

Project life cycle in construction



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The project is broken into phases, and then into control points that are relevant to the particular development. This gives management an organized structure to the overall development. Cooperatively, the project phases are known as the project life cycle. These are sequential. Phases and control points are agreed by management. Due to the complex nature of the office block phase will overlap the concurrent phase. This method will also fast track the project. Overlapping phases can save time and cost however the risk of discrepancies is increased due to progression without accurate information being available from the previous phase.

The first phase initiates the project by establishing a need for the office spaces. A P. E. S. T analysis is generated to determine the objective. ' Perth has seen a significant growth in the number of National and Regional headquarters servicing the Mining, Resource and Oil and Gas sectors. It has been reported that a further 250, 000 offices are required in Perth by 2014'. F, Murphy. (2011).

P. E. S. T. Analysis

A PEST analysis was created for this project and the following information was recovered.

(P)olitical

Political is the factors that influence the project. These can be government, economic or even other business. Political factors represent policies such as taxes and environmental.

The current rate of GST in Australia is 10%. J, Scully. (2012). this is added on to all purchases. Due to the client being a mining company a 30 per cent

mining levy will also be charged, which was introduced in March 2012 for companies who have profits above \$75 million.

(E)conomic

Economic refers to areas unique to economy and directly influenced by economy or comprised by economy, areas such as inflation rate and interest rate. With inflation rate reaching 1.5% in June 2012. P, Flynn. (2012). If the Inflation rate changes it would cause a dramatic impact on the development cost and profit margin. If an increase in the cost of capital and materials/labour rose then the break-even rate from this project would change. The cost of labour and materials could raise enough to deem the project unsuccessful, an increase in the cost of capital would significantly increase the cost of the project.

All these areas can greatly influence the development, making them of high importance within the PEST analysis.

(S)ocial

Perth city is undergoing going a shortage of office space due to the growth in the mining industry. Many companies are expanding and require larger office while on the other hand many businesses are being created. The development has had a large increase in population over the last 10 years. (CSO 2011) this is mostly because of the mining boom, people started to relocate into Perth.

5. 2 Organizing and preparing

Once it has been proven that the project is viable the design and development phase commences. This involves outlining the build-method

and developing detailed schedules and plans for making or implementing the product. Feasibility study and cash flow forecast are generated as part of this section.

Feasibility study

A company maybe trading successfully but if it does not have money to pay bills and wages then the company fails. Cash flow throughout the refurbishment of the office block will be an on-going requirement. For the business to succeed it needs efficient funds at all times. A profitable organisation can become bankrupt if they do not have enough cash to pay day to day bills. Factors such as expanded too ambitiously, or not receiving payment from debtors can cause this. To prevent from occurring a developer's budget will be developed.

5. 3 Carrying out project work

This phase will implement the project as per the scope of work and design drawings. The Longest sequence of activities in the project will have to be completed on time to insure project is not delayed. A Critical path shows this and makes it possible to control all phases of the project.

5. 4 Closing the project:

The final phase of the development is closure. This confirms the development has been built to the design specification. There are various testing and procedures to be implemented these include inspections and any remedial work that may result from the inspections. In addition a checklist which includes certifications and approvals is signed off, finally a set of as built drawings are handed over before contractor receives final payment.

Commission check list will be given to the contractor and all components will be checked and approved by superintendent before hand over to client.

Commissioning of all equipment is undertaken and any faults are amended before all reports are handed over to the client.

All Licences, certifications and registrations that are necessary by Australian Workplace Standards, shall be provided prior to the client accepting the project.

A Defect liability period (DLP) of six months shall be in place and confirmed by the Australian Workplace standards.

Adequate training sessions are held to educate the line managers in each sector.

As-constructed or as-removed information must be submitted, prior to the project handover meeting.

Executive control points are used in the development, this act like check points allowing progression on executive approval. These reinforce the construction manager on decisions to progress on the project.

As the project proceeds through its lifecycle, the client's financial commitment and liabilities increase. At each control point a full management review is undergone this provides assurance that the development can progress to the next phase.

It is determined that it costs about 10 times as much to implement a change during construction.

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This information gives the manager a level of control over the profile and timing of the project. The construction manager can therefore ensure that their project can be customized with minimum delay to the overall project.

Equally, these formal approvals supply the project manager with the ability to drive the development to closure. It also provides guidance .

The most significant control point in the project is the conclusion of the development phase. This symbolises the project's progression from feasibility to implementation. Feasibility studies provide this information. This information is document into a Project Brief. This gives the client an over view of what to expect.

The project life cycle is subdivides the development into manageable project phases, in turn then are then subdivided into an input, process and output format. The following table shows the different components of the project lifecycle

Control Points

Each Phase is aligned one or more specific objectives for monitoring the project. These phases are all related the principal phase; the names are typically taken from their input into the development.

Milestone and hold-points are created these provide focal point for the project team and impose control. These will close control of the interaction between activates to ensure full and proper integration and to minimize conflicts or misunderstandings.

The contraction Phase is the most critical and every effort will be made to ensure all milestones are met. Close management is required to ensure delays are addressed.

There are five control points that are key to the success of any project.

Effective project management: make sure the safety, cost and schedules are implemented in the plan. Management staff is to understand and follow the projects critical path. Critical milestones play a significant part in sustaining an effective development.

Cost management: The most effective approach is to develop a cost management function which focuses on all purchases. Budget control and expenditure tracking will be the most important.

Supplier performance management: A QA (quality assurance) will reduce risk and improve the overall project. This improves third party performance which improves relationship with stakeholders.

Healthy stage gates: develop a holistic capital project program with a control point for evaluating progress and enabling informed decisions about next steps. In addition to minimizing rework on front-end engineering and design, improve cycle time and generating punch lists for handoff maintenance, this discipline makes the project move more effectively. Early involvement is essential

Risk assessment and reduction: To ensure the project is completed to a high standard cost controls and quality controls are implemented. This is completed on a day to day basic.

Life cycle structure normally follows the following stages:

Cost and staff requirements are high at the intervill of the project and slowly decrease as the project draws to a close. Figure 3 illustrates this.

Stakeholder influences, risk and uncertainty are greatest at the start of the project. These decrease over the life of the project.

Within the context of the generic life cycle structure, a project manager has the option to increase control over certain deliverables if required. More intricate projects may require additional level of control. In such instance, the work carried out to complete the projects objective ay benefit from being formally divided into phase.