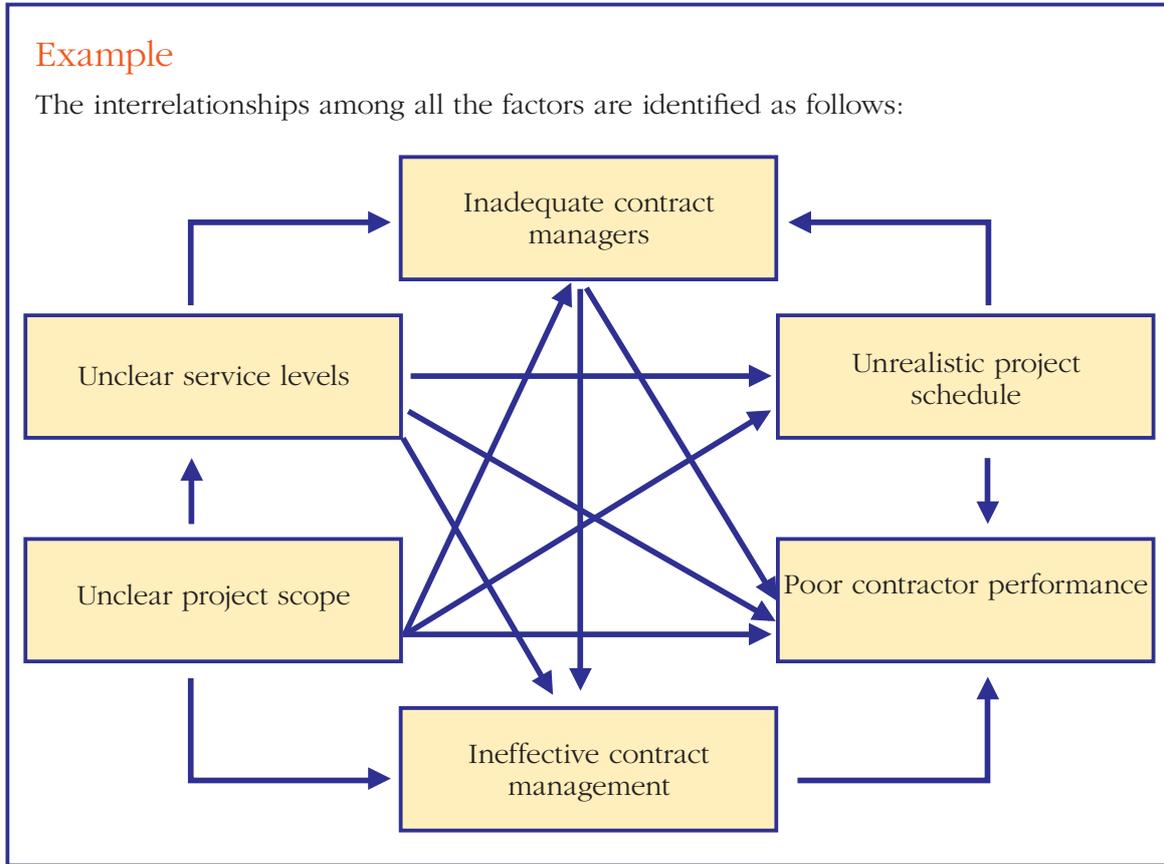
- (2) Identify cause-and-effect relationship and draw arrows to indicate directions of influence
- Using any factor as the starting point, systematically consider the relationship between each one by asking: Is there a relationship? If yes, then determine which one is the cause, and which one is the effect. For each relationship pair, draw an arrow from the cause to the effect. (Note: Never draw two-headed arrows. If they have influence on each other, determine which one has stronger influence)

### Example

Using the factor “inadequate contract managers” as the starting point, determine its relationships with other factors one by one and draw arrows to show the direction of influence



(3) Repeat step (2) in a clockwise direction until all the factors have been considered and arrows attached to show their relationships



(4) Tally influence arrows

For each factor, clearly record the number of arrows going in and going out.

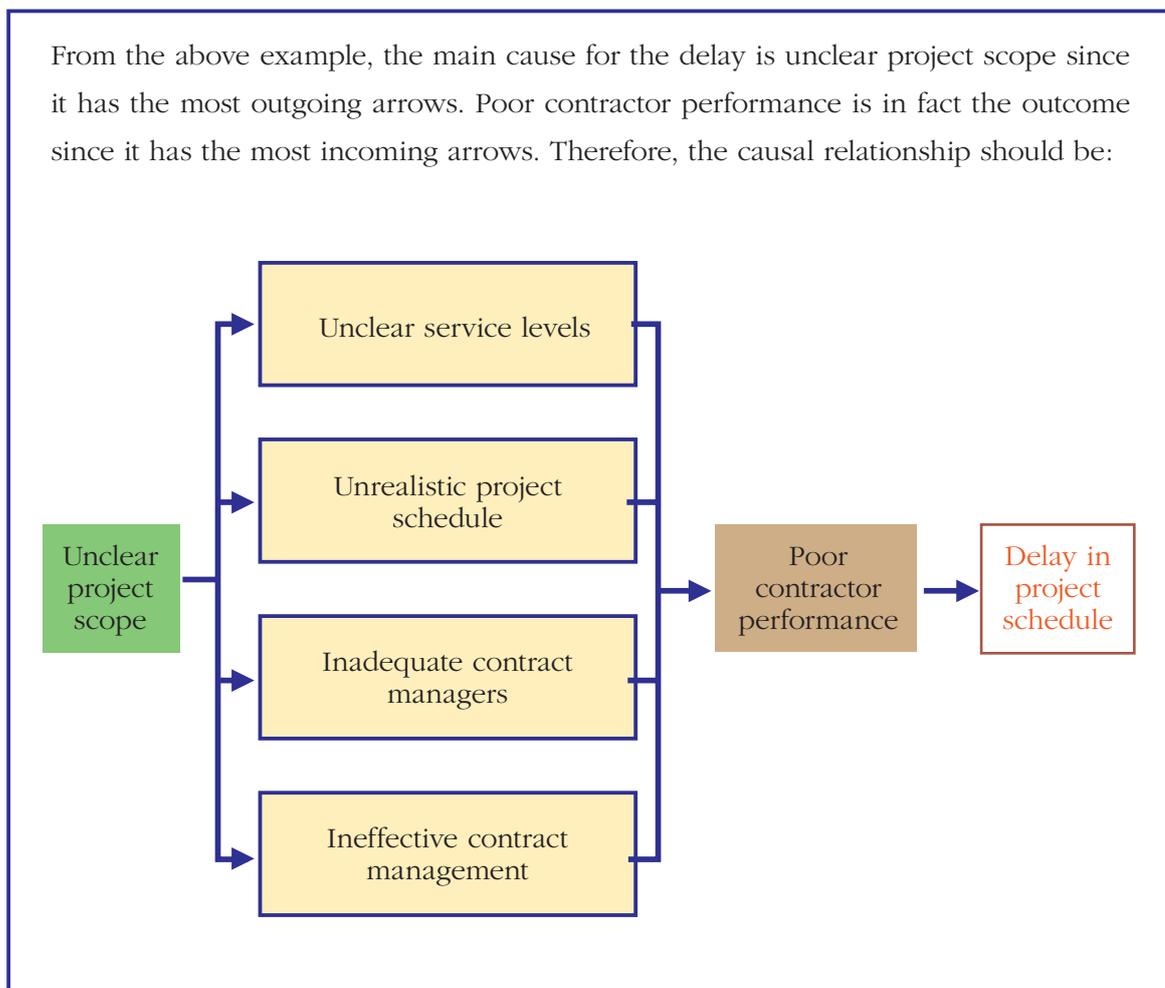
**Example**

Factors	No. of incoming arrows	No. of outgoing arrows
Inadequate contract managers	3	2
Unrealistic project schedule	2	2
Poor contractor performance	5	0
Ineffective contract management	3	1
Unclear project scope	0	5
Unclear service levels	1	4

## (5) Identify root cause and outcomes

A high number of outgoing arrows indicates that the factor concerned is a possible root cause. A high number of incoming arrows indicates that the factor concerned is an outcome. Knowing the root cause enables the review team to develop recommendations which can solve the problem at its source and bring the maximum improvement.

From the above example, the main cause for the delay is unclear project scope since it has the most outgoing arrows. Poor contractor performance is in fact the outcome since it has the most incoming arrows. Therefore, the causal relationship should be:



### 5 Whys

#### *What is it?*

The 5 Whys is a simple problem-solving technique that helps identify the root cause of a problem. It involves repeatedly asking the question "why" with a view to peeling away the layers of symptoms which can lead to the root cause of a problem. Although this technique is called "5 Whys", it may need to ask the question fewer or more than five times before the root cause to a problem can be identified.

Benefits of the 5 Whys:

- it helps determine the root cause of a problem quickly
- it is easy to learn and apply.

#### *How to use it?*

- Write down the problem
- Ask why the problem happens and write down the answer
- If the answer provided does not point to the root cause of the problem, keep asking "why" and write down the answer until the root cause is identified.

#### Example

Problem: A high percentage of applications for a business licence could not be processed.

- (1) Why could a large number of applications not be processed?  
The applicants did not submit the required documents.
- (2) Why did the applicants not submit the documents?  
The applicants did not know clearly what documents were required.
- (3) Why did the applicants not know what documents were required?  
The user guide to licensing was published five years ago and was already outdated.
- (4) Why was the user guide outdated?  
There is no review mechanism.

---

# APPENDIX 4

## PIR report template

### Contents

#### 1. Executive Summary

##### 1.1 Overall assessment

Provide an overview of whether the project is successful or not in terms of the extent of project achievements and the performance of project management.

##### 1.2 Lessons learnt

Provide a summary of what have to be done differently to rectify the shortcomings of the project under review and to improve the delivery of future projects.

##### 1.3 Follow-up actions

Provide a high level action plan to implement the recommendations.

#### 2. Background

##### 2.1 Project background

State the key drivers for implementing the project under review, its objectives, expected outcomes and deliverables, and the key stakeholders involved.

##### 2.2 Review objectives and scope of assessment

State what the PIR aimed to accomplish and the project areas examined in the review.

##### 2.3 Formation of review team

State the review team composition.

NAME	ROLES IN THE REVIEW TEAM	RELATIONSHIP WITH THE PROJECT
Name of the team member	State the role in the review team, e.g. review team leader, review team member, etc.	State the relationship with the project under review, for example, original project team member, independent third party, etc.

#### 2.4 Review methodology

Describe the review methodology, including the performance measures used to evaluate project performance. Describe the data collection approach.

The review team can use the following table to summarise the review methodology.

PROJECT OUTCOMES	PERFORMANCE MEASURES	DATA COLLECTION APPROACH
State the project outcomes to be measured	Short description of the performance measures used	State the data collection method

#### 2.5 Limitations and difficulties encountered (if any)

Discuss the limitations of the review methodology and difficulties encountered.

### 3. Assessment of Project Achievement

#### 3.1 Project outcomes

Describe whether the expected project outcomes are achieved or not and to what extent. State whether there are any unintended outcomes (positive and negative).

PROJECT OUTCOMES	ACHIEVEMENT	REASONS FOR DEVIATIONS
Project objectives	State the level of achievement	Explain the reasons for deviations
Benefits	State the benefits realised, including tangible and intangible benefits	-ditto-
User satisfaction	State the user feedback	-ditto-

### 3.2 Project management

Describe the project management performance.

ASPECTS	EXPECTED PERFORMANCE	ACTUAL PERFORMANCE	REASONS FOR DEVIATIONS
Scope	State the deliverables expected	State the actual outputs delivered	Explain the reasons for deviations
Cost	State the expected project expenditure and staff resources required	State the actual project expenditure and staff resources used	-ditto-
Time	State the expected project completion date (including for the key milestones)	State the actual project completion date (including for the key milestones)	-ditto-
Quality	State the expected quality standards	State the actual quality standards	-ditto-

## 4. Lessons Learnt and Recommendations

### 4.1 Lessons learnt

State the lessons learnt which may be used to improve future project delivery; distinguish between project-specific lessons and general lessons.

### 4.2 Recommendations

Describe the measures to rectify the problems identified, to realise benefits not fully delivered, to reap extra benefits, etc. Explain whether the existing policies and practices should be changed.

### 4.3 Action plan

Describe the action plan to implement the recommendations and disseminate the review findings.





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