Project Interfaces

Several authors (P.G.Morris, R.Turner, A.Walker, JD.Thompson) have identified “interfacing”, or management of interfaces, as one of the most crucial / critical areas for the success of projects. These interfaces could be about the schedule or about the interactions between the team(s) (depending on the level of inter-relationships – within a project).

In this article few basic questions will be raised with regard to project interfaces and answers will be furnished mainly from the practical/practitioner’s side.

These questions are:
- How do we identify / establish them?
- How do we manage and resolve interface issues?
- What else do we need to consider between and within the project teams regarding interfaces?

The Project Structures

Project Management theory and best practice guides recommend that when a project is about to begin one of the first/basic steps is to define the appropriate structures.

This first recommendation, or guidance, answers the first question because by defining the two most fundamental structures of any project we identify the most important information, which is: “who is responsible for what”. Obviously we are talking about the Work Breakdown Structure (WBS) and the Organisational Breakdown Structure (OBS) of the project. (For definitions please see APM BoK, 5th Edition, 2006, or BS6079 - 1, 2:2000).

Using the former, the WBS, and by identifying/defining work in distinct packages, and below that areas / sub-packages, the Project Manager and the team can easily identify the areas which will require to interface between them as well as within them. With the latter, the OBS, and expanding down to the appropriate lower level, responsible individuals/teams can be identified that will deliver the work packages.

The two structures can be combined into the Responsibility Accountability Matrix (RAM) form (see fig. 1) and at the nodes we have the corresponding level(s) of responsibility. This immediately resolves the issue of “who is responsible for what” and clearly establishes “singularity” of responsibility.

Fig.1 Graphical presentation of the RAM formed by WBS and OBS.

The structures then are published in relevant project documents, e.g. ‘Project Management Plan’ or the ‘Project Control Handbook’ and therefore the whole project team is informed.

From there on and as and when required the person responsible for the higher-level node identifies and assigns lower level responsibilities.

At this point it has to be noted that care should be taken in appointing work package leaders. Apart from the technical competence, etc., work package (w.p.) leaders must be at the appropriate level of their teams’ / companies’ organisational structure and capable team leaders. This
will enable appropriate level decision making, reduce/avoid delays and disruptive conflicts, and also frustrations between the w.p. leaders, which could be caused by the inability of the other parties to resolve an issue immediately. Thus it is made clear that is the responsibility of the w.p. leader to interface with the other w.p. leaders.

The CTRs

Another widely recognised practice is that below the lowest WBS level there are groups of logically linked activities and where necessary there are links to the other w.p. activities/milestones.

Clarification of the activity deliverable(s) is given by the use of Cost/Time/Resource (CTR) pro-forma. The use of CTR (see fig 2) enables clear definition of inputs, actions and outputs / deliverables.

<table>
<thead>
<tr>
<th>Activity Number</th>
<th>Duration:... (d/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Description</td>
<td>...</td>
</tr>
<tr>
<td>WBS Code:...</td>
<td></td>
</tr>
<tr>
<td>Preceding Activity</td>
<td>Preceding Activity</td>
</tr>
<tr>
<td>Activity Requirements:</td>
<td>Activity Requirements:</td>
</tr>
<tr>
<td>Type:</td>
<td></td>
</tr>
<tr>
<td>By: Who</td>
<td>When</td>
</tr>
<tr>
<td>Action / Task:</td>
<td></td>
</tr>
<tr>
<td>By: Who / Grade:</td>
<td>Hours:</td>
</tr>
<tr>
<td>Costs or Costs:</td>
<td>Cost: Estimate:</td>
</tr>
<tr>
<td>Deliverables: (if any):</td>
<td></td>
</tr>
<tr>
<td>By: Who</td>
<td>When</td>
</tr>
</tbody>
</table>

Therefore it should be even easier for the w.p. leaders to identify interfaces, or interface milestones.

Utilising the capabilities of the scheduling tool milestones can be set up which will represent an interface and which must occur at a particular point in time in the project. Depending on the level of detail in the schedule these milestones could vary from simple meetings to delivery / receipt of the appropriate information, to payments, etc.

**Milestone Definition Sheets**

In order to have agreement on these interfaces the PM must make sure that the various parties exchange milestone definition sheets. The use of milestone definition sheets clarifies and establishes the following information between the parties:

a) Description of milestone
b) Ownership
c) Delivery team
d) Relevant dates
e) Deliverables
f) Impact if not achieved – time, cost, quality, environment, etc.

It is normally the responsibility of the Project/Programme Office to lead, coordinate and enable the above tasks.

In order to enable monitoring and reporting of interface milestones and using again the scheduling tool it should be possible to hyperlink milestone definition sheets to activities/milestones in the schedule. This will allow timely reporting on progress, delays and other information required by the team.

**The Interface Matrix**

In addition to the schedule / programme activities a number of other interfaces are formed from actions, documents, etc. that bring parties to the project together. This type of interfaces can be managed but setting up an Interface Matrix (IM) (see fig. 3 below).

The IM is a listing of the actions, documents, or anything else which requires to be either ‘Approved’, ‘Communicated’, ‘Inform’ by the various parties to the project. A simple ‘key’ identifies the action that needs to be taken by the respective party against the interface formed (action, document, etc.).
The PM, having identified and agreed the interfaces and the appropriate level of responsibility with the other parties to the project, is responsible to following up as well as making sure the IM is updated continuously.

**Reporting**

Thus reports can be created which can extract information about interfaces and be used as an interface-monitoring tool. These then will prompt the team to take appropriate action. It is suggested that “8 week look-ahead” reports are used to raise awareness of possible future issues/problems.

Monitoring and reporting on lower level interfaces could be carried out by creating log sheets. These are a simple listing of what information needs to be exchanged and by when and it can be kept/agreed between/by the individual teams. These log sheets are reviewed by w.p. leaders prior to and/or during progress review meetings, or other appropriate forum.

It is highly likely that these lower level interfaces could be part of a lower level schedule(s), held by teams in the project, and which again are logically linked and represented at the higher level as a summary bar. Therefore progress of interfaces can be monitored, reported and rolled up to the higher level.

**Resolving Interface Issues**

Having looked at the first two questions, raised at the beginning, I will now briefly describe some other peripheral issues that will have to be resolved, or processes/practices that need to be available.

With the OBS we identified the people responsible for the w.p. and in the schedule we defined the activity leaders for groups of activities and milestones. Thus we transferred/assigned responsibility to the person that has direct involvement and owns the information and/or the product to be delivered. We have also considered appropriateness of decision-making levels, therefore we created “enablers” who will take germane action when required.

However, another process that has to be considered and clearly described, is the level(s) of warning and/or the escalation procedures that should be available and how can these be applied. For the latter, the teams, and behind them the respective companies, must describe how an issue can be escalated in order to be resolved. For the former the Project Manager must give guidance to all on the levels and the content of warning that is available to the people that are responsible for interfaces.

This then will allow the “enablers” to perform their duties as well as “let off steam” when needed.

Escalation procedures also fall within the confines of ‘how’ each party acts within its own company. Therefore levels of accountability will influence behaviour of the team member(s). Accountability is usually cascaded through line management to the appropriate level of the organisation. In many cases the Resource
Manager / Discipline Leader is responsible for the decision making person or the team that is part of the project. Hence the Project Manager will have to ascertain/establish with each team that lines of accountability are in place and that the person identified will be available, when needed, as a crisis resolution measure.

As mentioned previously identification / establishment and management of Interfaces is a process that has to be considered at the very early stages of the project and if possible prior to commencement of the project. Organisations can easily establish guidelines for setting up the above and which will support the Project Manager in preparing for the project. However, we must always bear in mind that no one project is the same and that what makes, or breaks the project is “people and their interactions”.

**Conclusion**

This article has presented the case where standard project management practices and tools can be used to support the process of establishing and managing the Project Interfaces.

All the above “techniques” have been around for decades and therefore it should not be difficult making ‘management of project interfaces’ becoming a part of the every day actions during the project.

Managing Interfaces might not be mentioned in the golden triangle of “Time - Cost - Quality” but it is a project management process, like many others, that is in the background and supports it.

**References**