Key tips for effective management of capital expenditure in SAP®

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Capital expenditure has soared within the oil and gas industry in recent years, and set against the backdrop of high oil prices and strained infrastructure operating at full capacity, project managers are increasingly under pressure to ensure that capital projects are executed on time, and on budget.

Capital projects in oil and gas are characterised by the following:

- They are expensive
- They are generally complex, and involve a high degree of risk
- They have rigid timescales, and are capacity intensive
- They are shifting to new geographic frontiers
- They are mostly of strategic importance for the company

Whilst risk management and complex financial arrangements are commonplace in oil and gas, it is critical that capital projects are closely managed across both technical and commercial aspects. Oil and gas companies utilise SAP® Enterprise Resource Planning (ERP) software to support Finance, Supply Chain, Operations and Maintenance functions, and although these are adequate solutions, SAP offers a dedicated Project System module (SAP PS) which is specifically designed for the effective management of capital projects from planning, execution, monitoring and control.

SAP PS is frequently used within the oil and gas industry but its application as a cost capture tool is often underutilised with Excel as the preferred tool for proactive cost management. When used to its full potential however, SAP PS has the functionality to report instantly on planned and actual costs and this allows project managers to effectively manage capital expenditure.

This paper recognises the challenges that oil and gas companies can encounter whilst executing capital projects and offers five key tips to effectively manage project cost using SAP PS.

1. Structure the project to manage both activities and costs

Effectively aligning costs with project activities is a challenge facing oil and gas companies due to the scale, location and complexity of capital projects. To ensure that all costs are captured, a clear and unambiguous structure can be defined using project functionality available in SAP. The key to structuring projects in SAP PS is to ensure that the structure meets both the activity management needs (e.g. well phases, rig lifecycle) and the requirement for cost transparency and reporting during those activities.

When utilised correctly, the SAP based project structure supports the recording of high level budget and the detailed planning of internal resources, materials and service requirements throughout the supply chain.

Once activities are released, mobilisation of SAP's powerful integration triggers demand in the supply chain through timewriting, receipts and other cost inputs. This allows users to build the full picture of budget including planned and actual costs within the project structure. From the outset, taking the time to produce, communicate and apply a standard project structure for assets, or the major events in the lifecycle of those assets, is a key activity. Oil and gas companies can execute projects in SAP without establishing these standard structures and still have transparent costs, however, they can lose executive level reporting, like for like asset/ activity analysis and leverage of experience from one project to the next if they do not standardise.

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2. Capture the right data

The challenge for oil and gas companies is the ability to effectively extract and interpret cost data using key reporting attributes. For example, activity and cost status in SAP PS, or any other system for that matter, are only transparent if project managers have the capability to analyse the data using key reporting attributes.

Typical reporting requirements would include being able to effectively 'slice and dice' cost, activity and resource data by general attributes such as: 'Project Sponsor', 'Project Responsible', originating authorisation for expenditure (AFE) as well as activity codification schemas such as: 'Measurement while drilling' codes.

It is essential that key reporting attributes are recorded consistently using project functionality within ERP systems to capture all project costs and ensure accurate reporting. Fortunately, SAP PS has many standard fields such as 'Applicant', 'Person Responsible' and numerous user defined fields which can be used to capture the reporting attributes required. Many of these reporting attributes can also be set as summarisation parameters which trigger the aggregation of key figures such as costs through the project structure based on these key fields.

3. Fit for purpose cost planning

Many oil and gas companies revert to Excel as the preferred tool for proactive cost management, however planning in any detail can quickly become a complex process of manually updating an array of spreadsheets.

In contrast, using SAP PS provides two key approaches to cost planning. In the most detailed option, costs can be planned down to the level of each individual activity in the project and can be split even further to the individual cost types for an activity (mud and chemicals, wireline services etc). Whilst considering this option however, the project manager should weigh up the work involved in preparing and maintaining cost types for an activity against the benefits of reporting and controlling cost plans at this level.

Therefore, the most appropriate platform for cost planning, certainly during the project preparation phase, is planning at the WBS (work breakdown structure) level e.g. phase, system. Planning costs via WBS can be as straightforward as entering a single overall value for planned costs per WBS 'node' and this can be collated up through the cost structure.

Whichever method of cost planning is preferred, project managers need to recognise that cost planning is a continuous process. For that reason, there may be a requirement to store previous planning versions and project managers can track these changes using version management functionality within SAP.

4. Actively control spend

An essential and fundamental element of controlling capital projects in oil and gas is ensuring that approved funds are not exceeded by overspending. SAP PS offers funds overview capability, which at any time, reports on the amount committed and the type of commitment. This reporting is well established in SAP PS but it is recognised that this represents a form of passive availability control where the purchase order is raised, the budget is blown and the horse bolted!

To pre-empt such scenarios, SAP PS also offers active funds availability check which highlights at the stage of making the commitment, whether or not funds are being over committed. This means that whilst raising a purchase order assigned to a project, the system checks whether the budget is available.

This type of commitment checking can be executed either against the overall budget or the annual budget of a project.

Tolerance limits set, in either percentage or absolute terms, can also be activated for a number of related processes such as procure to pay. For example, project managers can enable varying tolerance settings which can either issue a warning directly to the user in SAP, an email message to the project responsible or an error message rejecting the posting. This is an effective method of cost control, however, project managers need to consider which business activities require active funds availability checks because users can become desensitised to the importance of warning messages if they appear frequently over time. It is typically recommended to only activate this type of funds availability check for creating commitments, with either warnings or error messages blocking the execution of the new commitment, and to rely on the more passive controls in the form of reports for actuals postings.

5. Deliver effective reporting

Actively controlling committed spend using tolerance settings is effective, however project managers must take an ongoing and proactive approach to monitoring capital expenditure and define key reporting values which can pre-empt overspending. For example, flagging the purchase order that threatened to exceed the budget is important, but by monitoring costs, project managers can identify recurring trends where planned spend is often exceeded and take preventative action. SAP PS offers strong reporting support with filtering, sub-totalling, trending and drill down functionality available as standard in an Excel format which can also be exported for further analysis if required.

However, it is recognised that cost reporting for capital projects often demands a level of granularity beyond standard reporting. Each organisation should have its standard cost reports with standard columns such as 'Budget', 'Actuals' and 'Variance', but in oil and gas capital projects, additional columns are often required such as 'Estimate to Complete' (Committed/Uncommitted), 'Contingency', 'Forecast' (3+9, 6+6). Oil and gas companies struggle to provide these additional columns and engage dedicated cost controllers to produce the Excel spreadsheets that provide this necessary information.

Absoft has generally found that the SAP PS module has the functionality to include additional information to cater for capital projects, however, the challenge is to provide a clear and consistent definition of what these values mean throughout the project to maintain effective reporting.

In summary

Increasingly Absoft is witnessing oil and gas customers integrate SAP PS as a 'driver' module rather than an 'afterthought' for cost capture. Capital projects are increasingly planned and executed directly in SAP PS with the result that planned and actual costs are available for reporting immediately within the core PS module. This change has brought about a transformation in the mindset of Absoft's customers and they are increasingly challenging the Excel based cost reporting ecosystems that have materialised around capital project cost management.

Absoft has helped these customers to develop the dynamic and passive control mechanisms described in this paper and also helped them to enhance PS reporting to meet the very specific management reporting needs of the oil and gas community.

These are just a selection of key tips for effectively managing costs during capital projects in oil and gas. If your appetite has been whetted and you would like to discuss your company's specific situation in more detail please get in touch with us today on +44 (0)1224 707088 or email info@absoft.co.uk

About Absoft

Absoft is the leading provider of SAP solutions and services to the upstream oil and gas industry in the North Sea. We have been delivering SAP solutions tailored to the needs of the sector since 1991 and have unrivalled knowledge of global upstream oil and gas business processes.

We provide a comprehensive range of SAP services and advice, including consultancy, implementations, process optimisation projects, system hosting and management, training, and support both onsite and through our UK based SAP helpdesk.

Absoft's Business Analytics and Technology team are experts in the delivery of SAP BusinessObjects Enterprise Performance Management (EPM) and SAP Business Intelligence (BI) services, focusing on the following disciplines: Reporting and Analytics, Performance Dashboards, Planning, Budgeting and Forecasting, Consolidation and Enterprise Information Management.

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