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Title: Project Management Framework
Contents

1. Introduction.................................................................................................................. 5
   1.1 Benefits of Project Management............................................................................. 6
   1.2 Timescales for Implementation............................................................................. 6
   1.3 Capital Programmes Board.................................................................................... 7
   1.4 Project Owner & Project Manager......................................................................... 7
      1.4.1 Senior Responsible Owner............................................................................. 7
      1.4.2 Project Manager............................................................................................. 8
2. Outline of the Project Management Framework....................................................... 9
   2.1 How to Propose a Project – Gate 0....................................................................... 12
   2.2 Developing the Business Case – Gate 1............................................................... 13
      2.2.1 Category 1 Projects....................................................................................... 13
      2.2.2 Category 2 Projects....................................................................................... 13
      2.2.3 Category 3 Projects....................................................................................... 13
   2.3 Developing the Business Case – Gate 2................................................................ 14
      2.3.1 Category 1 Projects....................................................................................... 15
      2.3.2 Category 2 & 3 Projects................................................................................ 15
   2.4 Developing the Business Case – Gate 3................................................................ 16
   2.5 Placing the Contract – Gate 4............................................................................... 16
   2.6 Project Execution.................................................................................................... 16
   2.7 Closure – Gate 5.................................................................................................... 18
3. Tools and Processes..................................................................................................... 20
   3.1 Project Manager Competency............................................................................... 20
   3.2 Project Categorisation.......................................................................................... 22
   3.3 Simple Risk Management..................................................................................... 25
   3.4 Work Packages and Work Breakdown Structure............................................... 26
   3.5 Stakeholder Analysis........................................................................................... 26
   Stakeholder Analysis Template................................................................................... 27
   3.6 The Project Board................................................................................................. 28
   3.7 Green Hat – the Creative Thinking Hat............................................................... 29
   3.8 Black Hat – the Critical Analysis Thinking Hat.................................................. 33
   3.9 Lessons Learned.................................................................................................... 35
Appendix 1: Project Planning Timeline....................................................................... 36
<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5-Case Business Model</td>
<td>37</td>
</tr>
<tr>
<td>3</td>
<td>SOP</td>
<td>39</td>
</tr>
<tr>
<td>4</td>
<td>SOC</td>
<td>41</td>
</tr>
<tr>
<td>5</td>
<td>Outline Business Case</td>
<td>43</td>
</tr>
<tr>
<td>6</td>
<td>FBC</td>
<td>45</td>
</tr>
<tr>
<td>7</td>
<td>Gate 4 Checklist</td>
<td>47</td>
</tr>
<tr>
<td>8</td>
<td>Progress Report</td>
<td>48</td>
</tr>
<tr>
<td>9</td>
<td>EoPSR</td>
<td>49</td>
</tr>
</tbody>
</table>
1. Introduction

A project is a unique, transient enterprise, involving research or design that is carefully planned to achieve defined objectives, outputs, outcomes or benefits. A project is usually deemed to be a success if it achieves the objectives according to their acceptance criteria, within an agreed timescale and budget.

Bangor University is increasingly involved in the delivery of high value, high visibility projects and its success in attracting research funding is increasing year-on-year. The larger projects, which may include new buildings, refurbished facilities, and new IT systems, are a welcome sign of our success and our investment for the future. However, this success brings with it increased risk, and the University could incur serious financial and reputational loss if, for any reason, we fail to meet timescale, budget, expectations or performance. Consequently, one of the most important management processes in the University is Project Management.

The ability to perform project management and its constituent processes effectively is critical to the success of the University, particularly for large, complex or strategically important projects. Bangor University has developed this Project Management Framework (PMF) based on best practice and the understanding that a light handed touch is more likely to be widely adopted across the University.

Good project management helps to ensure that risks are identified at an early stage and are managed appropriately, and objectives and benefits are achieved within budget, within time and to the required quality. Good project management gives staff and managers control over their project, and ensures that everyone involved in a project knows what is expected of them, and provides an appropriate level of reporting up the management chain.

The PMF is intended to be simple to use and embodies many years of good practice in project management across a range of business and research sectors. It will provide an appropriate level of consistency of approach across projects.

The PMF is designed to have clear benefits for all stakeholders. It provides a flexible and adaptable approach to suit all projects regardless of scale and complexity and incorporates existing University processes wherever appropriate. It is designed to provide a framework covering the wide variety of disciplines and activities required within a project.

The objective of the PMF is to embed best practice in Project Management in all the University’s diverse activities and to provide senior management with sufficient information to make informed decisions in shaping the future of the University.
1.1 Benefits of Project Management

*Project management is not rocket science!!* It is a process that enables managers to guide a project from start to finish and to do so in a way that maximises the probability of positive outcomes and reduces inefficiency.

The benefits of project management are many and contain all the elements of a symbiotic relationship between all parties. It enables clear identification of objectives of the project, why it is being undertaken and what benefits should arise. Good project management puts the manager in control as they lead their team and institutes a strategy that will see the project deliver its promised benefits:

1. **Better efficiency & effectiveness in delivering outcomes:** Project management provides a “roadmap” that is easily followed and leads to project completion. The same project management strategies that allowed you to successfully complete one project will serve you well many times over. Experience, and sharing best practice, helps you to know where the bumps and potholes are and how to avoid them. This means, with time, you’ll be working smarter and not harder and longer.

2. **Increase in Quality:** The current economic climate in the UK and the constraints under which Universities in general are now being placed is causing them to take a long and hard look at impact and value for money. Bangor University’s reputation and financial future is at risk if it fails to deliver projects to time, budget, and quality.

3. **Increase in Quantity:** If we work smarter we can achieve so much more in the same time.

4. **Improved growth and development within your team:** Positive results not only command respect, which is extremely important in academic spheres, but more often than not inspire your team to continue to look for ways to perform more efficiently. Motivation is increased which, in turn, results in higher output, thus creating a virtuous circle.

5. **Greater standing and repute:** This is not only a benefit of project management within the University but outside as well; word travels fast and there is nothing like superior performance to secure your reputation. Better performance leads to more opportunities to succeed.

6. **Optimised Risk Management:** Initial risk assessment and continuing risk management activities identify potential risks at an early stage in the project and enable the Project Manager to develop and implement mitigating actions. Senior Management get a view of the risk profile for the University as a whole and can filter unacceptable risks or provide additional support to the Project Manager as appropriate.

1.2 Timescales for Implementation

The PMF was developed and trialled under the auspices of the Capital Programmes Board (CPB) for a small number of projects during 2015/2016 prior to its wider release. During that period it was subject to a number of independent audits. The Framework will evolve with time as experience with what works, or does not, in the University environment is learnt. Project managers are to be encouraged to feed back any comments or observations as they arise.
1.3 Capital Programmes Board

The Capital Programmes Board was set up with the approval of the University’s Council in July 2015 to oversee capital projects and to ensure that sound governance and project management is applied to both the initial development of proposals for capital projects and, subsequently, their delivery to time, quality and cost:

The terms of reference of the Capital Programmes Board are:

The CPB ....

- is the commissioning body for capital projects and responsible for approval of all capital projects
- is the single point of receipt of capital plans from all sources
- is the first level of screen for new capital spend proposals
- has three possible options for action on Project proposals:
  - Authorise projects
  - Enter into dialogue with the Project Sponsor on concerns, and request changes to the proposed project or the project documentation.
  - Reject projects
- is also responsible for the wider context of capital developments
- will own and oversee the whole capital programme
- takes the long-term view to ensure that projects and the whole programme is affordable and fits with the University’s strategy
- ensures that space implications and life time costs are considered
- has management oversight of all capital projects
- will commission post completion reviews

CPB Membership includes:

- Deputy Vice-Chancellor (Chair)
- All Pro Vice Chancellors
- Director of Finance
- Director of Planning
- Director of Estates

1.4 Project Owner & Project Manager

It is a requirement of the University that all projects should be managed by a person who has the appropriate skills and is enabled to deliver the project successfully (see Section 3.1). For large or complex programmes and projects a Senior Responsible Owner (SRO) would be appointed to oversee the project and the work of the Project Manager (PM). The SRO and PM will work together closely to ensure that the project progresses in a satisfactory manner.

1.4.1 Senior Responsible Owner

The SRO is the individual responsible for ensuring that a Programme/Project meets its objectives and delivers the projected benefits. The SRO:

- is the visible owner of the overall Programme/Project;
- should be recognised throughout the organisation; and
- is the key leadership figure in driving it forward.

The SRO must ensure that the change process maintains its business focus, has clear authority and that the overall context, including risk, is actively managed. This individual must be senior and have the necessary authority to make key decisions.

### 1.4.2 Project Manager

The Project Manager is the individual responsible for delivering the Project. The Project Manager leads and manages the Project Team, with authority and responsibility from the Project Board to run the Project on a day-to-day basis.

As Project Manager, you will be provided with systems of work, skills and tools appropriate for the project, and it is the responsibility of the Project SRO to ensure that any relevant training that you need in order to deliver the project is received within an appropriate timeframe. You should discuss this with the SRO as early as possible in the process.

One of the first things you should do is to **plan the activities required to develop your idea.** A sample plan is given in Appendix 1 - you can use Microsoft Project but other means are equally useful. If you can find the time to learn how to use Microsoft Project, you will find that it will make the planning and management of complex projects much easier.

**Remember to allow time for review and authorisation.** Document Control is an important aspect of Project Management and key to good housekeeping in general. Setting up a document control system as early as possible will help you during the development process and be valuable during the following phases. All documents should be marked clearly with the date of issue and version number. It is strongly recommended that a log of the changes be kept within the document.
2. Outline of the Project Management Framework

The typical Project Management Life Cycle comprises four phases:

- **Initiation** involves starting up the project by generating a Strategic Outline Plan (SOP) and business case (Strategic Outline Case - SOC). The project team and resources should be identified. This is the point at which you sell the idea to your Head of School, Dean, or Head of Service Department, and Capital Programmes Board.

- **Planning** involves setting out the roadmap for the project by developing the SOC through an Outline Business Case to the Full Business Case which provides greater detail of the necessary costs and resources etc., and a Project Plan that includes a detailed work breakdown structure and risk assessment. The output of this phase includes the detailed business justification and results in the decision to invest.

- **Execution** starts once approval has been achieved for the investment decision and funding secured. The activities identified in the Business Case and Project Plan are put into action, monitoring and controlling the project delivery, scope, costs, quality, risks and issues as appropriate, and reporting progress to the University's management.

- **Closure** involves winding-down the project by releasing staff, handing over any deliverables etc. to the customer and completing a post project review.

The University has chosen to adopt the Gateway system for project development first proposed by the Office of Government Commerce for public sector projects and now widely recognised as best practice for capital projects across a wide range of business sectors and academia. Adopting this approach means that there is a wealth of knowledge available that can be accessed to help with particular aspects of business case development, it also means that our institutional funders, eg HEFCW, Welsh Government etc., can readily understand us when we discuss our business cases with them. The documentation required to support projects as they progress through the Gateway system is based on the Five-Case Business Model outlined in Appendix 2.

There are 6 gates in the Gateway Process, labelled 0 to 5 for reasons lost in time, an estimate of the costs to be incurred in progressing to the next gate is required at each of gates 0 to 4:

Gate 0 is very simple as it’s a check that the idea fits in with the University Strategies and can be achieved using the Strategic Outline Plan (SOP) on a single page of A4 paper (see Section 2.1). Submitting an SOP to the CPB will trigger the allocation of a project cost code for recording expenditure required to further develop the business case should CPB give approval to proceed. Should the CPB approve the SOP then a budget will be allocated to develop the SOC.
Gates 1 to 3 then represent the development of the Business Case, from Strategic Outline Case (SOC), through the Outline Business Case (OBC) to the Full Business Case (FBC) leading, hopefully, to a green light for the investment decision.

Gate 4 is the implementation stage where a building or service “goes live” and Gate 5 is an evaluation of whether the project met its objectives and the promised benefits were realised.

Overview of the Business Case Development Process

Stage 0 – Business planning

Phase 0 – determining the strategic context (Strategic Outline Plan – SOP)
Step 1: ascertaining strategic fit
Gate 0: strategic fit

Stage 1 – Scoping

Phase 1 – preparing the Strategic Outline Case (SOC)
Step 2: making the case for change
Step 3: exploring the preferred way forward
Gate 1: business justification

Stage 2 – Planning

Phase 2 – preparing the Outline Business Case (OBC)
Step 4: determining potential VFM
Step 5: preparing for the potential deal
Step 6: ascertaining affordability and funding requirement
Step 7: planning for successful delivery
Gate 2: procurement strategy

Stage 3 – Procurement

Phase 3 – preparing the Full Business Case (FBC)
Step 8: procuring the VFM solution
Step 9: contracting for the deal
Step 10: ensuring successful delivery
Gate 3: investment decision
Stage 4 – Implementation

Gate 4: ‘Go Live’

Stage 5 – Evaluation

Gate 5: benefits realisation

In parallel with the Gateway system, the University has chosen to adopt a risk-based approach to project management. The value and risks associated with any particular project are evaluated to give a risk category rating from 1 to 3.

Cat 1 projects can range in value up to a few million pounds if the risk is genuinely low but only up to £250k if the risk is estimated to be medium. Cat 2 projects can range from very low value but high risk, to projects of several millions of pounds but of low to medium risk. At the top end of the project risk category scale, Cat 3 projects can range from high risk but medium value (≥£250k), to projects of tens of millions of pounds and of medium to high risk.
The project risk category is an important feature of this Project Management Framework and is used to drive the University’s review and authorisation processes. The project category will determine whether approval will be required from the University Executive or Finance & Resources Committee in addition to engaging with the Capital Programmes Board. The Excel spreadsheet shown in Section 3.2 estimates the risk rating of the project on a scale of “Low” to “High” and also calculates the project category rating on a scale of 1 to 3 where a category 1 project would be low to medium value and low risk and a category 3 project would be medium to high value and high risk. **This should take no more than 5 or 10 minutes to complete.**

There are many specific benefits to individuals, schools and departments, and to the University itself in adopting the PMF, they include:

1. Maximised probability of success by targeted practical support and integration of project planning and project management expertise;
2. Visibility of the full implications of projects including their strategic importance to the University;
3. Prioritisation of projects;
4. Identification of potential linkages between projects;
5. Identification and resolution of (match) funding requirements;
6. Ensuring that project monitoring requirements are met.

### 2.1 How to Propose a Project – Gate 0

Proposing a new project starts when you first identify an idea that you believe has the potential to become a project. You start to develop your idea by defining its purpose and scope, **how it fits into current University strategies**, the justification for initiating a project and its objectives and outcomes. You will also need to identify any resource requirements and costs necessary for the development of your idea into a business case as your line manager will need to know whether the resources are in place and available or whether they will need to be acquired (eg staff recruitment, redeployment, training, consultants etc.) before proceeding further.

**A Strategic Outline Plan should be completed** (see Appendix 3), this is very simply a check that the idea aligns with the various University strategies. On submission of the SOP to the CPB a project reference number will be allocated and the project will be recorded in the CPB’s Register of Projects. Approval of the SOP by the CPB triggers the allocation of a budget to develop the SOC and a cost code to cover any expenses or fees that will be incurred in developing the business case. These costs will have to be estimated by the Project Manager and approved by the CPB.

Your best estimate of the **project categorisation** should be assigned based on your estimate of the potential costs and the risk level of the project using the approach outlined in Section 3.2. The risk category is then used to determine the detail required in the business case and also what level in the University hierarchy will need to be approached for approval to proceed. It is important that you take care in giving responses that reflect your current understanding of the project as accurately as possible. This assessment will be used by the University to identify any further information that will be required from you to support your application, and also to identify any additional support that may be provided to you to help guide you through the trickier aspects of the project planning process. The assessment will also enable the University’s
Senior Management to understand the risk profile of the projects being undertaken across the whole campus.

Thought must be given to how the progress of the project will be monitored and which University Task Group will receive regular written reports from the project. This will need to be considered and approved by the CPB.

In all cases, the SOP and Project Risk Categorisation should be reviewed and approved by your College Dean, Head of School or Head of Service Department before submission to the Capital Programmes Board for authorisation to proceed to explore the idea in more detail (Gate 0). The review and any recommendations should be recorded in the Project File.

2.2 Developing the Business Case – Gate 1
Following a successful Gate 0 review you will be invited to enter the next phase of project development and to produce a Strategic Outline Case (see Appendix 4). A Risk Register is required for all projects and should accompany the SOC when it is submitted to the CPB (See Section 3.3, Simple Risk Management).

The University will consider very carefully the risks and benefits of such undertakings and also how each fits with the University’s strategic aims and whether it conflicts with other projects in development. Again, the cost of any expenses or fees that will be incurred in developing the business case will have to be estimated by the Project Manager and approved by the CPB.

As with the SOP, the SOC should be reviewed and approved by your College Dean and/or Head of School or Head of Service Department before submission to the Capital Programmes Board (Gate 1). The review and any recommendations should be recorded in the Project File.

2.2.1 Category 1 Projects
Once the SOC is approved by the Capital Programmes Board at Gate 1, the project manager may be authorised to execute the project under the supervision of the HoS/Dean/Head of Service Department and to deliver the project as described in the SOC. Regular progress reporting will be required by CPB which may accept the PM’s proposal or suggest an alternative route for monitoring.

For Cat 1 projects the Project Manager is required to generate a Project Plan outlining project responsibilities, the activities to be undertaken, the resources to be deployed, the deliverables expected and the risks that might arise these details must be agreed with the relevant Head of School/Department or Dean prior to commencement of any work on the project.

2.2.2 Category 2 Projects
Due to their inherent higher risk, the SOC for a Cat 2 project must satisfy both the Capital Programmes Board and the University’s Executive that it should be granted authorisation to proceed to the next phase of project development ie developing an Outline Business Case.

2.2.3 Category 3 Projects
Cat 3 projects represent the highest risk profile and, as such, will be subjected to a greater level of scrutiny and challenge. The SOC for a Cat 3 project must satisfy the Capital Programmes
Board, the University’s Finance & Resources Committee and also University Council that it should be granted authorisation to proceed to the next phase of project development ie developing an Outline Business Case.

2.3 Developing the Business Case – Gate 2

The Strategic Outline Plan and Strategic Outline Case have now both been approved by the relevant groups and, for Cat 2 & Cat 3 projects, the project has been authorised to proceed to the next phase and to develop an Outline Business Case (OBC) which involves progressively more detailed planning of project activities, costs, risks etc. (see Appendix 5).

The OBC is required to be completed prior to the commencement of formal procurement and should provide fuller assessment of strategic fit, option appraisal, achievability, assumptions about costs, benefits, risks and funding. The OBC should determine the preferred option and should recommend a particular procurement route.

The CPB will require that a Project Board be set up, if it has not been already, to provide governance, over-sight, advice and support where appropriate. Information about Project Boards can be found in Section 3.6.

Having defined the project you should now identify and appoint the project team in order to enter the detailed Project Planning phase. You now need to start developing on your initial thoughts about the project. A useful tool at this stage is to hold a “Green Hat Meeting” (See Section 3.7). The planning phase creates the documents that will guide the team throughout the course of the project.

A flow diagram of the main steps involved in developing the business case is given in Section 2.

The Risk Register, which accompanied the SOC should be reviewed and refined, this is a good way of defining and prioritising the work activities.

Useful documents to develop at this stage include a Gantt chart showing the work packages and work breakdown structure of the project. The more effort that you put into this (subject to the warning that the Pareto principle applies!) the more accurate your estimates will be and the greater the likelihood of a positive outcome for all stakeholders. You should give careful consideration to the governance of your project, both in terms of the project team itself and also the management reporting chain.

The Risk Register, which accompanied the SOC should be reviewed and refined, this is a good way of prioritising the work activities.

This is arguably the most important stage in the project lifecycle: many projects fail due to the simple fact that not enough thought had been put into the planning stage. Fortunately, spending time to improve the quality of your business case or project plan will result in the enhanced effectiveness of the project activities themselves. Time spent thinking through potential risks, implications, pitfalls etc at this stage is time well spent and can avoid emergency situations developing later on.
2.3.1 Category 1 Projects

For Cat 1 projects no further Gates are required to be transited, and you can concentrate on delivering your project. However, you are strongly advised to refine and expand your project planning in order to maximise the chance of successful delivery (see Section 3 for details). You will be required to submit regular progress reports to the relevant body as spelled out in the conditions set by the CPB.

Any project requirement for facilities that require construction from new or refurbishment need to be brought to the attention of both your Head of School and the University's Estates Department as early as possible.

Best practice suggests that projects should be reviewed by a small team of people with experience of similar projects. You should conduct this review as a “mini Black Hat” (see Section 3.8 for information and guidance). This exercise should only take an hour or two, commensurate with the size and complexity of the project, this will be time well spent as this form of review is a tried and tested approach to maximising the success of projects.

You should review the topic headings of the OBC and expand on any that you think may help in defining your project. As a minimum, you should include consideration of:

- Project Management Plan (including organisation, management, monitoring)
- Scope, methodology, deliverables etc
- Project Schedule, the programme for the work
- Facilities & Equipment
- Resourcing, i.e. staffing, subcontractors, purchases
- Cost, including payment schedule

2.3.2 Category 2 & 3 Projects

The higher Cat 2 & Cat 3 project categorisations indicate that there is something more than just “business as usual” about the project, risks are generally higher, and that a more considered and measured approach is required. Formal review and approval by CPB of an “Outline Business Case” (OBC) is required for Cat 2 and Cat 3 projects at Gate 2.

A rigorous approach to Risk Management is mandatory for all Cat 2 & 3 projects, and is a significant element of the Project Manager’s responsibilities. The Risk Register is used to ensure that any risks identified during the development of the initial idea and the production of the proposal, and during reviews etc., are mitigated via specific Action Plans. A template and guidance can be found in Section 3.3.

The Project Manager will submit the OBC to the Capital Programmes Board having first subjected it to a Black Hat review (See Section 3.8) and also gained the approval of the Project Board. The Black Hat report will be an important part of the information presented to the CPB, and may also be reviewed by the Executive, Finance & Resources Committee & Council as appropriate.

In addition to the OBC the CPB will expect the Project Manager to be in a position to present detailed information on all aspects of the project. The CPB will also require budgetary estimates of any further costs for the development of a Full Business Case for the project.
2.4 Developing the Business Case – Gate 3

Having been given a green light to proceed by the relevant groups, the project is now required to develop a Full Business Case (FBC). Much of the work involved in developing the FBC will simply focus on updating the OBC rather than starting from scratch. The FBC is completed prior to the commencement of the procurement and will include, for example, the development of the procurement model, the tender documents and appraisal methodology and setting up a competitive procurement exercise to ensure value for money (see Appendix 6).

The FBC should provide all the information needed to support a decision to award a contract and commit actual funding, and should provide a basis for the necessary project management, monitoring, evaluation and benefits realisation. Key components of the FBC include:

- an update on key changes and developments since the OBC
- full details of the procurement process and the tender appraisal methodology
- final review of strategic fit, options, value for money, affordability and achievability
- final plans for monitoring, evaluation and benefits realisation.

A Contents List for the FBC is given in Appendix 6. As with all other Gateways, you should arrange for the FBC to be subjected to a Black Hat review before submission to the Capital Programmes Board and the recommendations and comments should be recorded in the Project File. The CPB will also require budgetary estimates of any further costs for progressing the project to the point where a contract may be placed.

The Project Board will define a strategic level risk for the project that will be reviewed and approved by the CPB and included in Risk Management Task Group’s Strategic Risk Register.

2.5 Placing the Contract – Gate 4

Having gone out to tender on the basis of the Full Business Case produced for Gate 3, the formal procurement process (eg OJEU, Sell2Wales etc.) must be entered into as stipulated in the University’s Financial Regulations and appropriate law.

A thorough appraisal of bids received from suppliers via the procurement option detailed in the FBC must be undertaken and recorded. A plan and timetable for final negotiations and award of contract must be produced and full details of the preferred bid, together with the bid appraisal report must be submitted to the CPB in the first instance.

Only once written confirmation of approval from CPB and Exec/Finance & Resources/Council has been received can the contract for the delivery of the procured option be signed.

2.6 Project Execution

Congratulations! Your project has successfully navigated the University’s Gateway process, funding has been approved and you have been given authorisation and signed contracts with your chosen supplier(s). Your project planning can now be put into action.

As Project Manager you are responsible to your Head of School, Dean, or Department Manager and University Management via the Capital Programmes Board for the successful completion of the project to time, cost and quality. This implies that you have accepted responsibility for the key success factors for the project, e.g. deliverables, milestones, cost etc.
Regardless of the initial project categorisation assigned during the earlier stages, you should:

- review the contract and to ensure that you are familiar with all aims, requirements and expectations;
- review the work packages and work breakdown structure to ensure they are still valid;
- produce a project spend profile on at least a quarterly basis based on anticipated deployment and equipment/capital purchases (this will be used to update Agresso);
- check that all resources are available on the required timescales;
- brief the project team appropriately;
- review the project categorisation to ensure that the size of the project, or risk associated with it, has not increased dramatically. If the categorisation has increased then this may involve revisiting decisions made on the project to date. The reasons for such a change of category and associated follow-up should be documented in the project file.
- produce a Project Management Plan covering the project organisation and responsibilities, ethics, safety and environmental issues. The level of detail required will be commensurate with the size and complexity of the project.

For all Cat 3 projects the Project Manager is required to enter all strategic level risks for the project into the Risk Management Task Group’s Strategic Risk Register which is managed using the 4risk software.

With a clear definition of the project and a suite of detailed project plans, you are now ready to enter the Execution phase of the project. It must be emphasised that projects:

- Depend on people and teamwork;
- Have specific and desired outcomes with clear benefits;
- Are subject to risk.

This is the phase in which the activities detailed in the Business Case are undertaken and whatever deliverables and outcomes you promised are developed. Throughout the course of the project you should be undertaking a number of management processes to monitor and control the deliverables being output by the project and to report on progress and/or problems upwards through the management chain.

The principal objectives of these project management processes are:

- Ensuring that the funding is used for the purposes for which it is made available and that any terms and conditions are complied with;
- To ensure that the project is proceeding and can be expected to proceed according to plan;
- To identify projects that fail to meet forecasts if appropriate. In some cases, projects that fail to meet their targets risk recovery or reduction of grant.

These processes include managing time, cost, quality, change, risks, issues, suppliers, customers and communication, both internal and external. Useful tips on managing projects may be found on the JISC website [http://www.jiscinfonet.ac.uk/infokits/project-management/](http://www.jiscinfonet.ac.uk/infokits/project-management/).
Periodic Review and Reporting

All projects are subject to internal periodic review and reporting requirements in addition to any requirements imposed as a condition of funding.

Reporting is an important responsibility for Project Managers and should not be seen as an onerous task. The aim is to be brief and to the point; you don’t want to waste your time writing reams of paper and the reviewers don’t have time to read it either. If the project is on course for a successful outcome then the progress report need not take more than a few minutes to complete. However, if there are problems with the project, then taking the time to outline the issues in the progress report can be helpful in that it forces you to think about the problem and its solution; it also brings other minds to bear that might be able to identify solutions that you’d not thought of and provide additional support to help you.

A template dashboard progress report is shown in Appendix 8 and will be made available on the intranet.

Category 1 Projects

For all Cat 1 projects progress, including the project risk register, should be reviewed on a monthly basis by the Project Board unless the project is running into difficulties, in which case you must report the problem immediately to the CPB together with your proposal for remedial action.

Category 2 & 3 Projects

For all projects in Cat 2 and 3 you must provide a progress report, which includes your review of the project risk register, on a monthly basis to the Capital Programmes Board. For all Cat 3 projects the Project Manager must also update the strategic level risks for the project held in the Risk Management Task Group’s 4risk Strategic Risk Register.

In the event of projects in difficulties the CPB will escalate the issue to the University Executive, Finance & Resources Committee and Council if recovery plans cannot be agreed or prove ineffective. Any significant change in the risk profile of the project must be reported to CPB at the earliest convenience.

2.7 Closure – Gate 5

Once all the deliverables have been produced and the “customer”/end-user has accepted the final solution, the project is ready for closure.

Project Closure involves releasing the final deliverables to the customer, handing over project documentation to the business, terminating supplier contracts, releasing project resources and communicating project closure to all stakeholders. The last remaining step is to undertake a Post Project Review to identify the level of project success and note any lessons learned for future projects.
All projects, regardless of category, are required to submit an “End of Project Summary Report” to the CPB in order that its project register can record that the project is complete and has been closed. A template EoPSR is shown in Appendix 9 and will be made available on the intranet.
3. Tools and Processes

3.1 Project Manager Competency

The University requires the identification and appointment of competent personnel to project roles, in particular the appointment of a Project Manager appropriate for the category of project. Whilst use of the competency assessment spreadsheet is suggested for Cat 1 Projects, it is highly recommended for Cat 2 & 3 projects. The assessment exercise is useful in choosing between candidates and also identifying areas where additional support or training would be beneficial to the project.
Project Manager competency is based on a combination of the behaviours, technical knowledge, skills and experience required to effectively deliver the project. The PM Competency spreadsheet, available on the intranet, includes a comprehensive list of key Project Management skills, not all of which will be necessary for every project.

The Head of School/ College/ Project SRO should decide the relevance of each of the listed skills & factors on a scale of “essential”, “important”, “desirable” or not applicable. Additional skills & factors may be added. The spreadsheet will then produce a score on a scale of 0 to 10 for skills & behaviours. It will also produce a couple of pie charts that give an indication, via a red-amber-green system, of the proposed project manager’s competence and training/ development requirements.
3.2 Project Categorisation

The University has adopted a risk-based approach in order to ensure that risks are identified and managed and that the project has an appropriate level of scrutiny at all stages. Projects will be categorised according to their estimated value and risk based on an initial risk assessment.

<table>
<thead>
<tr>
<th>Project Category</th>
<th>Category Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Under £250k total cost and low to medium impact outside the proposing body or up to £4M total cost but very low risk.</td>
</tr>
<tr>
<td>2</td>
<td>Under £250k total cost and high impact outside the proposing body; between £250k and £4M total cost and low to medium impact outside the proposing body; or over £4M total cost but very low risk.</td>
</tr>
<tr>
<td></td>
<td>Project must be approved by CPB &amp; University Executive</td>
</tr>
<tr>
<td>3</td>
<td>High value and/or high risk.</td>
</tr>
<tr>
<td></td>
<td>Project must be approved by CPB, Finance &amp; Resources Committee &amp; Council</td>
</tr>
</tbody>
</table>

As part of the process of developing your idea into a viable business case and project plan, you’re required to complete a 1-page preliminary project risk assessment which is, in reality, a very simple process.

First, there are a few basic details about the project such as its title, your College & School, a ball-park value estimate, your name & the likely funding stream. We’d then like to know whether you’re going to need match funding.

The assessment is used to estimate the project risk, based on potential threats in the following areas: environmental impact, health and safety, strategic importance & reputation, timescales & programme, finance & commercial, technology (complexity, requirements & understanding), customer and resourcing (including internal and subcontractor). You are offered a list of typical risks that might pose a threat to the successful completion of a typical University Project. Each risk has a description of how Low, Medium and High is defined, and you are simply asked to select, from a drop-down menu, which you think is most appropriate for your potential project. Try to be as honest as possible: risk management is not the avoidance of risk, it’s a process by which actions (mitigations) are identified either to reduce the probability that the problem will occur or to reduce the impact on the project if it does occur. Its function is to maximise the likelihood of a successful outcome for all parties.
# Project Categorisation

<table>
<thead>
<tr>
<th>Project Title:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference:</td>
<td>CPB/2015/P123</td>
</tr>
<tr>
<td>College:</td>
<td></td>
</tr>
<tr>
<td>Support Department:</td>
<td>Estates</td>
</tr>
<tr>
<td>Project Value:</td>
<td>Under £250k</td>
</tr>
<tr>
<td>Equipment:</td>
<td>£0</td>
</tr>
<tr>
<td>Match Funding:</td>
<td>No</td>
</tr>
<tr>
<td>Date:</td>
<td>Jul-15</td>
</tr>
<tr>
<td>Project Manager:</td>
<td>AN Other</td>
</tr>
<tr>
<td>Funding Agency:</td>
<td>Bangor University</td>
</tr>
<tr>
<td>Programme:</td>
<td></td>
</tr>
<tr>
<td>Strategic Fit:</td>
<td>Yes</td>
</tr>
<tr>
<td>Public Interaction:</td>
<td>No</td>
</tr>
<tr>
<td>Partners:</td>
<td>0</td>
</tr>
<tr>
<td>Health &amp; Safety Issues:</td>
<td>No</td>
</tr>
</tbody>
</table>

## Threats

<table>
<thead>
<tr>
<th>Threats</th>
<th>Risk</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Costs</td>
<td>Low</td>
<td>Manpower costs well defined and fully understood</td>
<td>Manpower costs not well defined, some uncertainty with cost implications</td>
<td>Significant uncertainty in manpower costs</td>
</tr>
<tr>
<td>Capital Costs</td>
<td>Low</td>
<td>Capital and Equipment costs well defined and fully understood</td>
<td>Capital and Equipment costs not well defined, some uncertainty with cost implications, some refurbishment of facilities required</td>
<td>Significant uncertainty in capital and equipment requirements costs, significant new build or complex refurbishment</td>
</tr>
<tr>
<td>External Partners</td>
<td>Negligible</td>
<td>Little or no reliance on partners</td>
<td>Some reliance on partners</td>
<td>Significant reliance on partners</td>
</tr>
<tr>
<td>Outputs &amp; Targets</td>
<td>Medium</td>
<td>Well defined targets, delivery readily achievable</td>
<td>Range of targets some not as well defined as others, some delivery issues</td>
<td>Poorly defined targets, complex delivery issues</td>
</tr>
<tr>
<td>Risk of Clawback</td>
<td>Negligible</td>
<td>Some potential for limited reclaim of funds</td>
<td>TSB or EU FP project, potential to withhold significant funds</td>
<td>WEFO funded, potential clawback of all funds</td>
</tr>
<tr>
<td>Funding Agency</td>
<td>Negligible</td>
<td>Strong track record of quality proposals and project delivery</td>
<td>Patchy track record for quality delivery</td>
<td>Weak track record of proposals or project delivery. Funding Body prepared to penalise poor proposals</td>
</tr>
<tr>
<td>Public Image</td>
<td>Negligible</td>
<td>Negligible potential for damage to BU reputation and image</td>
<td>Potential to damage BU image (i.e. public enquiry required, environmentally sensitive)</td>
<td>High profile project with potential to result in litigation etc. and severe damage to BU reputation &amp; image</td>
</tr>
<tr>
<td>Other Project Specific Threat</td>
<td>High</td>
<td>Project specific</td>
<td>Project specific</td>
<td>Tight project timescale in order to meet academic timetable</td>
</tr>
<tr>
<td>Other Project Specific Threat</td>
<td>Negligible</td>
<td>Project specific</td>
<td>Project specific</td>
<td>Project specific</td>
</tr>
</tbody>
</table>

## Overall Risk Rating

| Overall Risk Rating | Low | Project Category | 1 |

This assessment must be sent to both your Head of School/Department & the CPB

Form version 0.9 18/06/2015
The spreadsheet calculates the risk rating of the project on a scale from Low to High and uses this, together with your estimate of the value of the project, to assign a project category rating on a scale from 1 to 3. The Project Category then determines what information is required from you before approval can be granted for you to further develop the business case or place contracts etc. and who should make that decision. The matrix below describes the category allocation according to these parameters.

<table>
<thead>
<tr>
<th>Risk</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Under £250k</td>
</tr>
<tr>
<td>High</td>
<td>2</td>
</tr>
<tr>
<td>Medium</td>
<td>1</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
</tr>
</tbody>
</table>

The initial Project Category will be formally agreed with the Capital Programmes Board and will be recorded in the Project File.
## 3.3 Simple Risk Management

### Example Project: Risk Register

<table>
<thead>
<tr>
<th>Ref</th>
<th>Risk Description</th>
<th>Prob</th>
<th>Impact</th>
<th>Rank</th>
<th>Risk Owner</th>
<th>Mitigation</th>
<th>Post Mitigation Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.01</td>
<td>Project lacks direction</td>
<td>M</td>
<td>C</td>
<td>H</td>
<td>DS</td>
<td>Project Board assigned with Tuft to develop vision for the next 20 years</td>
<td>DMC</td>
</tr>
<tr>
<td>2.01</td>
<td>Options</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.02</td>
<td>Project lacks vision to undertake anything more than replace facilities in small increments with no real improvement to the holistic picture.</td>
<td>H</td>
<td>C</td>
<td>H</td>
<td>Project Board</td>
<td>Under take a series of optioning workshops to identify a number of options for developing the facilities</td>
<td>Project Board</td>
</tr>
<tr>
<td>3.01</td>
<td>Funding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.02</td>
<td>Failure to attract sufficient incremental funding to enable ambition to be realised</td>
<td>VH</td>
<td>Ct</td>
<td>H</td>
<td>Vice Chancellor</td>
<td>Develop funding strategy and business case to be agreed to. Oversight by CPB</td>
<td>Vice Chancellor</td>
</tr>
<tr>
<td>4.01</td>
<td>Business Case</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.02</td>
<td>The scope of the project needs to be tightly defined at an early stage in order that the brief issued is clear.</td>
<td>VH</td>
<td>C</td>
<td>H</td>
<td>CPB</td>
<td>Robust business case to be developed early on including Whole Life Costing Model. Pre-action engagement with users.</td>
<td>Project Board</td>
</tr>
<tr>
<td>5.01</td>
<td>Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.02</td>
<td>Lack of clarity and/or late changes in brief (including design) leads to increased costs</td>
<td>H</td>
<td>C</td>
<td>H</td>
<td>CPB</td>
<td>Stakeholders engaged in order to develop a tightly defined brief</td>
<td>Project Board</td>
</tr>
<tr>
<td>6.01</td>
<td>Stakeholders &amp; Communications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.02</td>
<td>Failure to engage sufficiently with stakeholders, resulting in a failure to win buy-in</td>
<td>M</td>
<td>C</td>
<td>H</td>
<td>DMC</td>
<td>Engage with Gwynedd, consult with relevant Schools and Colleges. Oversight by Project Board and CPB. Newsletter &amp; Website</td>
<td>M</td>
</tr>
<tr>
<td>7.01</td>
<td>Construction Phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.02</td>
<td>Project Management fails to provide adequate control and visibility of progress &amp; costs</td>
<td>M</td>
<td>C</td>
<td>H</td>
<td>Project Board</td>
<td>Appoint PM team, Employer’s Agent and Clerk of Works</td>
<td>Project Team</td>
</tr>
<tr>
<td>8.01</td>
<td>Operational Phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.02</td>
<td>Failure of individual buildings to retain BREEAM “Excellent” status in Post Occupancy Evaluation (POE) as required under new BREEAM 2011 regime.</td>
<td>H</td>
<td>S</td>
<td>M</td>
<td>CPB</td>
<td>Design reflects experience from existing BREEAM rated buildings. Effective management of end user expectations from outset and implementation of “customer easy” control systems</td>
<td>Project Team</td>
</tr>
<tr>
<td>9.01</td>
<td>General</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.4 Work Packages and Work Breakdown Structure

A Work Package is a specific piece of work which identifies a task (or group of tasks). It clarifies who is responsible for each piece of work. This does not need to be an onerous process – verbal agreements between the project manager and individuals working on the various work packages will be sufficient in some situations.

The Work Breakdown Structure provided coherence in bringing the various individual Work Packages together and supports timetabling each piece of work efficiently. Effective definition of Work Packages and the development of a coherent and well-thought out Work Breakdown Structure will ensure the project runs as smoothly as possible, that all costs are clearly identified, that resources are used efficiently, that people working on the project have a clear understanding of their role within the overall project and that each piece of work fits together neatly within the project timetable.

3.5 Stakeholder Analysis

Understanding your key stakeholders is an important part of successful project management. You need to know more about your key stakeholders. You need to know how they are likely to feel about and react to your project. You also need to know how best to engage them in your project and how best to communicate with them. Stakeholder Management is the process by which you identify your key stakeholders and win their support. Stakeholder Analysis is the first stage of this, where you identify and start to understand your most important stakeholders.

Firstly, think of all the people who are affected by the project, who have influence over it, or have an interest in its conclusion. The next step is to prioritize them, and to plot this on a Power/Interest Grid. Someone's position on the grid shows you the actions you have to take with them:

- **High power, interested people**: these are the people you must fully engage with, and make the greatest efforts to satisfy.
- **High power, less interested people**: put enough work in with these people to keep them satisfied, but not so much that they become bored with your message.
- **Low power, interested people**: keep these people adequately informed, and talk to them to ensure that no major issues are arising. These people can often be very helpful with the detail of your project.
- **Low power, less interested people**: again, monitor these people, but do not bore them with excessive communication.

You may now have a long list of people and organizations that are affected by your work. Some of these may have the power either to block or advance it. Some may be interested in what you are doing, others may not care. The final stage is to get an understanding of what motivates your stakeholders and how you need to win them around.
Stakeholder Analysis Template

<table>
<thead>
<tr>
<th>High Power</th>
<th>High Interest</th>
<th>Manage Closely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep Satisfied</td>
<td>Keep Informed</td>
<td></td>
</tr>
<tr>
<td>Monitor</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.6 The Project Board

The Project Board (or Steering Committee), led by the Senior Responsible Owner (SRO), is an essential part of project management and is the key governance body within the project structure. The function of the Project Board (PB) is to take responsibility for the strategic direction and management of the project. An effective Project Board can make the difference between a successful project and a disaster. The Project Board reports to University management via the Capital Programmes Board for Cat 2 & 3 projects.

The Project Board is responsible for approving budgetary strategy, defining and realising benefits, and monitoring risks, quality and timeliness, making policy and resourcing decisions, and assessing requests for changes to the scope of the project. For Cat 2 & 3 projects the Project Board will define a strategic level risk for the project that will be reviewed and approved by the CPB and included in Risk Management Task Group’s Strategic Risk Register. This strategic level risk will be reviewed on a monthly basis by the PB and reported to the CPB.

The project manager is responsible for the day-to-day management of the project; the Project Board is ultimately responsible in the realisation of project outcomes/benefits.

The Project Board will bring together key stakeholders and other areas of the University to ensure the project runs effectively, in particular by:

- Agreeing the project plans and documentation (e.g. Project Brief, Risks and Issues Register);
- Ensuring that the project’s scope aligns with the requirements of the stakeholder groups and the University’s own strategy;
- Monitoring progress against the plans and agreeing any revisions necessary as the project progresses;
- Assisting in problem solving, (e.g. to help the project manager resolve scope and objectives that are not clear);
- Identifying and managing risks and issues;
- Agreeing any re-prioritisation of work or reallocation of resources necessary to ensure milestones are achieved and risks managed effectively;
- Resolving issues brought to it;
- Keep the project scope under control as emergent issues force changes to be considered.

At each meeting, the Project Board will:

- Take a report from the project manager and from each Work Package leader where appropriate;
- Review the project plan, the risk register and the issues log.
When setting up a Project Board it is crucial that the members understand what is the purpose and scope of the Board and how it should operate. Project Board members will not delegate attendance at meetings unless unavoidable. Where deputies are sent, they will be expected to have full authority to make decisions and, where appropriate, commit resources.

### 3.7 Green Hat – the Creative Thinking Hat

A “Green Hat” is a review based on De Bono’s “6 Thinking Hats” model, [http://en.wikipedia.org/wiki/Six_Thinking_Hats](http://en.wikipedia.org/wiki/Six_Thinking_Hats), and is held during the early stages of idea development to identify potential options. They are held as soon as sufficient information is available to permit sensible brainstorming of ideas and are sometimes known as “Optioneering Meetings”. Green Hats have been shown to be very powerful tools in the proposal development process.

A Green Hat review meeting enables a creative and innovative thought process to be applied to the development of a proposal. All suggestions made in the meeting should be proactively built upon, even if they are later dismissed. Through thinking creatively and being constructive it will facilitate thinking outside the box. All Cat 2 & 3 projects are encouraged to hold a Green Hat early on in the business case development process.

There are principles and rules for Green Hats reviews which make them distinct from any other meeting:

**When should a Green Hat be carried out?**

It is suggested that a Green Hat takes place early in the proposal process or even earlier when assessing potential opportunities and prospects.

**Purpose of Green Hats**

The purpose of a Green Hat is to harness creative and innovative thinking at an early stage in the proposal development process. Through providing the opportunity for lateral thinking concerned with changing concepts and perceptions it prevents funnelled vision.

The Green Hat provides an opportunity for the project team to develop innovative ideas for delivering the anticipated project outcome(s). Therefore the Green Hat should occur early on in the process. This will reduce the possibility of new and innovative ideas occurring during the Black Hat review stage (see Section 3.9). By this time, evaluation of what could be excellent options is often limited by the impending submission date and it takes away from the purpose of a Black Hat: to critically analyse the solution.

There are a number of characteristics that apply to a successful Green Hat. These are outlined below:

- The meeting can be run either by the project manager or a facilitator.

- The meeting should start with a briefing on the following:
  - opportunity, eg funding theme etc
  - “customer”, end-user etc
• background to the project – eg meetings with potential funders etc
• scope of the project

The meeting will then go on to establish possible creative solutions for the project. This can be done in a range of ways including:

• looking at what we do elsewhere
• looking at what other organisations and institutions do elsewhere that has been successful
• running brainstorming sessions on different aspects of the solution

The aim is to establish a shopping list of possible solutions. They do not need to be validated with critical thinking at this point, but rather provide a list of options for consideration and validation during the proposal development stage.

Once the initial stage of idea generation has been completed, the meeting may then move on to look in more depth at particularly promising or innovative ideas. However it should be remembered that the purpose at this stage is to generate possibilities, not to dismiss them.

If done well the creative thinking will provide a greater chance of our proposal being truly innovative and will provide more time for the project team to research and develop the ideas that arise.

The key requirements of the customer can usually be identified from either a thorough knowledge of that customer or from the apparent weighting of areas in the evaluation of the proposal. Identifying these correctly will clearly give us a significant advantage in the bidding process.

A meeting to identify the key requirements should take place soon after the funding opportunity has been identified and those present brainstorm all the possible requirements of all the stakeholders. Each stakeholder should then be ranked by importance to help create an overall priority order. Key areas to consider may be:

• Major operational elements of the project
• Financial needs
• Potential areas for the transfer of risk
• Strategic/long term aims of the customer
• The key benefits sought at the time

Organising a Green Hat
The developer of the proposal, in calling the Green Hat, should see it as the opportunity to get the best minds in the University with relevant experience, knowledge or skills to add their expertise to the developed proposal. Due to the focus of the Green Hat, it is important to create an environment within which a group of relevant people can input, early on in the process, creative ideas for possible solutions to the different aspects of the situation. In addition different perspectives on the wider opportunities that the situation may present can also be brainstormed.
Focus
The ideas raised may harness new concepts or alternative methods of working so that every possible solution has been considered and put forward. This means that ideas will be the result of creativity, experience and lateral thinking. Through the creative and radical nature of the process, ideas may go beyond what the team is initially comfortable with. The ideas can then be taken forward by the team for further research and possible inclusion in the final proposal. The Green Hat does not need to decide, there and then, what will definitely work and what is not feasible.

Attendance
When deciding upon who should attend, consideration should be given to the output. Creative and innovative solutions are being sought and therefore the people at the meeting should be able to generate all possible options for consideration.

The following people should attend a Green Hat:

- the project team including PM & SRO
- anyone with experience of the key technical and commercial aspects included in the project
- managers of other contracts with the customer or contracts doing similar work
- radical thinkers
- a senior manager such as the relevant Head of School etc.

This will normally amount to between six and twelve people. Large and complex projects may require a number of Green Hats, each concentrating on a different area of the potential solution plus one for the overall solution.

Information
A couple of days prior to the meeting participants will have been sent a summary of the key areas of the project eg the call plus any other useful information.

Timing
The Green Hat should be held as early as possible (once sufficient information is available) during a project so that there is time for the ideas generated to be analysed and the best chosen and developed.

Management
Green Hat meetings need careful management by the project manager or facilitator to keep the decisions on track and to ensure that issues are fully debated but ensure that the focus of the meeting is maintained. Record all decisions that are made and circulate them quickly afterwards.

Attending a Green Hat
A Green Hat will only be successful if all attendees participate fully:

- **Commitment**
  If you have been asked to attend a Green Hat, you have been selected for your skills, experience and knowledge and therefore cannot select a substitute. Once you are involved in a Green Hat you must commit to the whole of the Green Hat and cannot be side-tracked by outside influences.
- **Non-functional**  
  Don’t only think about your area of expertise. Contribute to all areas of the discussion. No areas are closed off and reciprocally, if you are on the project team, you should welcome the interest of others in your area.

- **Challenge**  
  Don’t be afraid to challenge convention or unstated assumptions. Raising what may seem unusual or simple ideas can actually lead the way to a great proposal.

- **Contribute**  
  Your input is needed. Offer what you can when it is appropriate, don’t wait to be asked. Getting everyone’s views out in the open at a Green Hat is the most productive and efficient way of moving forward together. If you are uncomfortable with a solution, or have concerns, this is the time and place to air them.

- **Attitude**  
  Be prepared to listen – others may be able to bring a perspective you have not thought of. Be objective; allow others to question your view. Do not be dismissive.

**Other benefits**  
Besides the obvious output of Green Hats, there are a number of other important side benefits:

- The input of ideas at the start of the process gives the project team time to research and develop the ideas and choose the best of them to move forward with. This is preferable to starting with a limited range of ideas and only getting input later in the process at the Black Hat when it may be too late or very difficult to make major changes.

- The early input of ideas allows the Black Hat to focus on critique rather than being a mix of ideas and critique. It also means that the Black Hat arguments will be of a higher level, as many alternatives will already have been thought through and rejected and the reasoning behind the decision can be objectively demonstrated. In this way it is possible to validate our proposed solution as the one that not only meets the requirement, but also presents best value.

**Summary**  
The creative thinking generated by the Green Hat means that our solution has a greater chance of being truly innovative, as it will have considered all possible options. It should be remembered that the purpose at this stage is to generate possibilities, not dismiss them.
## 3.8 Black Hat – the Critical Analysis Thinking Hat

A “Black Hat” is another review process based on De Bono’s “6 Thinking Hats” model, [http://en.wikipedia.org/wiki/Six_Thinking_Hats](http://en.wikipedia.org/wiki/Six_Thinking_Hats). A Black Hat meeting is designed to critically review a situation. Many organisations have used the Black Hat technique with great success for many years.

Black Hats are not simply review meetings. The principles and rules under which they operate are distinct from any other meeting and are outlined in this Section.

### Purpose of Black Hats

The purpose of a Black Hat is to expose a solution to critical testing at times during its development. This helps ensure that the developers of the solution have their thinking and work critiqued by a set of people who have experience and expertise in the relevant area. Thus the developers can move on through the process with confidence that it is the best that they can accomplish.

There are a number of characteristics that apply to a successful Black Hat:

- Prior to the meeting everyone should have received and read the latest version of the solution to be discussed together with background information including **any details of the scoring mechanism to be applied** by the funding agency. This ensures that the focus of the meeting is on the solution and not wasting time.
- Solution developers should convene the Black Hat. It is their meeting and they should ensure they receive the inputs they require.
- There is **no rank or seniority** in a Black Hat. Ideas and criticisms are discussed on their merit and not on the position or experience of the originator.
- No question is too simple or stupid. It is often the naive questions that can reveal a basic flaw in the thinking behind the solution or logic it follows. Similarly it is up to the solution developer to explain to a questioner why the solution will not work better in another way it is up to the questioner to justify their position.
- Attendees should be encouraged to pose questions outside their normal functional experience.
- All assumptions should be tested. If the assumptions on which the solution is based – for instance the end-user’s needs – are flawed or unclear these must be challenged or remedied.
- The solution should be exhaustively tested. There must be time, not only to test the concepts on which the solution is based but also to test all the details of the solution.
- The Black Hat is not completed until all aspects of the solution have been challenged, tested and resolved, even if this means extending the meeting or reconvening later.
• A consensus must be reached. At the end of the Black Hat all those who have attended should own the solution. A consensus should be reached on each part of the solution before the Black Hat moves on.

Attending a Black Hat

A Black Hat will only be successful if all attendees participate fully by they part of the team developing the solution or part of the team critiquing the solution:

• Commitment
  If you have been asked to attend a Black Hat, you have been selected for your skills, experience and knowledge. Once you are in a Black Hat, do not be side-tracked by outside influences.

• Non-functional
  Don’t only think about your area of expertise. Contribute to all areas of the discussion. No areas are closed off and reciprocally if you are on the solutions team you should welcome the interest of others in your area.

• Challenge
  Don’t be afraid to challenge convention or unstated assumptions. Seemingly naïve questions can uncover a gap in people’s logic – don’t be afraid to ask them and don’t dismiss them if you are asked.

• Contribute
  Your input is needed. Offer what you can when it is appropriate, don’t wait to be asked. Getting everyone’s views out in the open at a Black Hat is the most productive and efficient way of moving forward together. If you are uncomfortable with a solution or have concerns this is the time and place to air them.

• Attitude
  Be prepared to listen – others may be able to bring a perspective you have not thought of. Be objective, allow others to question your view. If you cannot persuade the meeting to see your point of view, accept the consensus opinion. Do not be dismissive. Don’t fall out. Don’t take it personally. Remain friends and part of the team. When a decision has been reached it enables the meeting to move on with confidence, collectively.

Other benefits

Besides the obvious output of Black Hats, there are a number of other important side benefits:

• Everyone attending increases their own understanding of the requirement and the proposed solution. This will help people gain a wider appreciation of the overall task and how their contribution fits into a larger picture.

• The debate and alternatives discussed will give the solution developer more arguments to ‘sew’ into the solution. These can support our own representations or, equally useful, knock down an alternative solution.
• Individual worries are removed by discussion. Where concerns remain they will have been quantified and recognised by all attendees. This is especially true of any risks involved in the proposal so that these can either be eliminated or incorporated into the risk management plan.

3.9 Lessons Learned

The Office of Government Commerce defines the purpose of the Lessons Learned Report as follows:

“...to bring together any lessons learned during the project that can be usefully applied to other projects”.

A record of lessons learned should be kept throughout the project and brought together in the End Of Project Summary Report (EoPSR) required by CPB at the project’s conclusion. It is suggested that the EoPSR should include the following:

- What went well and what went badly
- An assessment of any technical processes used
- Recommendations for potential improvements to the running of similar projects in future
- Notes on any quality reviews

The EoPSR should be viewed as information that can be shared (although sometimes areas may have to be kept confidential) as well as what would be valuable for future projects to the form of recommendations on any enhancements or modifications. At the start of a new project, previous EoPSRs should be reviewed to consider how lessons learnt from previous projects could be applied to the project.

CPB can assist with examples of EoPSRs in addition to sharing existing experience prior to the commencement of project work.
Appendix 1: Project Planning Timeline
Appendix 2: 5-Case Business Model

The Five Case Business Model is the Office of Government Commerce’s (OGC) recognised process for the preparation of business cases. It is intended to ensure that business cases – including proposals for investment and funding – are well-thought through, focused and achievable. Government and non-governmental grant awarding bodies increasingly require the production of applications for funding in line with this model.

The Five Case Business Model encompasses the following issues:

1. **Strategic Case**
   
   What are the aims? Is the work proposed necessary? Does it fit in with strategic objectives? Is there a clear case for the project? Is the project clearly defined? Has consideration been given to the contribution of other departments or organisations?

2. **Economic Case**
   
   Does the proposal offer value for money? Have a wide range of options been considered? Does the preferred option – the option which is the subject of a proposal – offer the best possible mix of cost, benefit and risk?

3. **Commercial Case**
   
   Is the project viable? What will it deliver? What is the procurement process?

4. **Financial Case**
   
   The project must be affordable. Are all estimated costs realistic? Are the resources – both financial and human – available to complete the project?

5. **Management Case**
   
   Is the project deliverable? Can the applying organisation prove that it is capable of delivering? Are there processes in place to support the successful completion of the project?

There are three stages of development: the Strategic Outline Case (SOC), the Outline Business Case (OBC) and the Full Business Case (FBC).
There are in turn 10 key steps in development:

|-----------------------|--------------------------|-------------------------------|-------------------------|------------------------------------|----------------------------------------|----------------------------------------|----------------|----------------|-----------------------------------|

<table>
<thead>
<tr>
<th>STRATEGIC</th>
<th>ECONOMIC</th>
<th>COMMERCIAL</th>
<th>FINANCIAL</th>
<th>MANAGEME</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC</td>
<td>OBC</td>
<td>FBC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A full 5 case business model proposal will only be necessary for high value and high risk projects (Cat 3). CPB will be able to support you in preparing full 5 Case Business Model bids where necessary.
Appendix 3: SOP

**Strategic Outline Plan**

This form is **mandatory** and allows you to demonstrate how the project fits in with current University strategy.

<table>
<thead>
<tr>
<th>Project Reference:</th>
<th>CPB/……</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Title:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Project Outline</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Strategic Fit</strong></td>
<td>By referring to the Strategic Priorities and Aims defined in the current University Strategic Plan and the Estate Strategy describe briefly how the project aligns with those strategies</td>
<td></td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>£</td>
<td>Funding Source</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project Manager:</td>
</tr>
<tr>
<td><strong>Budget requested to produce SOC</strong></td>
<td>£</td>
<td></td>
</tr>
</tbody>
</table>

**Decision**
The project is approved/not approved to progress to developing a SOC

Authorised by: ________________________________ Date: ________________

Position: ______________________________________

---

1 See Appendix for guidance.
### Appendix: Project Categorisation

<table>
<thead>
<tr>
<th>Project Category</th>
<th>Category Characteristics</th>
<th>Approval Process</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>Under £250k total cost and low to medium impact outside the proposing body or up to £4M total cost but very low risk.</td>
<td>Project must be approved by CPB</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Under £250k total cost and high impact outside the proposing body; between £250k and £4M total cost and low to medium impact outside the proposing body; or over £4M total cost but very low risk.</td>
<td>Project must be approved by CPB &amp; University Executive</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>High value and/or high risk.</td>
<td>Project must be approved by CPB, Finance &amp; Resources Committee &amp; Council</td>
</tr>
</tbody>
</table>

A Project Categorisation Form (Excel spreadsheet) should be completed which will identify specific risks and information that must be taken into consideration during the proposal phase and deliver a categorisation that will be used to guide the proposal approval process.
Appendix 4: SOC

Strategic Outline Case

<table>
<thead>
<tr>
<th>Reference:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title:</td>
<td></td>
</tr>
<tr>
<td>Project Manager:</td>
<td></td>
</tr>
<tr>
<td>Stakeholders:</td>
<td></td>
</tr>
<tr>
<td>Schools Involved</td>
<td></td>
</tr>
<tr>
<td>Students Directly Affected</td>
<td>UG</td>
</tr>
<tr>
<td>Students Indirectly Affected</td>
<td>UG</td>
</tr>
<tr>
<td>Outline Cost</td>
<td></td>
</tr>
<tr>
<td>Funding Source</td>
<td></td>
</tr>
</tbody>
</table>

1. EXECUTIVE SUMMARY

2. OUTLINE BUSINESS CASE

Reasons for undertaking the project:

- Why is the project needed?
- What is the current situation?
- Is this a problem or an opportunity?
- What are the current issues that need addressing?
- Provide a clear summary of the background to and context for the project and how the current need for the project has developed.
- What problems will arise if the proposal does not go ahead?
- Strategic fit - Identify which aspects of BU’s strategic objectives and plans are addressed by the project – Additionality & Added value.

2.1 Project Cost Estimate
2.2 Business Case Development Estimate

3. PROJECT DEFINITION

3.1 Project Objectives
3.2 Scope
3.3 Dependencies & Interfaces
3.4 Benefits
6. DECISION

Has the proposal been approved, rejected, deferred etc. and do any conditions apply? This will be filled in after a decision has been made and will contain details of any conditions of an approval.

Progress reports for projects in Cat 1 should be submitted on a regular basis to 

An End of Project Summary Report is required by CPB on completion of the project.

Authorised
by:________________________________________Date:____________________

Position:___________________________________________________________
Appendix 5: Outline Business Case

**Structure and content of the document**

The approved format is based on the Five Case Model, which comprises the following key components:

- **strategic case** section. This sets out the strategic context and the case for change, together with the supporting investment objectives for the scheme.
- **economic case** section. This demonstrates that the organisation has selected the choice for investment which best meets the existing and future needs of the service and optimises value for money (VFM).
- **commercial case** section. This outlines the content and structure of the proposed deal.
- **financial case** section. This confirms funding arrangements and affordability and explains any impact on the balance sheet of the organisation.
- **management case** section. This demonstrates that the scheme is achievable and can be delivered successfully to cost, time and quality.

Please refer back to the Strategic Outline Programme (SOP) and Strategic Outline Case (SOC), noting any key changes since the production and approval of these documents.

1. **Executive Summary**
   1.1. Introduction
   1.2. Strategic case
   1.3. Economic case
   1.4. Commercial case
   1.5. Financial case
   1.6. Management case
   1.7. Recommendation

2. **The Strategic Case**
   2.1. Introduction

**Part A: The strategic context**

   2.2. Organisational overview
   2.3. Business strategies
   2.4. Other organisational strategies

**Part B: The case for change**

   2.5. Investment objectives
   2.6. Existing arrangements
   2.7. Business needs
2.8. Potential business scope and key service requirements
2.9. Main benefits criteria
2.10. Main risks
2.11. Constraints
2.12. Dependencies

3. The Economic Case
3.1. Introduction
3.2. Critical success factors
3.3. The long-listed options
3.4. Short-listed options
3.5. Economic appraisal
3.6. Qualitative benefits appraisal
3.7. Risk appraisal – unquantifiables
3.8. The preferred option
3.9. Sensitivity analysis
3.10. Preferred option

4. The Commercial Case
4.1. Introduction
4.2. Required services
4.3. Potential for risk transfer
4.4. Proposed charging mechanisms
4.5. Proposed contract lengths
4.6. Proposed key contractual clauses
4.7. Personnel implications (including TUPE)
4.8. Procurement strategy and implementation timescales
4.9. FRS 5 accountancy treatment

5. The Financial Case
5.1. Introduction
5.2. Impact on the organisation’s income and expenditure account
5.3. Impact on the balance sheet
5.4. Overall affordability

6. The Management Case
6.1. Introduction
6.2. Programme management arrangements
6.3. Project management arrangements
6.4. Use of special advisers
6.5. Outline arrangements for change and contract management
6.6. Outline arrangements for benefits realisation
6.7. Outline arrangements for risk management
6.8. Outline arrangements for post project evaluation
6.9. Gateway review arrangements
6.10. Contingency plans
Appendix 6: FBC

1. Executive summary
   1.1 Introduction
   1.2 Strategic case.
   1.3 Economic case - OBC long list and short list
   1.4 Commercial case
   1.5 Financial case
   1.6 Management case
   1.7 Recommendation

2. The Strategic Case
   2.1 Introduction
   
   Part A: the strategic context
   
   2.2 Organisational overview
   2.3 Business strategies
   2.4 Other organisational strategies

   Part B: the case for change
   
   2.5 Investment objectives
   2.6 Existing arrangements
   2.7 Business needs
   2.8 Potential business scope and key service requirements
   2.9 Main benefits criteria
   2.10 Main risks
   2.11 Constraints
   2.12 Dependencies

3. The Economic Case
   3.1 Introduction
   3.2 Critical success factors
   3.3 The long-listed options
   3.4 Short-listed options
   3.5 The procurement process
   3.6 Economic appraisal
   3.7 Qualitative benefits appraisal
   3.8 Risk appraisal – unquantifiables
   3.9 The preferred option
   3.10 Sensitivity analysis
   3.11 Preferred option

4. THE COMMERCIAL CASE
   4.1 Introduction
   4.2 Required services
   4.3 Agreed risk transfer
4.4 Agreed charging mechanisms
4.5 Agreed contract length
4.6 Key contractual clauses
4.7 Personnel implications (including TUPE)
4.8 Procurement route and implementation timescales
4.9 FRS 5 accountancy treatment

5. The Financial Case
5.1 Introduction
5.2 Impact on the organisation’s income and expenditure account
5.3 Impact on the balance sheet
5.4 Overall affordability

6. The Management Case
6.1 Introduction
6.2 Programme management arrangements
6.3 Project management arrangements
6.4 Use of special advisers
6.5 Arrangements for change management
6.6 Arrangements for benefits realisation
6.7 Arrangements for risk management
6.8 Arrangements for contract management
6.9 Arrangements for post project evaluation
6.10 OGC Gateway review arrangements
6.11 Contingency plans
Appendix 7: Gate 4 Checklist

Objectives of the Gate 4 Review

- Ensure that the contractual arrangements are up-to-date
- Check that the Business Case is still valid and unaffected by internal and external events or changes
- Check that the original projected business benefit is likely to be achieved
- Ensure that there are processes and procedures to ensure long-term success of the project
- Ensure that all ongoing risks and issues are being managed effectively and do not threaten implementation
- Evaluate the risk of proceeding with the implementation where there are any unresolved issues
- Confirm that the University has the necessary resources and that it is ready to implement the services and the business change
- Confirm that the client and supplier implementation plans are still achievable
- Confirm that there are management and organisational controls to manage the project through implementation and operation
- Confirm that all parties have agreed plans for managing risk
- Confirm that there are client-side plans for managing the working relationship, with reporting arrangements at appropriate levels in the organisation, reciprocated on the supplier side
- Check that lessons for future projects are identified and recorded

The SRO and Project Manager will be required to assure the CPB that the above conditions have been met and to provide the CPB with sufficient information for approval to sign contracts to be granted
# Appendix 8: Progress Report

## Project Management Framework 2017

### Funding approved

<table>
<thead>
<tr>
<th>Incl 20% VAT</th>
</tr>
</thead>
</table>

### Current estimated project costs

<table>
<thead>
<tr>
<th>Incl 20% VAT</th>
</tr>
</thead>
</table>

#### Status

On a scale of 1 to 10 where 10 means that the project is on target to be completed within timescale and to cost

10

Summary of reasons for deviation from plan

#### ISSUES OR COMMENTS (eg)

<table>
<thead>
<tr>
<th>ACTIONS TAKEN OR PLANNED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current RAG</td>
</tr>
</tbody>
</table>

- Procurement
- Planning Permission
- Enabling Works
- Decanting
- Programme
- Costs
- Other

#### Project Risks (eg)

<table>
<thead>
<tr>
<th>ACTIONS TAKEN OR PLANNED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current RAG</td>
</tr>
</tbody>
</table>

- Budget
- Scope of Works
- Programme
- Impact on the Campus/University
- Other
Appendix 9: EoPSR

### End of Project Summary Report

<table>
<thead>
<tr>
<th>Reference:</th>
<th>Project Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Date</td>
</tr>
</tbody>
</table>

| Project Title: |
|               |

| Project Manager: |
|                 |

<table>
<thead>
<tr>
<th>Owning School/Department</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Agreed Budget</th>
<th>Planned Duration</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Final Cost</th>
<th>Actual Duration</th>
</tr>
</thead>
</table>

**Purpose of document:** to capture information on how well the project progressed.

1. **Description of the Project**

2. **Executive Summary of the Project Review**
3. Achievement of the Project's Objectives

3.1 Review of Expected Benefits Achieved

3.2 Review of Unexpected Project Benefits

3.3 Review of Unexpected Project Problems

3.4 Review of User / Stakeholder Reactions

4. Performance against Planned Target Time & Cost

5. Client comments & Observations
6. **Follow-on Action Recommendations**
To pass details of unfinished work or potential future project modifications to the group charged with future support of the project:

7. **Lessons Learned**
Enter an assessment of performance (1 poor, 5 excellent) and summarise key lessons relevant to future projects

7.1 What processes or management decisions went well? Badly? Or were lacking?

7.2 What abnormal events happened causing deviations from the project plan?

7.3 What technical methods or tools used within the project were successful/unsuccesful?

7.4 What was learned from particular project issues encountered?