

### GSOE9820 Course Learning Outcomes

School of Mechanical and Manufacturing Engineering

# CLO-1 Translate organisational strategy to project deliverables

Organisations develop strategy to compete. The purpose of projects is to take this strategy off the page and make it happen in the world. Projects put theory into action. Each project must be carefully designed to ensure that it has greatest chance of bringing about the desired change.

Organisational strategy may have specific goals or aims but it is up to the team that delivers projects to turn these intangible objectives into something real.

These real outcomes are deliverables. At the time a project is initiated the authority authorizing the project will need to see evidence that these deliverables further the organisation's strategy.

The Project Charter document is this link between strategy and deliverables. Seeking authorization for a new project consists of demonstrating that this link exists, that the project has been tentatively designed in a way that provides confidence that it can succeed, and that the organisation has the resources required to see it through.

Following this important decision to authorize a project, then some initial resources are released to support the appointment of a project manager who can begin to form a team and undertake more detailed planning.

In terms of the learning outcome, moving from strategy to deliverables is fundamentally an act of translating meaning from one to the other.

This translation is facilitated by knowledge of the business, of how projects are executed, an understanding of what the strategy really means, and of what the likely effect the deliverables will have on the world will be.

#### **CLO-2 Formulate Project Scope**

Projects are initially defined by objectives, deliverables, requirements, and constraints. Together these input parameters describe what the project is intended to do. However, they do not describe how this is going to be achieved. The question of How? is answered by the project team when they define the project scope.

Scope is the solution to the problem that has been previously framed by the project. Formulating the project scope is therefore the principal creative effort taking place in the lifecycle of a project.

Formulating scope requires knowledge of engineering design applied in the context of the project. A complete formulation of project scope needs to be detailed enough for the work to be executed.

Although formulating scope is most definitely a design process and may make use of the tools and techniques for facilitating engineering design and creativity, this does not imply that the result of formulating scope is a set of detailed drawings or design information for the project deliverables.

Formulating scope results in the project Work Breakdown Structure. This work may be concentrated in the project planning stage for a more predictive project management methodology; or in the case of iterative project management methodology, formulation of scope takes place repeatedly throughout the project duration.

For many predictive, engineering type projects, large chunks of project scope are likely to be subcontracted to suppliers through issuing specifications and conducting procurement.

In all cases, formulating scope is creative, requires domain specific engineering knowledge, is vital for project success, and is often overlooked as one of the most challenging – but also most fun and rewarding – parts of project management.



### **CLO-3 Select Project Management Methods**

Experience has shown that some methods of management, of planning, of engaging with stakeholders, budgeting, forecasting, scheduling... work well in the project management context.

The profession and field of project management has developed an immense body of knowledge that is available to help project teams avoid having to relearn lessons of the past experienced by project managers who have come before.

For the developing project manager, the first challenge may seem to be obtaining enough knowledge and understanding of these many methods; or it may be applying them in the real world. Fortunately, these days there are ample resources available to practitioners to help with these, in the form of instructional videos and many templates made available online or through professional organisations.

Then, the practitioner must learn to Select methods that are likely to be appropriate for the project they are working on and will give the best chances of success when they are adopted.

Often, the challenge of selecting PM methods is helped by adopting an existing project management methodology.

Nevertheless, the practitioner still needs to be aware what types of methods may suit a particular project they are working on. Selecting project management methods depends on the size of the project, the level of technical rigour required, risk appetite, project complexity, and level of existing knowledge about project scope.



#### **CLO-4 Integrate & Justify Project Plans**

Individual methods for project management can all be applied one by one without too much challenge to the practitioner.

When the management of a project is carried out by a team, then it will be equally simple in terms of individual challenge, or team organisation and communication, for each team member to be responsible for their own subset of these methods that are chosen to manage the project. This kind of collective but still essentially individual work is frequently observed in a group of students working on an assignment.

The crucial distinction which separates many successful project plans from those which superficially appear to have been competently compiled but cannot be practically executed is Integration.

Project Integration is the end-to-end connection and mapping of project details between the project management methods included in the planning. Thus, the risk management plans are based on the actual stakeholders and scope items for this project; the budget and the schedule are consistent; the benefits can be mapped to the stakeholders. Overall, there will be few 'loose ends'.

Project integration does not diminish in importance during the execution phase because it underpins change management, and performance measurement and forecasting.

Project integration can be achieved by attention to detail in planning and above all by effective communication between the project team.

A measure that can be used to evaluate project integration is how easy the project is to justify in terms of its planning. To a large extent, our ability to justify plans to stakeholders hinges on the level of integration in the plan and our ability to demonstrate this integration.



## **CLO-5 Evaluate Progress and Interpret Success in Projects**

During the project execution phase, the project team will need to track the progress of the work. Comparing progress to the baseline plan provides a measure of project performance, enabling forecasting of whether the project can still be delivered within time and cost constraints.

While analysing project performance in this way will yield some clear predictions, the more difficult question is whether this progress is being converted to project success.

Success is more than simply the completion of project progress. It requires an evaluation of the change created by the project against the organisational strategy, or needs, which prompted it to be originally authorized.

Certainly, stakeholder satisfaction is crucial, and an evaluation of how the project has met the diverse needs of different stakeholders is one way to determine if it has delivered its intended value.

More generally, the project manager needs to understand, and be able to discuss, how their project plan will lead to a successful outcome, and what that success looks like.

