Project Life Cycle

Overview

In this section you will:

- Learn more about the four phases of the project life cycle
- Examine the importance of the business case, project success criteria and KPIs in the conception stage of the project
- Consider techniques for defining the project
- Explore the implementation phase of the project paying particular attention to the control cycle and the effect of its failure
- Review the importance of the close out phase and consider why this can prove difficult for project managers

This topic will involve me asking you, at times, to think of examples and having you compare them to my answers and reflect on the differences. You should write down your answers before you check mine. The paper should take you around 60 minutes to read and complete any directed tasks.

Project Life Cycle

Task  The generic project life cycle of a project consists of four phases. What do you think these might be? Write down your answer. Then, complete a web search in order to check your answers.

Answer  The generic project life cycle consists of four phases:

- Conception
- Definition
- Implementation
- Close out

Do not worry if you do not have the same words – but do you have the same meanings? For example, Conception is sometimes referred to as Inception, Close out is often called Handover or Completion.
Conception: The Concept Phase

**Task** Conception phase includes activities sometimes referred to as Feasibility. Write down what you think might be involved with this stage.

**Answer** Working with the people who have an interest in the project [stakeholders] the following activities have to be carried out:

- Determining the requirements, needs and wants of the client and users.
- Conducting technical and economic studies & Carrying out cost-benefit analysis to consider possible alternative solutions
- Conducting environmental studies [how will the project affect its environment - many projects are physical and effects can be forecast [what you might call Environment with a capital E] – others involve things like organizational change where the environment [with a small e] might be affected [e.g. relationships with the company]
- Obtaining approval for the transition to the definition phase [see more on “gates” etc later]

Again seek the meaning in these phrases relative to your own – they are about understanding what the project is about in terms that can be stated and measured.

The Business Case

Most projects are provided to meet a need of the business or service provider [they often involve a “change” in the business]. They have to be supported by making a case based on business benefits.

It is recommended that the client appoints a project Sponsor [often from the company itself]. The sponsor should “own” the Business Case but quite often the sponsor is not an expert in the area of the project [many projects provide a resource by which the company carries out its business]. The Project Manager is appointed [either from inside the client company or through a specialist external company] to ensure that the project is delivered. However, the reverse may also be the case in that the PM may not have expertise in the client’s business area. The PM should:

- Assist the client [sponsor] in defining the business case
- Provide strategic advice as to suitable alternatives

At this point it would be a good idea to consider that some projects are completely contained within an organization [e.g. a project to introduce a new staff appraisal system within a University] while others may involve many external parties [e.g. my industry – construction – a new building may involve the client’s organization only minimally – most of the project itself may delivered by a large supply chain].
One of the keys to successful project delivery is that all those with an interest in the outcome of the project [stakeholders] have input into defining what the project is about. At project conception stage the project manager should be involved in identifying the various stakeholders and determining their needs and expectations. These will be the project objectives.

**Task**  What do you think the general areas of these objectives should be? Write them down and look at my answer.

**Answer**  These would generally be based on performance statements about deliverables [what the project is expected to deliver] which might involve:

- Time requirements
- Costs
- Technical issues
- Safety issues
- Quality
- Other performance requirements [there are often project specific issues – most projects are different in some way].

While the project itself may have a specific budget which is separate to the budgets of the main business it is important that this budget is understood by the PM in then context of the client’s Finance Regime.

The Project Manager should know, and be sensitive to, the impact of how the project is financed and the particular requirements imposed on the project by its financing.

Construction Industry Council

**Project Success Criteria**

These project management indicators are extremely important issues as they are the basis for judgment of the project. They:

1. Are determined at the beginning of the project [but may be influenced by other factors as the project develops – see 3. below]
2. Reflect directly on the key objectives (Goals) of the project
3. Provide the basis for project management trade off decisions during the course of the project
A popular terminology these days is to call them:

KEY PERFORMANCE INDICATORS [KPI’s]

On completion of the project these Key Performance Indicators:

1. Will be the most relevant measures to confirm the acceptability of the project and it’s product by the project’s stakeholders as being “successful”
2. Will have been measured in some way, at some time, on some scale

Establishing the project’s fundamental success criteria at the outset, whatever they are called, is absolutely one of the most important things in a project

**KPIs: Purpose & Reasons**

KPI’s purpose is the measurement of performance – this can be within the project or may be used as an external measure to compare the project against others or across an industry.

**Task** What do you think are the specific reasons for measuring performance?

**Answer** They are there to allow comparison either across the project, across projects or across industry sectors.

They can be:

1. Internal to the project progress: for control (how are we doing?); and for improvement (are we getting better?)
2. External: value for money (is client getting it?); and for benchmarking (are our projects getting better?)

KPI’s influence on improving across industries. Using an example from UK Construction:

- The KPI working group reported to the Minister for Construction in January 2000
- Since then they have been change drivers across the industry
- KPI’s do however need to a project specific focus…what is important on this project!

The UK Government’s Construction KPI Groups:
Project Life Cycle

- Time
- Cost
- Quality
- Client Satisfaction
- Client Changes
- Business Performance
- Health & Safety

Time:

1. Time for construction
   a. Time predictability
   b. for design, production
2. change orders(by client, by project leader)
   a. Time to rectify defects

Cost

1. Cost for production
   a. Cost predictability
   b. for design, production
2. change orders(by client, by project leader)
3. Cost of rectifying defects
4. Cost in use

Quality

- Defects
- Quality issues at availability for use
- Quality issues at end of defect rectification

Client Satisfaction

- Product
- Service (process)
- Other (client specified)

Client Changes

- Change orders (client)
- Change orders (Project Manager)

Business Performance (company)

- Profitability (R.O.I. etc.)
• Productivity
• Repeat business

Business Performance (project)

• Profit predictability
• Outstanding money
• Time taken to reach Final Account

Health & Safety

• Reportable accidents (also near misses)
• Lost time accidents
• Fatalities

Task  KPI’s for other project based industries. Think of some examples. Public Sector in the UK? There are some interesting comments at these websites:

http://www.sas.com/offices/europe/uk/public_sector/kpi.html
http://www.irisconsulting.co.uk/articles/beyondpm.htm

Definition: The Definition Phase

You should now spend some time reviewing the PowerPoint presentation, particularly Slide 14, which is entitled the Definition Phase. Once you have completed your review of the presentation, you should make some notes to support your understanding. If you fail to understand aspects of the presentation, you should seek support from material published on the web, particularly using Google Scholar.

Of particular importance in this section is the Project management Plan [PMP].

Implementation: The Implementation Phase

This phase includes the following activities:

• Tracking project accomplishment
• Analysing project quality and project changes
• Initiating corrective action and re-planning as required
• Approving payments to participating entities
• Obtaining approval for the transition to the close out phase

This is not just about the physical production of the project as it can also involve the design phase as there may be major overlaps between these phases.

**The Classic Control Cycle**

What we need to do is to control the project and the traditional PM approach to this is to use the following model made famous by E E Deming but originally attributed to Walter Shewhart in the late 1920’s. It is usually referred to as the Plan, Do Check Act cycle [which seems pretty obvious].

What do we Control? If we think back to the Definition section – surely it is what was in the PMP?

• Time
• Cost
• Quality
• Risk
• Etc
The Results of Failure to Control?

How successful are Project Managers at controlling their projects? In fact there is much evidence that they are not very good at it.

Task  Do a web search for evidence of project failure. If you want an easy start look at my industry and failure to control costs – we have some spectacular examples. Write down your examples before you look at mine.

Answer  Projects out of cost control in construction (see illustration immediately below).

<table>
<thead>
<tr>
<th>Project</th>
<th>Budget (£millions)</th>
<th>Final Cost (£millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney Opera House</td>
<td>2.5</td>
<td>87</td>
</tr>
<tr>
<td>Harrogate Centre</td>
<td>8</td>
<td>34</td>
</tr>
<tr>
<td>Barbican Arts Centre</td>
<td>17</td>
<td>80</td>
</tr>
<tr>
<td>Thames Barrier</td>
<td>23</td>
<td>400</td>
</tr>
<tr>
<td>Scottish Parliament</td>
<td>40</td>
<td>500</td>
</tr>
<tr>
<td>Channel Tunnel</td>
<td>4,000</td>
<td>11,000</td>
</tr>
</tbody>
</table>

For a good example of both cost and time disasters look at the Wembley Stadium project [but for an example of how something similar done at the same time in the same place can be successful look at the Arsenal “Emirates” stadium].

Other industries also have their major failures and you would benefit from investigating some of the following IT project failures:

- The UK Passport Office
Project Life Cycle

- The UK Tax Office
- Denver Airport baggage system
- American Airlines’ failed reservation system, CONFIRM
- The 4GL disaster at the New Jersey Dept of Motor Vehicles
- The NCR inventory system that nearly destroyed its customers
- The FAA Air Traffic Control System that collapsed

There is much evidence of project failure around the world and, although I do not believe that this arises purely from the delivery phase this tends to be when it is first noticed [though I would hope that you are beginning to understand that the roots of failure at this stage lie in poor performance in the earlier stages in many cases].

IT is a good industry to choose to look at failure as there is evidence from The Extreme Chaos Report by The Standish Group (2001) that: Only 28% of software projects succeeded. In fact the Standish Group have produced other “Chaos” papers which are also worth reading.

There was also a useful article from Computer Weekly on November 2003 on “IT Management Project Management” which said that:

- 35% or projects are delivered late
- 59% are delivered over budget
- 54% are delivered to less than full scope
- 16% achieve time, budget & scope targets

**Project Manager Performance at Delivery Stage**

There are two bits of advice I would give to any PM.

1. They should ensure that the work is well considered and well planned
2. They need to ensure that they have enough knowledge of the detail of the project to be able to interpret control information properly.

**Planning**

**Task** Why do plans go wrong? Think about this and write your answers down.
**Answer** My answers would be:

- They are optimistic
- They were done without full information
- Participants weren’t committed
- Resources aren’t there

There are many more reasons but I would say that the root of all planning problems is not understanding the role of uncertainty in planning and seeking to plan for a certain future in an uncertain environment.

---

**Control Information**

A key part of the PM’s role is to be the person who best knows the project status. But! PM’s in most projects carry out very little of the project work themselves. If they do not know what the status of the project is, then now how can they tell the client they will deliver the project:

- On time
- To budget
- To specified quality levels
- With all deliverables achieved

At a given date in the future?

The analogy I would use might be a medical one in that the PM could be like a General Practitioner who needs to know a little about everything rather than a specialist. However, this analogy is not quite correct in that the GP interprets symptoms and passes the patient on to a Specialist for more detailed diagnosis and treatment. In the PM’s case they are in fact interpreting the information provided by the specialist and assisting the specialist to provide the treatment [in the form of action to overcome problems].

Obviously the PM cannot do everything so the job is to ensure that Control systems are in place to allow the PM to monitor all of these issues and the basis of this should be ensuring that information can be trusted – I think the root of this is the major skill required of a PM which is to be able to lead and build teams and the key skills needed involve excellent abilities to communicate and take in information. This is another example of my belief that, while tools and techniques are essential the key to being a good PM is people management.
Close-out: The Handover Phase

This is often criticised as one of PM’s poorest performing areas. The reason may be that PM’s are often task focussed and they believe that the completion of the project is the goal. It is not. The goal is to give the client the facility to deliver their business better. Therefore in my industry’s case – the issue is not to get the project built, hand over the key then walk away.

The phase includes the following activities:

- Delivering the product to the customer
- Re-assigning personnel and equipment
- Closing project records
- Writing after-action or lessons-learned reports
- Formally closing the project

What is important is that the completion is managed professionally, that the client is ready to use the project but also that the project learning is captured. There is now some new language to describe these issues. The process of learning lessons, capturing the learning and putting it to use to ensure improvement you will see referred to as “Knowledge Management”. Getting the project completed properly, understanding its place in the client’s business and the PM team’s role in delivering that business benefit could come under the loose heading of “Customer Care”.

How Do You Make Sure You Get It Right [Using a Construction Example]?

Testing [making sure everything works – I always find it funny that the computer software industry has produced an assumption in supplers and customers that there will always be “bug fixes” after the product is sold – why?

Commissioning [setting equipment up to work – balancing across systems]

As Built Records [projects change from their original designs – people who manage the finished facility need to know exactly what was provided]. These need to be:

- Prepared early
- Planned for
Project Life Cycle

**Project Review** - consider the project across its life and make sure this is done:

- In depth [so nothing is missed]
- With meaning [so the client can know their project well]. With Learning [the real key for PM’s – so that good things are captured and re-used and bad things are captured so they do not occur on future projects]

*Also remember that “Customer Care is lifelong not project specific”* – your job as a PM is to deliver a business benefit to the client not the project [that is simply the vehicle that provides the benefit].

**Task** You could look at a copy of the Fraser Report [at least read the Executive Summary] on the reasons for the failure of the Scottish Parliament building project. You should think about the lessons learned and how they might apply to your industry. You can access it at: [http://www.holyroodinquiry.org/](http://www.holyroodinquiry.org/)

This link is checked every year but they do disappear at times so if it does not work then do a search for The Fraser Report.