



# Six Steps to Effective Evaluation

**A handbook for programme  
and project managers**

### **Attribution**

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## Six Steps to Effective Evaluation

### Introduction

The Joint Information Systems Committee (JISC) has been awarded additional funding of £81 million by the Higher Education Funding Council for England and Wales over the next three years (April 2006 – March 2009) and has launched a range of new programmes to support the work of the higher education and research community. Collectively this initiative is referred to as the Capital Programme<sup>1</sup>.

An overarching evaluation framework has been developed with the following terms of reference:

1. To consider the evaluation options for the capital programme and how the overall programme and its individual strands might be evaluated;
2. To devise a way to measure the benefits of each of the programme strands and the capital programme as a whole;
3. To develop and recommend an evaluation schema for the programme and its strands, incorporating both formative and summative evaluation, for consideration by the JISC Executive.

An evaluation schema for the programme and its strands has been produced, with recommendations for implementation which included the development of an evaluation handbook for programme managers. The primary purpose of this handbook is to outline an approach to evaluation that is applicable to all JISC development activity and relevant to both programme and project managers. The handbook is in two parts:

- Part 1 – a brief contextualisation in relation to JISC development activity and then the approach in detail
- Part 2 – an outline of the JISC approach to programme development and overview of the evaluation methodologies reviewed

### Part 1 – the Six Steps

#### Context

In recent years the JISC has introduced a robust approach to programme development and now uses the Managing Successful Programmes (MSP)<sup>2</sup> methodology from the UK Office of Government Commerce. The key focus of this approach is that programmes are initiated to realise benefits through change, whether to do things differently, to do different things, or to do things that will influence others to change. All of these situations apply to JISC's development activity. This emphasis on the benefits of change identified through intended outcomes is the primary link between MSP and the evaluation methodology outlined in this handbook.

Where possible links to the JISC Project Management Guidelines<sup>3</sup> have been made to assist clarity and understanding of the relationship between a project and its evaluation, and to avoid duplication of effort. For some evaluation is the ugly sister of development activity, a tedious aspect of the project plan that is glossed over and under resourced. Yet it can and should be viewed as an essential and important element to a well managed project that recognises the value of timeous insights into the project's progress and successful outcomes. In that sense it can be defined as any organised activity that helps draw out the value and prove the worth of development projects.

#### Intended Audience

This handbook may be useful for anyone engaged in development activities in the innovative use of ICT to support education and research. Specifically it is intended for managers of JISC

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<sup>1</sup> [http://www.jisc.ac.uk/whatwedo/programmes/programme\\_capital.aspx](http://www.jisc.ac.uk/whatwedo/programmes/programme_capital.aspx)

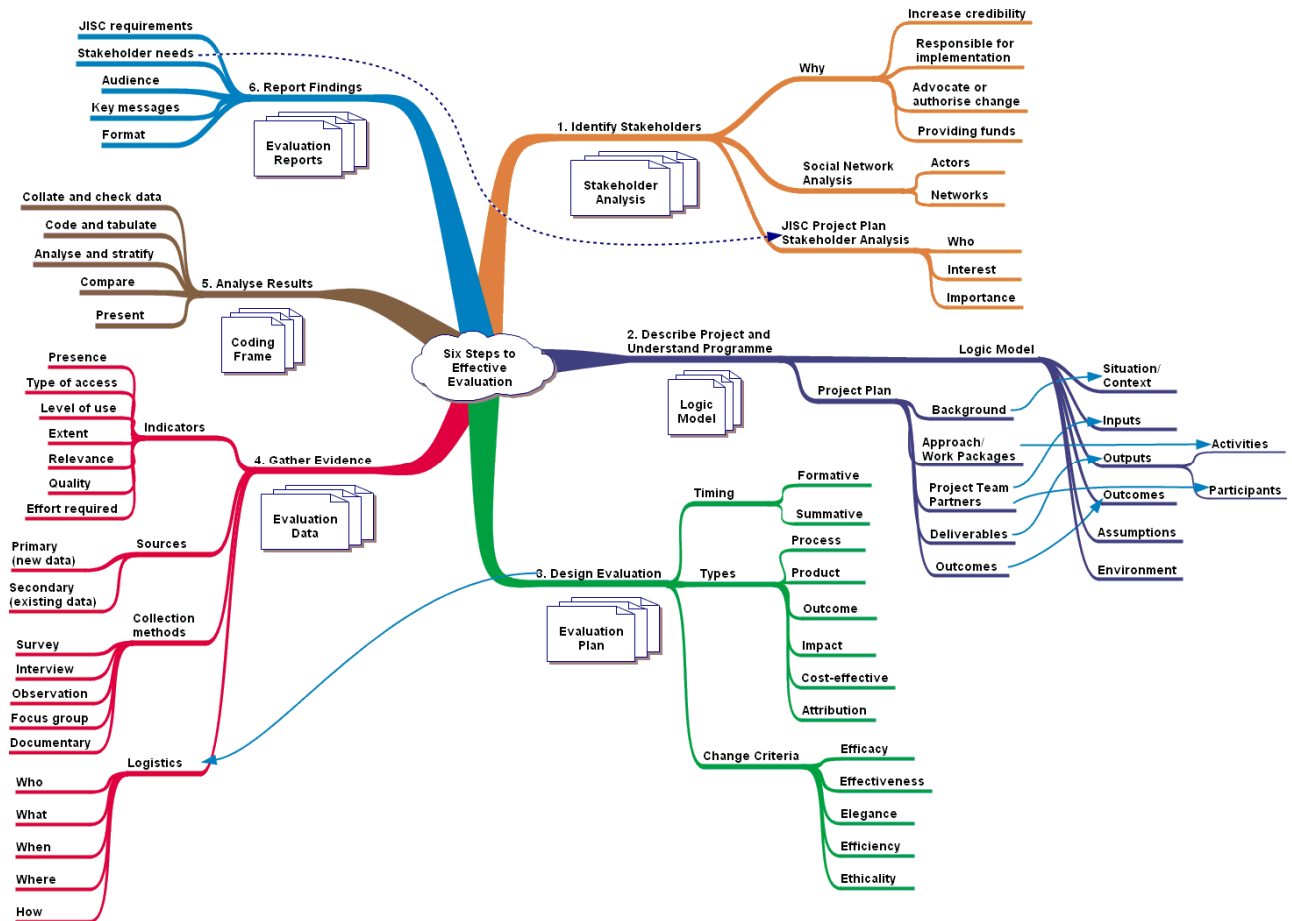
<sup>2</sup> [http://www.ogc.gov.uk/delivery\\_lifecycle\\_overview\\_of\\_managing\\_successful\\_programmes\\_msp\\_.asp](http://www.ogc.gov.uk/delivery_lifecycle_overview_of_managing_successful_programmes_msp_.asp)

<sup>3</sup> [http://www.jisc.ac.uk/fundingopportunities/proj\\_manguide.aspx](http://www.jisc.ac.uk/fundingopportunities/proj_manguide.aspx)

development programmes and prospective and successful project teams who want to design evaluation into their initiatives.

### The Six Steps Approach

The approach to evaluation outlined here draws on many sources that are described in more detail in Part 2. The sequence and key tasks are based on those recommended by the Joint Committee on Standards for Educational Evaluation<sup>4</sup> and utilised by the US Centers for Disease Control and Prevention in their evaluation framework<sup>5</sup>. Contextualised and modified for JISC development activities the following diagram illustrates what we have called the Six Steps to Effective Evaluation:



These six steps form the basis for the design and implementation of evaluation activity. Projects have very different evaluation requirements which will determine the type of evaluation undertaken. We recommend including the first three steps at the project plan stage as this avoids having to do similar thinking twice and duplication of effort for team members. More importantly the relationship between the project, the development programme and evaluation can be better understood, planned and owned.

Appended to this handbook are templates for logic modelling, evaluation plans, coding frames and evaluation reports. These are intended as a guide and are not meant to be prescriptive but are also suitable for use in earnest.

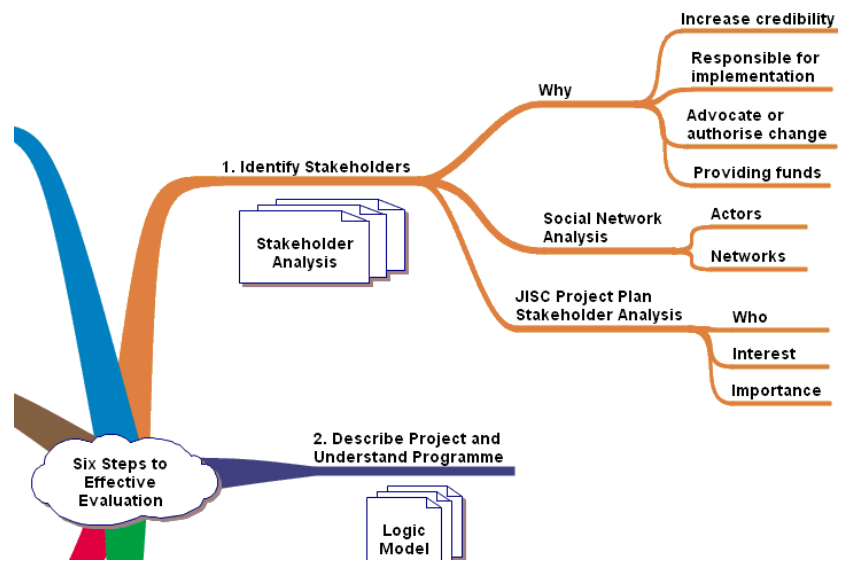
Finally, for those who like a 'to do' approach there is a checklist at Appendix A of the key steps, tasks and outputs to produce.

<sup>4</sup> <http://www.wmich.edu/evalctr/jc/>

<sup>5</sup> <http://www.cdc.gov/eval/framework.htm>

## Step 1 – Identify Stakeholders

This first step has a close relationship with the stakeholder section of the JISC Project Plan. Before you complete that section there are two other aspects of stakeholder analysis that are worth considering as they may help you to focus and clarify your choices. The first is related to understanding the importance of particular stakeholders – why them? The second aspect is about the relationship between the development community and the rest of the sector.



### Why

Sometimes the key stakeholders of evaluations are categorised into three groups:

- those who are involved – project teams
- those who are affected – intended beneficiaries
- those who use evaluation findings – development agencies and funding bodies

These groupings are not mutually exclusive as, for example, the primary users of evaluation findings are likely to be the project teams. But if we want to ensure that broad consideration has been given to the identification of stakeholders you may want to give priority to those stakeholders who:

- can increase the credibility of the evaluation
- have responsibility for the implementation of the activities that will be affected by the outcomes of your project
- will advocate or authorise changes that the evaluation may recommend
- will fund or authorise the continuation of the project

Smaller projects may not have the resource or capacity to address all of these factors and some may also be less relevant but they are all worthy of initial consideration.

To assist with stakeholder engagement and commitment it may be worth asking the following questions as part of the initial stakeholder analysis:

- What interests you about this project?
- What is important to you about this project?
- What would you like this project to achieve?
- What are the essential evaluation questions for you?
- How will you use the results of the evaluation?
- What resources (for example time, evaluation expertise, access to respondents and policymakers) might you contribute to this evaluation effort?

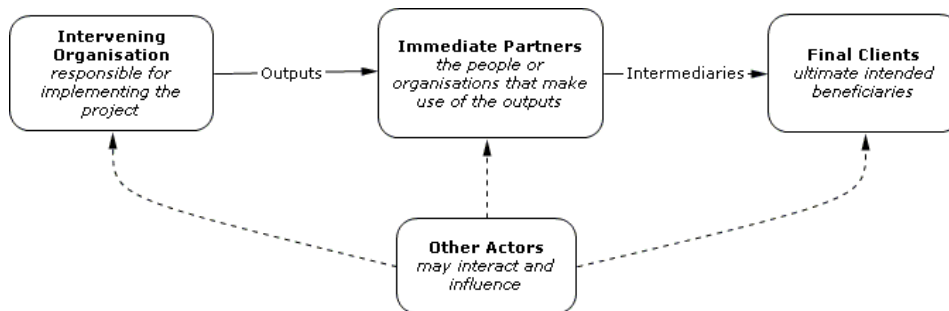
### Social Network Analysis

Social network analysis is derived from a theory that views social relationships in terms of nodes and ties. Nodes are the actors (individuals or organisations) within networks (social structures) and ties are the relationships between the actors. In evaluation terms it can be useful to

consider the actors involved and the boundaries between their networks<sup>6</sup>. For example, actors can be categorised as follows:

- Intervening Organisation – responsible for implementing the project
- Immediate Partners – the people or organisations that make use of the outputs of the *Intervening Organisation*
- Intermediaries – provide indirect link between *Final Clients* and other organisations and/or people
- Final Clients – ultimate intended beneficiaries of the *Intervening Organisation's* activities
- Other Actors – may interact with and influence the *Intervening Organisation, Immediate Partners* and *Final Clients*

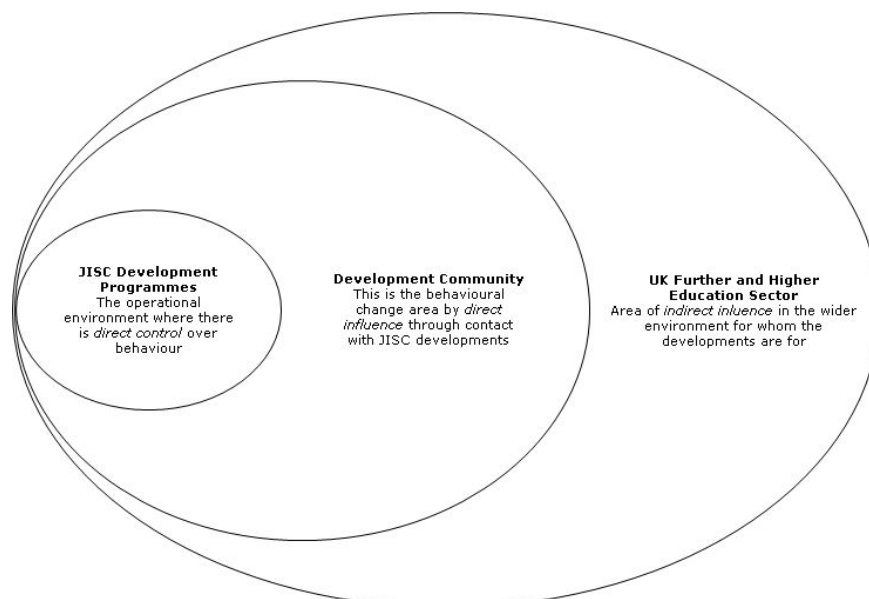
Perhaps clearer if viewed:



By taking a network view of these actors the boundary aspect can be recognised:

- Internal Network – within the intervening organisation  
Focus on relationships between members within the organisation. It can also focus on the relationships between on budget inputs, activities, outputs and objectives within that organisation.
- Boundary Network – between the intervening organisation and its immediate partners  
Focus on the nature of the relationships between an organisation and the external actors it is interacting with.
- Outer Network – beyond the intervening organisation and its immediate partners  
Including any intermediaries, final clients and other actors the intervening organisation is not in contact with.

The boundary relationship between JISC development programmes, the development community and the sector is shown in this diagram:



<sup>6</sup> <http://www.mande.co.uk/docs/MMA.htm>

In social network analysis terms boundary partners are those within one ‘degree’ of the intervening organisation and those in the outer network are considered to be two or more degrees. A single degree is a direct link between one person and another, that is a measure of social distance. By contrast, ‘social networking’ can refer to a category of internet applications to help connect individuals using a variety of tools. The potential of these tools for evaluation has yet to be fully realised.

**JISC Project Plan Stakeholder Analysis**

You should now be in a position to complete or review section 6 of the JISC Project Plan template which is reproduced below:

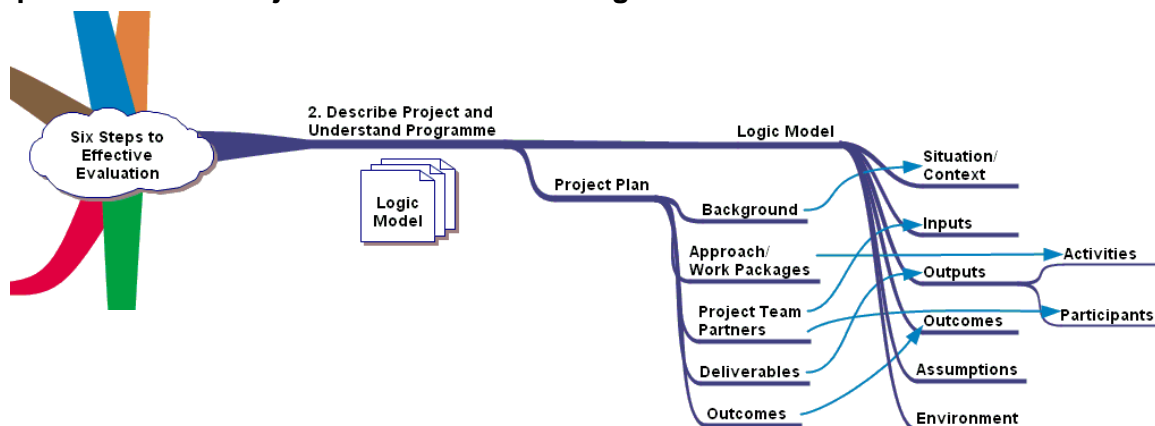
**6. Stakeholder Analysis**

*List key stakeholder groups and individuals that will be interested in your project outcomes, will be affected by them, or whose support/approval is essential, both within your institution and in the community, and assess their importance (low/medium/high).*

| Stakeholder | Interest / stake | Importance |
|-------------|------------------|------------|
|             |                  |            |
|             |                  |            |
|             |                  |            |

You may find it helpful to categorise stakeholders in the ways described above and include any information you have gathered from them regarding their specific interest in the project and its evaluation.

**Step 2 – Describe Project and Understand Programme**



The process of producing a project plan using the JISC Project Management Guidelines and template is an essential exercise in understanding and focusing the proposed project. It is a transition phase from the aspirations outlined in the project bid to the realities of a live, funded project. As such it is an important opportunity to develop a shared and collaborative understanding of the design of the intended initiative. However, pragmatism can sometimes dictate that it a solitary exercise undertaken by the project manager.

The effort invested in developing a comprehensive and realistic project plan will be realised throughout the project and the team can embark on the interesting stuff – the actual project. Stage 2 in the evaluation process is to recognise the project for what it really is in preparation for the next stage of evaluation design. Much of the effort of this stage will occur through the project planning process but the opportunity for some collaborative team building should be taken if at all possible.

This stage is about understanding the logic implicit in the project proposal and draft plan by developing a plausible model of how the project is supposed to work – its inherent design. It is also an opportunity to understand the relationship between a project and its programme and to check that there is a clear relationship between programme and project objectives. As you

progress through these sections keep a scratch note of any new areas for consideration including elements that will be important to the project and its evaluation but that might not be detailed in the project plan.

### **Project Plan**

Four sections of the project plan template are relevant to this stage:

#### **1. Background**

*Summarise the background to the project (and how it builds on previous work) and the need for it (and why it's important).*

A brief chronology of previous work including what was achieved and what is outstanding, and justification for the current project will help to contextualise the work for the team. It may also be an opportunity to identify any assumptions that are being made such as:

- the availability of resources and people
- how the project will operate
- those who may need to participate

#### **2. Aims and Objectives**

*List the broad aim or purpose of the project, and the specific objectives you intend to achieve.*

#### **3. Overall Approach**

*Describe the overall approach you will take to achieve the objectives outlined above, including:*

- *Strategy and/or methodology and how the work will be structured*
- *Important issues to be addressed, e.g. interoperability*
- *Scope and boundaries of the work, including any issues that will not be covered.*
- *Critical success factors.*

#### **15. Workpackages**

*Use the workpackages template to plan the detailed project work and attach as Appendix B. Clearly indicate project deliverables and reports (in **bold**), when they are due, phasing of workpackages, and explain any dependencies. You may also attach a Gantt chart, diagram, or flowchart to illustrate phasing.*

The heart of the project lies in these three sections and from them the evaluation plan can be drawn. Agreement at an early stage within the project team about the approach to be used, where the boundaries are and the criteria for success will help to guard against project drift and confusion at later stages. The workpackages template provides the details of key activities and other tangible outputs or deliverables in the project.

#### **11. Project Partners**

*List all project partners (including subcontractors), their roles, and the main contact. Indicate the date a consortium agreement was signed (or will be signed), and send a copy to the programme manager.*

#### **12. Project Management**

*Briefly describe the project management framework, including organisation, reporting relationships, decision process, and the role of any local management committee.*

*List all members of the project team, their roles, and contact details. Indicate the proportion of time the project manager will spend on project management.*

These two sections identify the project participants ranging from those in the project team involved on a daily basis to others who will have a less frequent but no less important

engagement. An important group who are not identified in these sections are the people who will actually be affected by the project or engaged through its activities. For example these could be staff groups, students or other beneficiaries of the initiative.

### 5. Project Outcomes

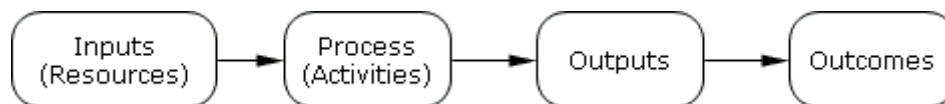
List the outcomes you envisage, including their impact on the teaching, learning, or research communities, and what change they will stimulate or enable.

The outcomes of a project are the changes in behaviour or state that you are trying to achieve. It may be helpful to consider outcomes in terms of their impact over time:

|         | Immediate Outcomes  | Intermediate Outcomes   | Final Outcomes                               |
|---------|---|---|--|
|         | Short Term  | Medium Term   | Longer Term                                  |
| Focus   | Learning  | Action  | Conditions                                   |
| Results | Awareness<br>Knowledge<br>Attitudes<br>Skills<br>Opinions<br>Aspirations<br>Motivations | Behaviour<br>Practice<br>Decision-making<br>Policies<br>Social action | Social<br>Economic<br>Civic<br>Environmental |

### Logic Model

Having looked at the project plan sections most relevant to evaluation we can now look at how logic modelling helps to explore the relationship between a project’s activities and its intended outcomes. This can be achieved by producing a ‘logic model’ or pictorial representation of the input – process – output sequence in project:



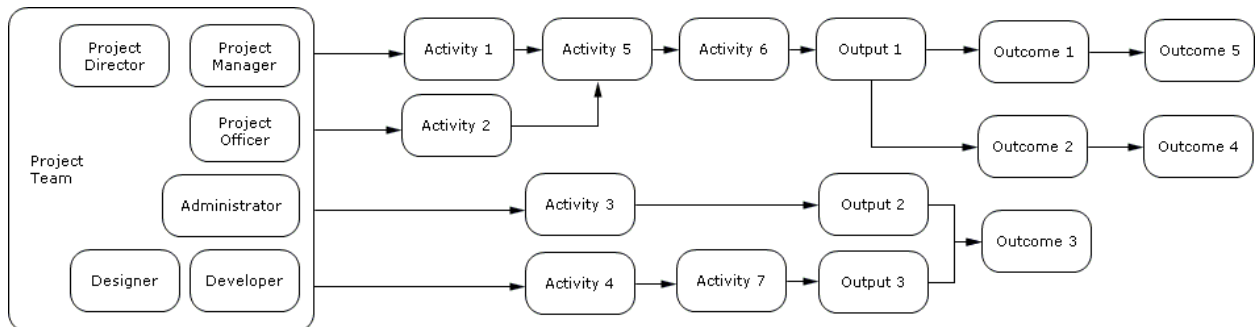
The theory implied in the model is a chain of reasoning that *if you have certain resources then you can undertake your planned activities and if you accomplish your planned activities then participants may benefit and if these benefits are achieved then certain changes might be expected to happen.* The sequence reveals a series of conditional statements that are related through the development project or programme. The logic model helps those involved in the development activity and its stakeholders understand the sequence of related events that connect the planned activity with the desired results.

A logic model can be developed in various ways, for example by working forward from inputs to outputs and outcomes. Alternatively a reverse approach can be used starting with the intended outcomes. This is perhaps more useful for development projects where there may be clarity about the desired big changes but little detail about the intervening steps. There is a technique, the ‘History of the Future’, that can help surface the implicit theory of change about a project or programme that has been used in earlier JISC development programmes. This approach can help to identify assumptions that are being made by team members but may not have been aired, and it also facilitates consensus building in the team. It is particularly useful where only one or two people have been involved in the initial project development stages and then others have joined when the project starts in earnest. The exercise and template are available at Appendix B.

An alternative approach is to complete the template document at Appendix C that helps you to organise the relevant details for your project into a logical sequence. Most of the information you need will be in the project plan and its workpackages. The key elements are summarised in the following table:

| Resources   | Early Activities   | Later Activities  | Outputs  | Early Outcomes   | Later Outcomes  |
|---|--|---|--|--|---|
| <i>People, funds, equipment, organisational aspects</i> | <i>We need to undertake these activities (surveys, workshops, installations etc) first</i> | <i>Because these activities are dependent on early activities</i> | <i>Direct, measurable results of activities – numbers attending, new service etc</i> | <i>The initial changes resulting from the activities and outputs</i> | <i>Changes that may only occur over the longer term such as after the project have finished</i> |
| ...   | ...  | ...   | ...  | ...  | ...   |

A further refinement of the logic model is to produce a diagrammatic version. This may help clarity and aid dissemination but it is not necessary if you and your team are comfortable with a table but to give you an idea here is an example:



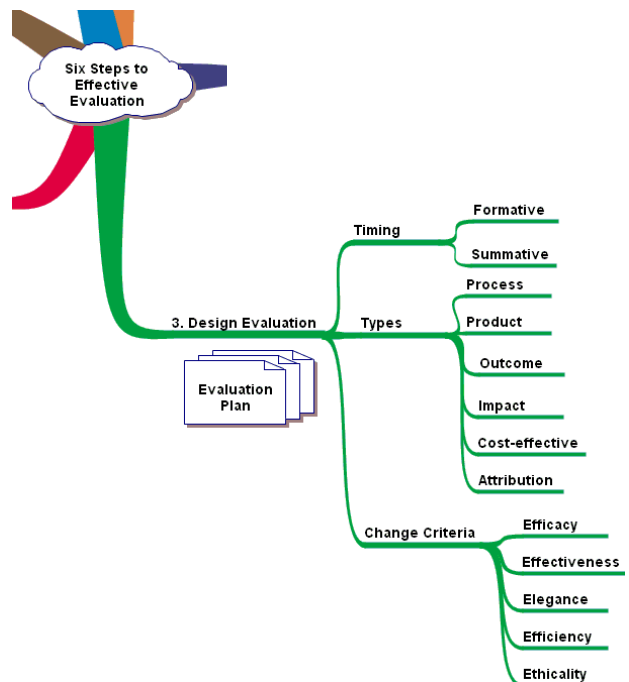
### Step 3 – Design Evaluation

By this stage you and your team should have a clear understanding of your project and reached a consensus with the stakeholders. But if you haven't, don't worry. Evaluation in reality is inevitably an iterative process and it normally takes more than one pass through the steps to cover all of the essential tasks. The logic model approach implies an ordered, linear sequence. But the real world is not like that and something is learnt from the experience of each activity or project task. This knowledge needs to feed back into the project and its processes. It is safe to assume that the entire project does not need to be evaluated. Focusing on specific areas for evaluation and selecting appropriate criteria will yield more effective and useful results.

This section is about a series of choices that the team need to make. These choices are sometimes left to external evaluators but even if you do intend to make use of third parties, you are more likely to have answers to your key evaluation questions if choices regarding its implementation have been informed by an understanding of evaluation design.

#### Timing

The timing and duration of the evaluation will in part depend on other factors such as availability of funding and staff but primarily it should take place when it will be most effective.



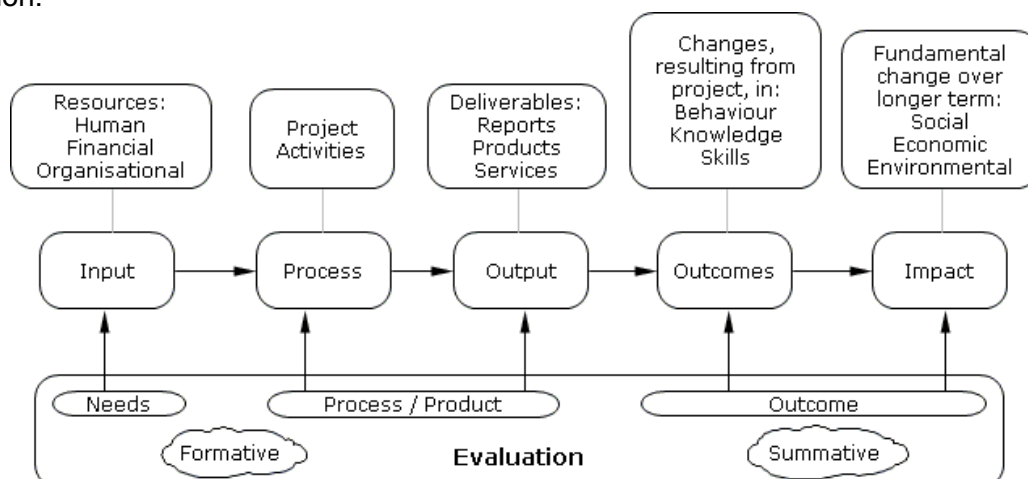
Conventionally it is often assumed that evaluation is undertaken towards the end of a project to *prove* something. But it can be done from the start or during a project to *improve* what is being done. The terms used to distinguish between the two are summative for the former, to prove, and formative for the latter, to improve. Evaluation studies can also be commissioned to start immediately after a project has finished and these are also summative. Further reviews, normally from six months to two years after the project has ended, are impact studies.

Development projects benefit from a balance between some formative aspects with summative elements to establish the worth of what has been achieved. Some projects end in failure, as in they do not achieve what was planned. Formative evaluation offers some protection against failure and it should certainly provide evidence about why it happened. Equally, exploratory projects may discover that a promising product or process is in fact unsuitable and this needs to be evidenced as much as success.

### Types

The generic goal of most evaluations is to provide useful feedback to a variety of audiences including development agencies, funding bodies and relevant communities. Feedback is perceived as useful if it aids in decision-making for further and future development activity. In broad terms, evaluation is sometimes categorised into three types: process, outcome and impact.

This diagram illustrates the relationship between the logic model and different types of evaluation:



The questions in the following table may help to focus the type of evaluation required:

| Evaluation Type                     | Suggested questions   |
|-------------------------------------|---|
| Process including Product and Needs | Does it work?<br>Is resource use minimised?<br>Does it attain longer term goals?<br>Is it pleasing to use?<br>Are there any ethical/legal/safety issues for those who are involved?<br>To what extent are the desired changes occurring? For whom?<br>What are the potential barriers/facilitators?<br>What is most appropriate development activity? |
| Outcome                             | What are the desired changes in behaviour or state?<br>To what extent are these changes occurring?<br>Are the changes effective?<br>To what extent are desired changes occurring? For whom?   |
| Impact                              | What are the unintended outcomes?<br>To what extent have the intended benefits been achieved?<br>What is the overall effect of the development activity?<br>What are the cost benefits?<br>What is the cost effectiveness of the development activity?  |

A typology of project types was developed as part of the evaluation framework for the JISC Capital Programme<sup>7</sup>. It shows a variety of project types and illustrates the relationship between key word attributes and the identification of evaluation type:

| Type of project | Context (theme)  | Attributes/key words  | Type of evaluation      |
|-----------------|--|---|-------------------------|
| Discovery       | Discovery to Delivery<br>Shared infrastructure                                   | Explore, define, develop solutions, investigation, lessons learned, new work  | Process<br>Outcome      |
| Models          | Domain and technical model development   | Exemplars, e-portfolios, e-assessment, PLEs   | Outcome                 |
| Support         | Repositories support<br>Digital preservation                                     | Sustainable e-resources, help and advice, skills, guidelines, define and support organisational roles and responsibilities  | Process<br>Outcome      |
| Tools           | Tools and Innovations,<br>Identity management<br>e-Administration                | Test beds, platforms, transport, applications<br>Build and develop, innovation, ease of use, unambiguous, integration<br>Ingest, migration, preservation, visualisation, personalisation, folksonomies, web-service enabled                   | Product<br>Cost/benefit |
| Demonstrator    | Demonstration, scenarios<br>Knowledge organisation<br>Domain model demonstrators | Demonstrations of technologies in specific contexts, social computing, folksonomies, personalised computing, web mining   | Outcome                 |
| Implementation  | Use in context, embedding<br>Enhancing HE in FE<br>Institutional implementation  | Use of e-learning technologies, e-portfolios, e-assessment, PLEs, adoption of e-Framework technologies<br>Increase repository use, improve effectiveness  | Process<br>Outcome      |
| Large scale     | Digitisation<br>SuperJanet 5   | Large scale, small number<br>Provision of new and sustainable e-resources   | Product<br>Cost/benefit |
| Collaborative   | Regional and collaborative   | Cross-institutional, cross-sectoral, support lifelong learning, progression, workplace learning, flexible delivery, personalised learning<br>Working with sector partners<br>Next generation environments for learning, teaching and research | Process<br>Outcome      |

One aspect of evaluation that can be particularly difficult to address is that of attribution. Can the outcomes that are being produced be shown to be related to the project as opposed to other things that are going on at the same time? Accurate attribution becomes increasingly difficult

<sup>7</sup> [http://www.jisc.ac.uk/whatwedo/programmes/programme\\_capital.aspx](http://www.jisc.ac.uk/whatwedo/programmes/programme_capital.aspx)

post project and it is therefore important to ensure that it is addressed within the lifetime of the project when there is a specific focus on the development area.

### **Change Criteria**

Having decided on the appropriate type of evaluation required and considered some evaluation questions following those suggested above, you need to decide what you want to know and how you will know it. To help focus on what you might specifically want to know, there are some criteria, that have come from the systems thinking and methodologies tradition<sup>8</sup>, that might help you. They are known as the five Es:

- Efficacy – does it work?
- Efficiency – is resource use minimised?
- Elegance – is the performance aesthetically pleasing?
- Effectiveness – does it attain longer term goals?
- Ethicality – is it a moral thing to do?

The first three criteria apply more to process oriented evaluation while effectiveness suggests sustainable change. The last element, ethicality, is an aspect that might at first appear odd in this context. However, topics ranging from legal issues such as copyright, IPR and accessibility to the appropriateness of real learners as subjects would all fit with this element. For most projects, as a general rule, four to six evaluation questions should cover the key aspects that you might want to evaluate. Refer to the earlier tables for examples and rephrase suitable questions in the context of your project.

### **Evaluation Plan**

The JISC project plan template includes a section for an evaluation plan. This is helpful in the context of the project plan but the relationship between the headings and the approach outlined here may not be obvious. In addition, the next stage in the process highlights the logistical detail of the evaluation activity. The suggested approach is to view the evaluation section in the project plan as a summary overview of your intentions and to produce a more detailed evaluation plan.

#### **16. Evaluation Plan**

*Indicate how you will evaluate the quality of the project outputs and the success of the project. List the factors you plan to evaluate, questions the evaluation will answer, methods you will use, and how success will be measured. Expand as appropriate on how you will conduct the evaluation.*

| <b>Timing</b> | <b>Factor to Evaluate</b> | <b>Questions to Address</b> | <b>Method(s)</b> | <b>Measure of Success</b> |
|---------------|---------------------------|-----------------------------|------------------|---------------------------|
|               |                           |                             |                  |                           |

The evaluation section can be interpreted as follows:

- Timing – when you anticipate this happening (for some factors that may be after the funded project has finished)
- Factor to Evaluate – the key aspect of each objective that will need to be evaluated
- Questions to Address – one or more questions based on the five Es
- Method(s) – in broad terms how the evidence will be gathered (survey, interview, focus group etc)
- Measure of Success – these should be indicators that provide the evidence that something has been achieved

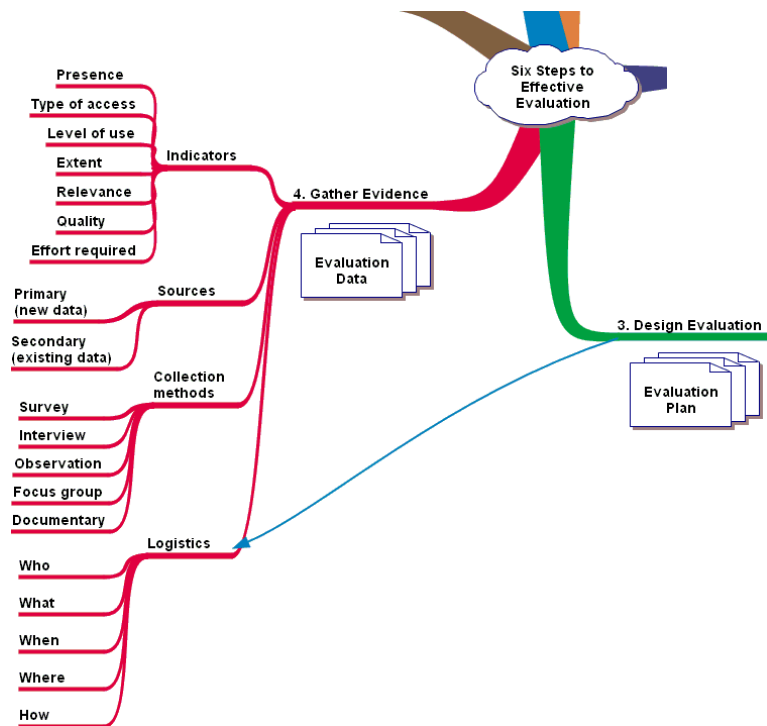
The next step outlines in more detail the use of indicators as a basis for evidence gathering. An alternative, acceptable structure for an evaluation plan (see Appendix D) is:

| <b>Evaluation Questions</b>      | <b>Indicators</b>         | <b>Baseline</b>                                     | <b>Source of information</b>            | <b>Collection method</b>              | <b>Schedule</b>                                  |
|----------------------------------|---------------------------|---|---|---------------------------------------|--|
| <i>What do you want to know?</i> | <i>How will you know?</i> | <i>What is the situation prior to any activity?</i> | <i>Where can this data be obtained?</i> | <i>How will the data be gathered?</i> | <i>When, where and who will gather the data?</i> |

<sup>8</sup> See Checkland, P. and Scholes, J. (1999), *Soft Systems Methodology in Action*, Chichester: Wiley

## Step 4 – Gather Evidence

This step is about the practical details of gathering evidence to improve your project and prove its value to the stakeholders. One aspect that you may want to consider prior to identifying suitable indicators and choosing collection methods, is the difference between quantitative and qualitative methods. Most evaluations deal to some extent with quantitative information – things that can be counted but the assumption is often made that qualitative information can not be measured. In reality numerical techniques can be essential to the interpretation of qualitative data. Some stakeholders such as senior managers have a preference for summarised, quantified results.



### Indicators

The key challenge in developing an evaluation plan lies in the identification of appropriate indicators or evidence that an outcome has been achieved and the evaluation question is therefore answered. Multiple indicators for individual outcomes may be required to achieve sufficient spread or depth for a satisfactory and credible answer. Indicators need to be culturally appropriate and can be quantitative or qualitative.

The basic model inherent in any development activity is the transformation of inputs into outputs through some activities or change process. Recognising different types of change can help to identify indicators. The following are all examples of types of change:

- *Presence* of something (the number of something)
- *Type of access* to an innovation or new service (is the situation better or worse)
- *Level of use* (the frequency which something is used)
- *Extent* of activity or coverage (numbers involved in the use of something)
- *Relevance* of the innovation (does the innovation resolve the underlying issue)
- *Quality* of the innovation (how well the change is done)
- *Effort required* to achieve change (how hard is it to make the change)

Indicators need to be:

- clear – is it specific and is ambiguity avoided?
- understandable – does it make sense to the stakeholders?
- reliable – will it provide accurate data?
- available – will it be there when you want to collect it?
- useful – is it relevant, does it help understanding?
- credible – is the result believable by all?

Sometimes direct measures may not be appropriate. In these instances proxy indicators can be used. These are approximations based on other related evidence that is representative.

A final point in relation to indicators is that in order to describe the change as a result of the development activity, it makes sense to know the starting point. In the alternative evaluation plan shown above, the third column is used to identify the starting point prior to the project. It

may not be feasible to collect attributable evidence but a narrative description of the situation prior to the change initiative will help immensely with the later evaluation reporting stages.

### Sources

Before deciding on methods for data collection consideration should be given to where data may be found. Make as much use of existing sources (secondary data) as is realistically and credibly possible. It will save time and effort, and may also extend the possibilities for comparative analysis. Primary data (new) will be needed to ascertain the effect of particular activities such as tools creation or the implementation of new processes. The next section briefly outlines the more common techniques.

### Collection methods

An entire handbook could be devoted to data collection methods and there are many useful sources of guidance available (see the LTDI Evaluation Cookbook<sup>9</sup> and the IRLT Evaluation Toolkit<sup>10</sup>). It is important to recognise that while there are similarities between research and evaluation, there are as many differences and an important one is the need for simple pragmatism in evaluation. You are not testing a hypothesis but you are drawing out the value of a development project. Given all of the foregoing, the methods outlined here are only a guide. The final choice will be influenced by a number of factors including:

- the availability and experience of evaluation staff to:
  - gather data
  - analyse results
- time
- availability of and access to data subjects
- the type of project and its context

Most data is likely to be gathered from some form of survey technique such as questionnaires, interviews or focus groups. The following table summarises these, the advantages, disadvantages and implications for data capture:

| Survey Type            | Advantages   | Disadvantages   | Data Capture  |
|------------------------|--|---|---|
| Questionnaire          | Can be quick and cheap if online<br>Anonymity  | Data quality can be poor<br>Low response if paper-based   | Instant if electronic<br>Accuracy and consistency can be issues                                     |
| Face to face Interview | Rich and revealing<br>Good response rate<br>Can use visual supports  | Needs some training<br>Consistency if there are multiple interviewers<br>Anonymity                  | Audio transcription costly and time consuming<br>Electronic analysis in its infancy                 |
| Telephone Interview    | Rich and revealing<br>Good response rate<br>Can use visual supports if sent prior to interview<br>VOIP/Skype excellent | Needs some training<br>Consistency if there are multiple interviewers<br>Calls to mobiles expensive | Can use simultaneous typing if available<br>otherwise audio transcription costly and time consuming |
| Focus Group            | Good for consensus-building<br>Supportive of shy respondents   | Needs trained facilitator and careful orchestration   | Can use audio or video capture<br>Second evaluator to note is easier                                |

<sup>9</sup> <http://www.icbl.hw.ac.uk/ltidi/cookbook/contents.html>

<sup>10</sup> <http://www.ltss.bris.ac.uk/php/jcalt/eval/summary2.php?sid=be8624525a20f71eac51c7dbbde56690>

It may be relevant to your project and its evaluation to gather evidence about the situation or context in which it is located. To do this you will want to make use of *key informants*<sup>11</sup> who may also, but not necessarily, be stakeholders.

Two other noteworthy methods are:

- observation – an often neglected but excellent method to study reality in the field. An effective approach for usability analysis when sitting beside someone trying out some new software.
- documentary review – many types of document could be available and some may have been identified as sources for indicators in the evaluation plan.

For all of these methods a question schedule or survey instrument will be required, and possibly piloted, to ensure that appropriate data is collected.

### **Logistics**

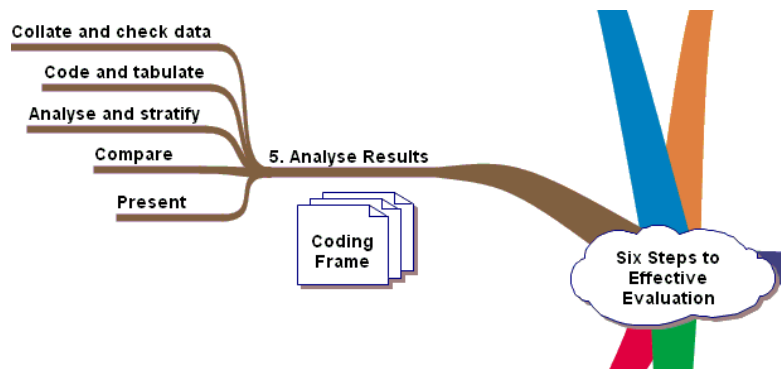
Some further decisions need to be made regarding the actual data collection:

- Who will collect the data?
- What data needs to be collected?
- When is it needed?
- Where will the data be found?
- How will the data be obtained?

You may also want to consult any local policies regarding research ethics and the treatment of data subjects, and a consent form may be necessary if you intended to use students.

### **Step 5 – Analyse Results**

The type of data that is collected will largely dictate the type of analysis that is done – if there are lots of numbers you will want to crunch them in a spreadsheet or heavyweight data analysis tool. If there is a lot of text you will try and read it all and then wonder how to make sense of it. This stage has some guidance on how to address these issues.



#### ***Collate and check data***

Having gone to the effort of identifying evaluation questions, appropriate indicators and then gathering data, it is very important to exercise some quality controls regarding the collation, accuracy and security of the data. Remember to use as simple a technique as possible to collate and organise the data – use a spreadsheet rather than a database (unless you are or have access to data analyst). Check the data for consistency and accuracy as it is entered, preferably by someone other than the person doing the data entry. Use check sums and other data validation techniques where relevant. Always ensure that there is an off site back up of the data (and all your other project documentation). Never rely on someone else to back up data that is valuable to you and your team.

#### ***Code and tabulate***

With quantitative data it is better to wait until you have an appropriate sample size before trying to draw early inferences or conclusions. Qualitative data by contrast benefits from a gather and code approach where each response will add new insights to your analysis and understanding. But qualitative data is notoriously difficult to analyse even if you have access to software such

<sup>11</sup> <http://www.uwex.edu/ces/pdande/progdev/pdf/keyinform.pdf>

as Nvivo<sup>12</sup> or concept mapping tools. A coding frame will help you to structure the analysis and identify further areas for investigation.

A coding frame is a simple table of tags or labels and their definitions in context (template available at Appendix E). These codes are used to assign meaning to the descriptive information gathered through the data collection. They are usually attached to different sized 'chunks' such as words, phrases, sentences and paragraphs of text. They can also be applied to other media such as pictures, photographs, audio files and video clips. Social software such as del.icio.us<sup>13</sup>, Flickr<sup>14</sup> and Furl<sup>15</sup> can be used for qualitative analysis with predetermined tag lists (coding frame). Using these tools in this way is different from their intended purpose of organising content for future navigation and searching. It may also not be possible to share data beyond the project team, because of confidentiality. This is the opposite intention of social software where users publicly tag and share content, not only to categorise information for themselves but also so they can browse the information categorised by others, hence the collaborative nature.

The following table illustrates one approach to a coding frame, it makes a distinction between demographic attributes (which may also have a quantitative use) and qualitative codes. A further technique is introduced with the appearance of 'nodes'. These can be either individual codes or groupings of a set of codes by a particular category or topic. Other tools such as mind or concept mapping software can be used to illustrate the relationship between nodes.

| Attributes        | Description  | Example (fictitious data)           |
|-------------------|--|-------------------------------------|
| Name              | Name of interviewee  | <i>Agnes Entwistle</i>              |
| Role1             | Primary role within project  | <i>Project Officer</i>              |
| Role2             | Other role within organisation   | <i>Staff development</i>            |
| DateInt           | Date of interview  | <i>25/10/06</i>                     |
| Department        | Interviewee's current department   | <i>Centre for Academic Practice</i> |
| Duration          | Duration of interview (in minutes)   | <i>36</i>                           |
| Gender            | Gender of interviewee  | <i>F</i>                            |
| Institution       | Current institution/employer   | <i>University of Inverness</i>      |
| Interviewer       | Person conducting interview  | <i>Jane</i>                         |
| Job               | Interviewee's current job title/role   | <i>Lecturer</i>                     |
| Project1          | Primary project  | <i>CHOCO</i>                        |
| Project2          | Additional (related) project   | <i>LATE</i>                         |
| Node              | Description  |                                     |
| Project Awareness | Extent to which respondents are aware of the project as a whole  |                                     |
| Impact            | Perceived direct causal impact of project  |                                     |
| - Individual      | Impact on individuals in terms of career progression, networking, professional effectiveness. Also impact of individuals on projects                         |                                     |
| - Institutional   | Impact on partner institutions in terms of core business, other staff, policy  |                                     |
| - National        | What was nationally acquired (or lost) from the project  |                                     |
| Barking           | Comments that seem totally off the wall or plain wrong<br>Also barking in the sense of making a lot of noise without much effect                             |                                     |
| Conflict          | References to conflict, tension and disagreements between individuals, institutions and agencies   |                                     |
| Ownership         | Copyright and IPR issues<br>Also issues around getting people to use something new, institutional collaboration, impact and the 'not invented here' syndrome |                                     |

<sup>12</sup> [http://www.qsrinternational.com/products/productoverview/NVivo\\_7.htm](http://www.qsrinternational.com/products/productoverview/NVivo_7.htm)

<sup>13</sup> <http://del.icio.us>

<sup>14</sup> <http://www.flickr.com/>

<sup>15</sup> <http://www.furl.net/>

### **Analyse and stratify**

The analysis of evaluation data is not simply about reporting findings and letting the results speak for themselves. The key difference from conventional research is the *value* element – the results need to be interpreted in terms of context and the stakeholders' views. This does not mean compromising findings by skewing results to take account of vested interests but it does require an integrated and balanced approach. When stakeholders agree that the conclusions drawn are justified they will be more inclined to make use of the evaluation results. This may be complicated by differing views but the early involvement of the stakeholders in the evaluation and the inclusion of their views should help to facilitate a consensus being reached.

Categorising data in terms of key topics of interest and emerging themes is an essential element of qualitative analysis. In addition to simple descriptive statistical techniques, stratification (for example demographic variables of interest such as age, gender, subject area and institutional type) can help to contextualise quantitative findings.

### **Compare**

There may be various opportunities for comparison of findings both within the project and in relation to other similar areas. For example, a new tool can be piloted with different cohorts to ascertain usage variables. These results can then be compared both with each other and also other related (external) studies. You may have gathered baseline data earlier in the evaluation as an aid to eliciting change following implementation of a tool or technique. Therefore a comparison can be made between the starting position and the new state following the activity.

An obvious, but sometimes forgotten, comparison that is always worth making is between intended outcomes and actual outcomes. Did the project achieve what it set out to do and what lessons have been learned? Did the resulting outputs achieve the intended outcomes or did something else happen? In development projects it is as valuable to learn from what did not work as it is from what did. This may be regarded as failure where something has either gone wrong or failed to meet expectations. Failure has been classified as two types<sup>16</sup> which may have positive outcomes when appropriately evaluated:

- Type 1 – the objectives of the designers, sponsors or users are not fully met (an innovation that does not work properly)
- Type 2 – the original objectives are met but there are inappropriate or undesirable consequences (an innovation that works but has unsuitable side effects)

### **Present**

Your data deserves to be presented in a clear and understandable form. To interpret your findings and make your recommendations, you must ensure that your results are easy to understand and well presented. Ensure that a consistent approach is used to document styles, formats and numbering. Make sure that the text is spell checked and ask someone else to both proof read and clarity check the document.

Use illustrations where appropriate to help readers with different cognitive styles understand your project and the evaluation findings. Consider presenting key messages in different media, perhaps as a set of slides with an audio description. Where data is presented in tables or charts ensure that it is properly labelled and base values are included. If you plan to make your report available on the web check that it is in a format appropriate to being read on screen.

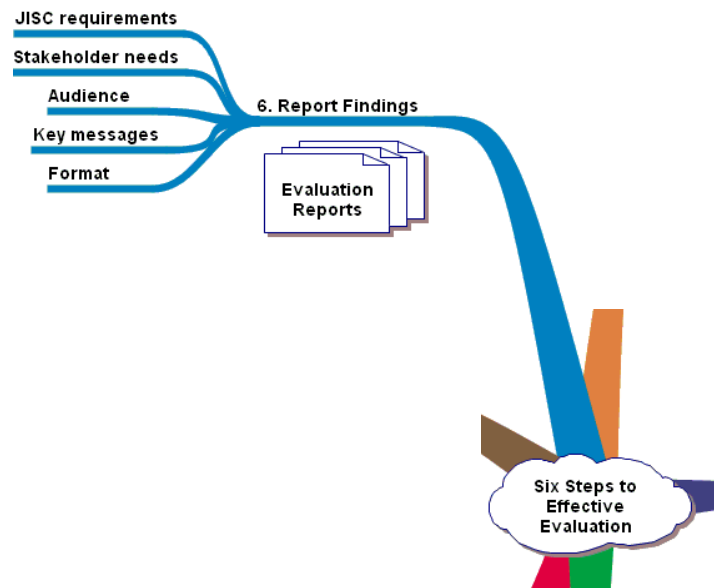
Communicating complex ideas can be one of the most difficult aspects of development work, particularly where the project is highly technical. One approach that may be helpful is to try and explain your project to someone as a critical friend but who perhaps knows or understands very little of what you are doing. If they ask questions as you explain the finer points of your project you should get some clues to both what others find interesting and what may need more explanation than you had realised. Development activity is an immersive world but we need to remember to surface to tell the story.

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<sup>16</sup> See Fortune J. and Peters G. (1995), *Learning from failure – the systems approach*, Chichester: Wiley

## Step 6 – Report Findings

The essential purposes of project evaluation are to use the information to improve projects while they are running, to draw out the value of what has been learnt and to provide advice for funders and future projects. The rationale you identified early in the evaluation process and the interests of key stakeholders should help to guide the use of the evaluation findings. The results of the evaluation can be used to demonstrate the effectiveness of your project, identify ways to improve future projects, modify project planning, demonstrate accountability, and justify funding.



### **JISC requirements**

Reporting evaluation findings is not a specific section per se in either the final or completion reports required by JISC. Evaluation does appear in the progress report template:

#### **16. Evaluation Plan**

*Report progress against plan, and note any evaluation results during the reporting period.*

*List objectives for the next reporting period, note if any changes to plan are needed, and explain why.*

Both formative and summative findings can be reported in this section depending on the timing of the report in relation to the project life cycle and evaluation activities. It is an opportunity to flag key outcomes of interest to the JISC Programme Manager and others engaged in supporting the development programme and its projects.

Final and completion reports are mandatory requirements of JISC at the end of any development project. Both have sections where evaluation findings will be relevant but the project team should also consider the appropriateness of a separate evaluation report. This advice is not intended as an additional burden for busy project staff but should be recognised as an opportunity to reflect on the project and its achievements through an evaluative focus. This will help to organise the reporting of the project itself and to identify its essential points.

### **Stakeholder needs**

In Step 1 the initial stakeholder analysis in the project plan was suggested as a way of eliciting the key interests of stakeholders in a particular project. Revisiting this analysis will help to structure and focus reporting the evaluation findings. One approach that can be quite successful is to arrange a meeting with key stakeholders and the project team to rehearse reporting findings to gauge reaction and to identify any areas requiring greater clarity or explanation. This activity also helps to support the project dissemination as any adversarial elements will have been addressed and reactions should be more conciliatory. More importantly you should have gained the support of key stakeholders for any recommendations made and to identify ways in which they can make use of the evaluation findings.

### **Audience**

Identifying relevant audiences and suitable messages is an essential part of effective evaluation reporting. Summary briefing documents aimed at, for example, senior managers, technical staff and lecturers, target essential information to different audiences within an institution. Reference to the section on social network analysis in Step 1 should help to identify communities beyond the immediate lead and partner institutions. Consideration should also be given to agencies

such as the HE Academy Subject Centres, JISC InfoNet, CETIS, ALT and UCISA who may be interested in adding reported elements from your project to the growing body of case studies and other evidence from development projects. In summary, know who your audience is and what information they need. Different audiences will need and require different information, in different ways, even when you are reporting on the same issues.

### **Key messages**

In Step 3 we looked at evaluation design and considered various questions that might be answered by evaluation activities. The role of change criteria in focusing the evaluation helped to inform the plan for the evaluation itself. Returning to the plan at this stage should help to identify the key messages from the evaluation on which to report. There is also an opportunity to explore the extent to which the internal logic of your project was correct. Were the identified relationships between activities and outcomes the right ones or did others emerge. What has been learnt from examining and trying to understand the processes involved?

### **Format**

The preceding sections in this final step should have given you some ideas about what you want to report to whom and how you intend to make the report. As a minimum there will be the sections on the JISC final reports that address outputs, outcomes and lessons learned. But these reports have a specific function and purpose that may only partly satisfy the dissemination desires of the project team. You may therefore decide to produce a separate evaluation report and make it available in both electronic and paper-based formats. A suggested outline for an evaluation report (template available at Appendix F) is as follows:

| <b>Evaluation Report Section</b>          | <b>Description</b>   |
|---|--|
| Executive Summary                         | One or two pages that summarise the project, the evaluation and the key findings   |
| Table of contents                         | Helpful for navigation through the report  |
| Background                                | Brief description of the broader context for the project and its evaluation  |
| Project description                       | An overview of the project purpose and objectives, sufficient to get a flavour of what it was about                      |
| Stakeholder identification and engagement | Brief summary of the stakeholder analysis but with more detail regarding their interests in the project and its outcomes |
| Key evaluation questions                  | The evaluation questions and their indicators  |
| Evaluation design and methods             | A brief comment of the design including any unusual or novel features  |
| Evaluation plan                           | The actual plan developed and used   |
| Data collection procedures                | Anything noteworthy about how the data were collected (methodology, primary and secondary sources)                       |
| Data processing procedures                | Anything noteworthy about how the data were initially analysed (software, techniques etc)                                |
| Analysis                                  | Pulling the parts together, making comparisons and further contextualisation   |
| Limitations                               | Acknowledge any issues regarding sample sizes, data collection and analysis  |
| Results                                   | The actual results of the evaluation efforts – tables, charts etc  |
| Discussion and recommendations            | Key messages, conclusions and any recommendations for further evaluation or other studies of this development topic      |

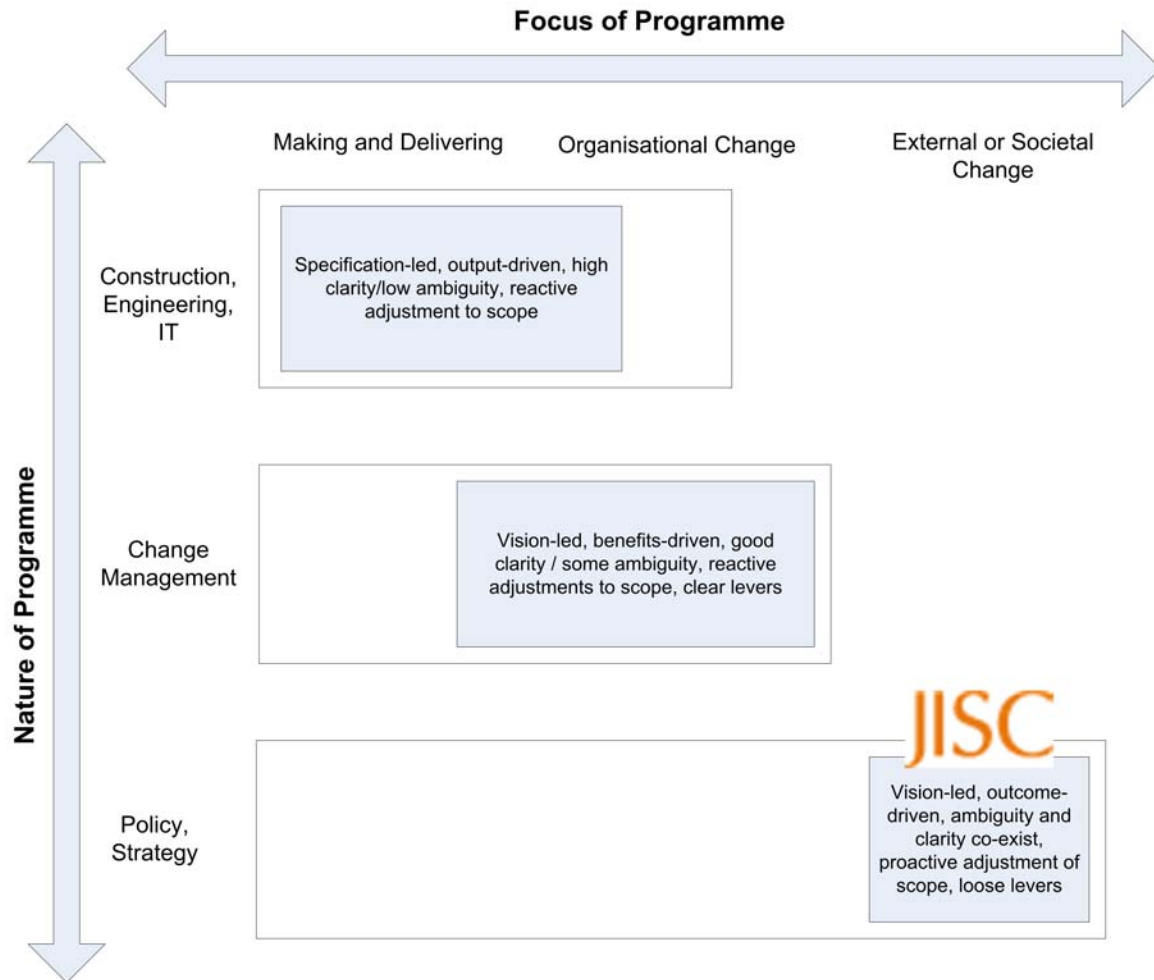
An evaluation report is in addition to those required by JISC but can be very useful for stakeholder and institutional reporting as it provides an alternative assessment of the development activity and its achievements.

And that's it in a nutshell ... there may always be more but this is enough for most purposes.

## Part 2 – JISC Development Programmes and Evaluation Methodologies Reviewed

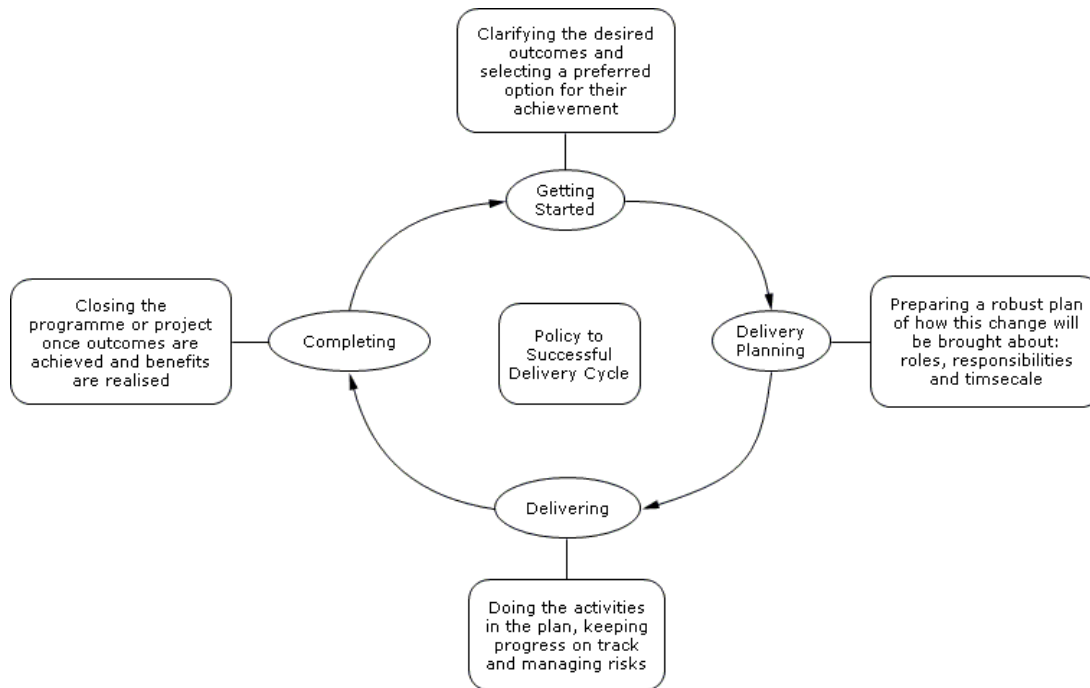
### JISC Development Programmes

The stated mission of the JISC<sup>17</sup> is *to provide world-class leadership in the innovative use of ICT, to support education and research*. Development programmes are undertaken by members of the tertiary education community through action research and include the identification of new and innovative areas for the sector. A key purpose of development activity is to effect technical and cultural change at a national and international level. The following diagram illustrates the relationship between JISC development programmes and the type of change in MSP terms:

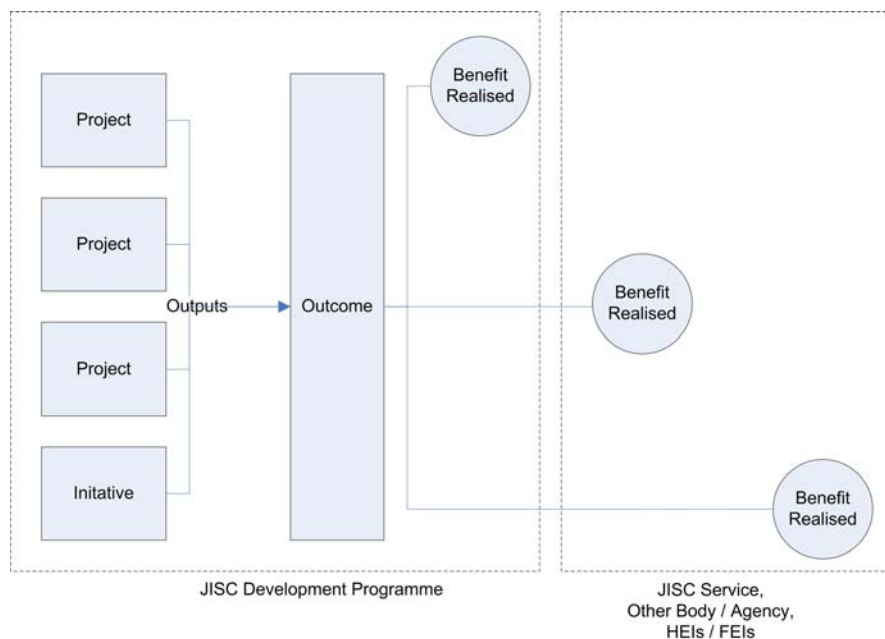


JISC is a national agency that supports the innovative use of ICT through its development programmes for the benefit of the tertiary education community. Development projects are funded within institutions thus enabling participants to engage through an action research approach and share their experiences with the wider community. However, this must be a cyclical process if the realised benefits are to inform future policy and development activity. The diagram below provides an overview of the policy to delivery cycle which is supported through the use of MSP.

<sup>17</sup> [http://www.jisc.ac.uk/aboutus/strategy/strategy\\_jisc\\_04\\_06.aspx](http://www.jisc.ac.uk/aboutus/strategy/strategy_jisc_04_06.aspx)



The relationship between outcomes, outputs and benefits through JISC development programmes and projects can be seen in this diagram:



**Evaluation Methodologies**

The MSP approach to programme management was designed to improve the capability and capacity of civil servants to deliver programmes and projects. However, there are no specific arrangements for evaluation identified in MSP. It is part of a range of approaches from the Office of Government Commerce (OGC) where efficiency, delivery and value for money are the key drivers. In the civil service, MSP is used as part of the OGC Gateway Process and its use is evaluated through OGC Gateway Review 5 which focuses on ensuring that the project delivers the benefits and value for money identified in the business case and benefits plans. The review normally takes place six to twelve months after project completion when evidence of the benefits is available.

Efforts were made to identify an appropriate evaluation methodology that was essentially ‘off the shelf’ in a similar vein to MSP. These efforts have revealed, tellingly, that organisations which are engaged in any significant development programmes have their own tailored approaches to evaluation, usually supported by a dedicated evaluation team with documentary resources such

as an evaluation handbook. These organisations include the World Bank, the Kellogg Foundation, various Canadian government departments and the UK Department for International Development. A summary of the evaluation methods reviewed is at Appendix G.

These development organisations all take a broadly similar approach to monitoring and evaluation with variations in the emphasis on certain elements and the documentation required. Their evaluation models are based around logic modelling approaches with some requiring detailed logical frameworks and others being more pragmatic and less theoretical. However, they all recognise and emphasise the need for a co-ordinated, coherent approach that is focused on outcomes and stakeholders. The close relationship between the design of the development programme and the design of the monitoring and evaluation requirements is an essential feature of overall success for the programme.

### **Specific Aspects of ICT Evaluation**

This handbook presents an intentionally generic view, outlining a comprehensive and simplified approach to evaluation. However two key aspects, particularly for programme managers, need to be addressed for a more complete view: software quality and cost benefit of ICT initiatives. Both these areas are notoriously difficult to evaluate but fortunately there has been some progress in identifying some suitable models.

In an earlier strand of the JISC e-Learning Programme appropriate practices for software quality assurance<sup>18</sup> were outlined with an approach to open source maturity. These techniques are predicated on peer review as an essential feature and are presented as effective practice for software development not as a prescriptive checklist.

In recent years there has been an increasing interest in evaluating the costs and benefits of ICT innovations and interventions in the education sector<sup>19</sup>. Where cost-benefit studies have been undertaken, they have usually been limited to, for example, comparison between delivery of a course face to face to one delivered at a distance and possibly online. One explanation given<sup>20</sup> is that research into costs and benefits has followed two distinct and separate paths. Cost evaluation is based on systematic data collection, quantitative analysis and the analysis of measurable outputs such as staff time and funding. By contrast, benefits evaluation relies on more diffuse and subjective data collection such as learner satisfaction that requires qualitative analysis. Given the approaches outlined in this handbook the latter should appear more appropriate but the value of quantitative data and analysis should not be ignored. Appendix H summarises one framework approach to the evaluation of ICT costs and benefits.

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## **Appendices**

**Appendix A – Six Steps to Effective Evaluation Checklist**

**Appendix B – Radio Exercise and Method**

**Appendix C – Logic Model Table Template**

**Appendix D – Evaluation Plan Template**

**Appendix E – Coding Frame Template**

**Appendix F – Evaluation Report Template**

**Appendix G – Evaluation Approaches for Development Programmes**

**Appendix H – Framework for the Evaluation of ICT Costs and Benefits**

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<sup>18</sup> [http://www.jisc.ac.uk/uploaded\\_documents/ACFCE0.doc](http://www.jisc.ac.uk/uploaded_documents/ACFCE0.doc)

<sup>19</sup> <http://www.jiscinfonet.ac.uk/InfoKits/effective-use-of-VLEs/managing-for-sustainability/man-sust-cultural-risksbenefits>

<sup>20</sup> [http://www.insight.strath.ac.uk/projects/insight/documents/cb\\_paper.pdf](http://www.insight.strath.ac.uk/projects/insight/documents/cb_paper.pdf)

This checklist is intended as an aide memoir not a tablet of stone ☺

| Key Steps and Documents  | ✓ | Comments |
|--|---|----------|
| 1. Identify Stakeholders<br>Check JISC Project Plan Stakeholder Analysis<br>Why – identify particular stakeholder interests<br>Social Network Analysis (optional)          |   |          |
| <ul style="list-style-type: none"> <li>📄 Stakeholder Analysis</li> </ul>   |   |          |
| 2. Describe Project and Understand Programme<br>JISC Project Plan mandatory<br>Logic model optional but useful for evaluation  |   |          |
| <ul style="list-style-type: none"> <li>📄 JISC Project Plan</li> <li>📄 Logic Model</li> </ul>   |   |          |
| 3. Design Evaluation<br>Check JISC Project Plan Evaluation section<br>Decide on evaluation type(s)<br>Review change criteria   |   |          |
| <ul style="list-style-type: none"> <li>📄 Evaluation Plan</li> </ul>  |   |          |
| 4. Gather Evidence<br>Identify appropriate indicators<br>Identify data sources<br>Decide on collection method(s)<br>Plan data gathering logistics                          |   |          |
| <ul style="list-style-type: none"> <li>📄 Evaluation Data</li> </ul>  |   |          |
| 5. Analyse Results<br>Collate and verify data<br>Code and analyse data<br>Identify emerging issues for reporting   |   |          |
| <ul style="list-style-type: none"> <li>📄 Coding Frame</li> </ul>   |   |          |
| 6. Report Findings<br>Review JISC reporting requirements<br>Review JISC Project Plan Dissemination section<br>Identify reporting channels<br>Determine reporting format(s) |   |          |
| <ul style="list-style-type: none"> <li>📄 JISC Project Reports</li> <li>📄 Evaluation Reports</li> </ul>   |   |          |

### Radio Interview – History of the Future Show

Imagine that your project is completed and that it has succeeded in all of its goals. You are being interviewed tomorrow on a local radio show to talk about the project. In order to avoid fluffing your words on live radio the questions have been sent to you in advance so that you can jot down your main points.

What did your project actually do?

Who's going to benefit from this?

Why is this important?

How did *you* help make the project a success?

### Method

Each member of the project team should complete the questions above, preferably while gathered for a team meeting. Each team member should then report in turn either on a question by question basis or their complete response. The key points from the discussion should be noted and a consensus reached about the project activities, intended beneficiaries, outcomes and actors. The results should be recorded in either diagrammatic form or using the template at Appendix B – Logic Model Table.

Appendix C – Logic Model Table Template

| Resources   | Early Activities   | Later Activities  | Outputs  | Early Outcomes   | Later Outcomes   |
|---|--|---|--|--|--|
| <i>People, funds, equipment, organisational aspects</i> | <i>We need to undertake these activities (surveys, workshops, installations etc) first</i> | <i>Because these activities are dependent on early activities</i> | <i>Direct, measurable results of activities – numbers attending, new service etc</i> | <i>The initial changes resulting from the activities and outputs</i> | <i>Changes that may only occur over the longer term such as after the project has finished</i> |
|   |  |   |  |  |  |





**Executive Summary**

*One or two pages that summarise the project, the evaluation and the key findings*

**Table of contents**

*Helpful for navigation through the report*

**Background**

*Brief description of the broader context for the project and its evaluation*

**Project description**

*An overview of the project purpose and objectives, sufficient to get a flavour of what it was about*

**Stakeholder identification and engagement**

*Brief summary of the stakeholder analysis but with more detail regarding their interests in the project and its outcomes*

**Key evaluation questions**

*The evaluation questions and their indicators*

**Evaluation design and methods**

*A brief comment of the design including any unusual or novel features*

**Evaluation plan**

*The actual plan developed and used*

**Data collection procedures**

*Anything noteworthy about how the data were collected (methodology, primary and secondary sources)*

**Data processing procedures**

*Anything noteworthy about how the data were initially analysed (software, techniques etc)*

**Analysis**

*Pulling the parts together, making comparisons and further contextualisation*

**Limitations**

*Acknowledge any issues regarding sample sizes, data collection and analysis*

**Results**

*The actual results of the evaluation efforts – tables, charts etc*

**Discussion and recommendations**

*Key messages, conclusions and any recommendations for further evaluation or other studies of this development topic*

**World Bank: Ten Steps to a result based monitoring and evaluation system<sup>21</sup>**

Results-based monitoring and evaluation is a public management tool that can be used to help policymakers and decision makers track progress and demonstrate the impact of a given project, program, or policy. It differs from traditional implementation-focused monitoring and evaluation in that it moves beyond an emphasis on inputs and outputs to a greater focus on outcomes and impacts.

**HM Treasury: The Green Book, Appraisal and evaluation in central government<sup>22</sup>**

The Green Book describes how the economic, financial, social and environmental assessments of a policy, programme or project should be combined. Its purpose is to ensure that no policy, programme or project is adopted without first having asked if there better ways to achieve the objective and if there better uses for the resources.

**International Fund for Agriculture Development: A guide for project Monitoring & Evaluation<sup>23</sup>**

The focus here is on a learning approach that uses achievements and problems for better decision-making and accountability. It requires the creation of a system that helps primary stakeholders, implementing partners and project staff to learn together in order to improve their development interventions on a continual basis.

**Rick Davies: Moving from Logical to Network Frameworks: A modular matrix approach to representing and evaluating complex programs<sup>24</sup>**

The approach outlined here argues for a move away from linear representations of development interventions, to more network based perspectives. Within the field of development aid the logical framework is a common and familiar reference point for how project designs can be represented, and as such can provide a recognisable starting point. This is then combined with ideas drawn from social network analysis to develop a modular approach to the representation of theories of change.

**International Development Research Centre (Canada): Outcome Mapping<sup>25</sup>**

This approach recognises that development is essentially about people relating to each other and their environment. The originality of this approach lies in its shift away from assessing the products of a programme to focus on changes in behaviour, relationships, actions, and activities in the people, groups, and organisations it works with directly.

**Canadian Outcomes Research Institute: Program Logic Model<sup>26</sup>**

Quality improvement loops are a main component in this model. These loops require information to be circulated through its cycles and the resulting evaluation, communication, and feedback of programme evaluation results to stakeholders and programme staff is used as stimuli to assist in determining recommendations for quality improvement.

**Canadian International Development Agency: RBM Handbook on Developing Results Chains<sup>27</sup>**

Results-based management (RBM) is a management philosophy and approach that emphasises development results in planning, implementation, learning and reporting. Participation is an important element as experience has shown to the practitioners of this approach that participation improves the quality, effectiveness and sustainability of development actions.

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<sup>21</sup> <http://www.oecd.org/dataoecd/23/27/35281194.pdf>

<sup>22</sup> <http://greenbook.treasury.gov.uk/>

<sup>23</sup> <http://www.ifad.org/evaluation/guide/index.htm>

<sup>24</sup> <http://www.mande.co.uk/docs/MMA.htm>

<sup>25</sup> [http://www.idrc.ca/en/ev-26586-201-1-DO\\_TOPIC.html](http://www.idrc.ca/en/ev-26586-201-1-DO_TOPIC.html)

<sup>26</sup> <http://www.hmrp.net/canadianoutcomesinstitute/Resources.htm>

<sup>27</sup> <http://www.acdi-cida.gc.ca/cidaweb/acdicida.nsf/En/EMA-218132532-PN9?OpenDocument>

### **Performance Management Network: Using Circles to Tell the Performance Story<sup>28</sup>**

This approach is a more of tool to augment other approaches and uses an analysis of spheres of influence with performance logic. It can help in several ways by showing differing levels of management control and therefore different levels of accountability.

### **WK Kellogg Foundation Evaluation Handbook<sup>29</sup>**

This handbook has a sister publication on logic modelling and both form an effective resource to good evaluation practice. Effective evaluation is not viewed as an event that occurs at the end of a project, but as an ongoing process which helps decision makers better understand the project; how it is impacting participants, partner agencies and the community; and how it is being influenced/impacted by both internal and external factors.

### **Portfolio, Programme and Project Management Maturity Model (P3M3)<sup>30</sup>**

This technique is a framework for reviewing an organisation's maturity and its capability to manage portfolios of programmes and projects. It is based on the process maturity framework developed by the Carnegie Mellon Software Engineering Institute and incorporates best practice from the Office of Government Commerce (OGC) on existing portfolio, programme and project management.

### **Capability Maturity Model Integration (CMMI)<sup>31</sup>**

The Carnegie Mellon Software Engineering Institute first released the Capability Maturity Model for Software in 1991 based on earlier work with its process maturity framework that emerged from principles of managing product quality that have existed for the past 60 years.

Development has continued and the Capability Maturity Model Integration (CMMI) was released in 1997. It is a process improvement approach that consists of key practices organised into a roadmap that guide organisations through the essential elements of effective processes.

### **University of Wisconsin-Extension Cooperative Extension (UWEX)<sup>32</sup>**

In UWEX the programme development process is captured in a model that includes situational analysis, priority setting, logic modelling and evaluation. Programme development is viewed as an ongoing systematic process of planning, implementation and evaluation of educational programmes. The process is not confined to a four-year planning cycle but can be applied on a small scale to an individual workshop or on a larger scale to a comprehensive community initiative or other action programme.

### **Joint Committee on Standards for Educational Evaluation (JCSEE)<sup>33</sup>**

Created in 1975 and based at the Evaluation Center, Western Michigan University, the Joint Committee is a coalition of professional associations concerned with the quality of evaluation. It is accredited by the American National Standards Institute (ANSI). Three published standards have been approved by ANSI as American National Standards and are now widely recognised in the US: Personnel Evaluation Standards (1988), Program Evaluation Standards (1994) and Student Evaluations Standards (2003). Although the standards may appear overly prescriptive to a European view they nevertheless provide useful pointers to quality aspects of evaluation design and practice.

### **Evaluation Center, Western Michigan University<sup>34</sup>**

This research and development unit was established in 1973 to provide national and international leadership for advancing the theory and practice of evaluation, as applied to education and human services.

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<sup>28</sup> <http://pmn.net/library/usingcirclestotelltheperformancestory.htm>

<sup>29</sup> <http://www.wkcf.org/default.aspx?tabid=75&CID=281&NID=61&LanguageID=0>

<sup>30</sup> <http://www.ogc.gov.uk/documents/p3m3.pdf>

<sup>31</sup> <http://www.sei.cmu.edu/news-at-sei/features/1999/december/Background.dec99.htm>

<sup>32</sup> <http://www.uwex.edu/ces/pdande/progdev/index.html>

<sup>33</sup> <http://www.wmich.edu/evalctr/jc/>

<sup>34</sup> <http://www.wmich.edu/evalctr/index.html>

This table is summarised from work<sup>35</sup> by David Nicol and Michael Coen at the University of Strathclyde. It illustrates a possible range of benefits in three categories: educational, organisational and external. They could be used as a starting point for analysis by selecting an appropriate subset of benefit types and possible evaluation methods.

| <b>Benefit Type</b>  | <b>Example Evaluation Methods</b>   |
|--|---|
| <i>Educational Benefits</i>  |   |
| Student satisfaction / motivation  | <ul style="list-style-type: none"> <li>• Questionnaires and surveys</li> <li>• Focus groups</li> <li>• Retention Rates</li> </ul>   |
| Enhanced quality of student learning   | <ul style="list-style-type: none"> <li>• Confidence in learning logs</li> <li>• Test and examination results</li> <li>• External examiners reports</li> <li>• Departmental reviews</li> <li>• Teaching quality assessment reports</li> </ul>  |
| Improved access to learning resources  | <ul style="list-style-type: none"> <li>• Survey</li> <li>• Log-in information</li> </ul>  |
| Re-usability of learning resources   | <ul style="list-style-type: none"> <li>• Course planning documents</li> <li>• Teacher's reports</li> <li>• Student surveys of use</li> </ul>  |
| <i>Organisational Benefits</i>   |   |
| Increased staff satisfaction / motivation  | <ul style="list-style-type: none"> <li>• Surveys</li> <li>• Staff turnover rates</li> <li>• Appraisal data</li> </ul>   |
| Development of staff skills (eg IT)  | <ul style="list-style-type: none"> <li>• 'Investors in People' indicators</li> <li>• Appraisal data</li> </ul>  |
| Improvements in organisational efficiency  | <ul style="list-style-type: none"> <li>• Investors in people indicators</li> <li>• Information flow indicators</li> <li>• Savings in staff time</li> <li>• Improvements in service provision</li> </ul>   |
| Innovation   | <ul style="list-style-type: none"> <li>• Comparisons with other HE institutions.</li> <li>• Value of research contracts secured</li> <li>• Research publications on ICT-supported learning</li> </ul>   |
| <i>External Benefits</i>   |   |
| Enhanced public profile of the institution   | <ul style="list-style-type: none"> <li>• Number of hits on relevant web-sites</li> <li>• Newspaper reports</li> <li>• Recruitment Rates</li> <li>• Number or quality of applications for courses</li> <li>• Professional bodies ratings</li> <li>• Teaching quality assessment reports</li> </ul> |
| Strategic partnering with external organisations (e.g. other HE institutions, commercial or community organisations) | <ul style="list-style-type: none"> <li>• Formal and informal agreements</li> <li>• Surveys</li> </ul>   |
| Increased wealth creation  | <ul style="list-style-type: none"> <li>• New revenue sources/markets</li> </ul>   |

<sup>35</sup> [http://www.insight.strath.ac.uk/projects/insight/documents/cb\\_paper.pdf](http://www.insight.strath.ac.uk/projects/insight/documents/cb_paper.pdf)