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EXECUTIVE OVERVIEW

Long reliant on a maze of disconnected spreadsheets and manual processes, capital asset planning has historically been a thorn in the sides of organizations large and small—the problems of incorporating multiple areas of expertise and a large degree of inherent risk leading the best-intentioned projects to go wildly off plan. With today’s emerging software solutions, however, this doesn’t have to be the case. Building on the capabilities of Web-based budgeting and forecasting applications, these solutions combine the specialized functionality required for capital asset planning with guided workflow and process support to transform the planning for capital assets into an accurate and reliable process.

INTRODUCTION

As management teams strive to shift the emphasis of reporting from a review of historical performance to a more forward-looking exercise that enables management and shareholders to better understand their companies’ prospects, the need for sound, accurate capital asset planning has grown exponentially—as has the need for software solutions to support the task.

But plagued as it has been by lengthy timescales, cumbersome approval procedures, and inaccurate data, capital asset planning has grown to be viewed by many in management as a process that’s more trouble than its worth. With a lack of suitable system support for budgeting, planning, and forecasting processes, it should come as no surprise that capital asset planning has received even less attention.

Yet the quality of management information systems is crucial to the delivery of timely and accurate forecasts of capital investments and expenditures such as depreciation, maintenance, and insurance. This is a problem because much of today’s capital asset planning process relies on a labyrinth of disconnected spreadsheets and manual processes.

This doesn’t have to be the case. In recent years, a number of software solutions have emerged to support budgeting, planning, and forecasting processes—all of which have brought benefits in speeding the budgeting process, improving collaboration between user communities, and enhancing data quality and reliability.

By extending the capabilities of these solutions, the same benefits can be applied to the more-specialized task of capital asset planning—in the process making planning
and managing large-scale capital projects a far more dependable (and understandable) process.

**CHALLENGES OF BUDGETING FOR CAPITAL ASSETS**

Budgeting for capital assets is a tricky business that involves uncertain projections (and therefore a high degree of risk), dependence on a range of expertise, linking long-term projections with financial plans, and stringent record keeping and reporting. The following sections describe these challenges and some of the ways organizations are dealing with them.

**Coping with Uncertain Projections**

Typically encompassing unusual activities that take organizations into uncharted waters, large-scale capital expenditures don’t conform to “normal” budgeting routines. Instead, they often require special funding and attract high levels of risk, which in turn necessitate board-level consideration and approval. This is because the issues entailed in designing and constructing major assets, such as new production processes, construction projects, and scientific endeavors, differ markedly from those considered in the acquisition of prebuilt assets.

Indeed, capital asset projects are distinguished by their significant scale, multiyear time frames, and overall complexity—all factors that make modeling and planning capital asset budgets subject to significant uncertainty. Planning such expenditures involves weighing expert technical opinion against financial appraisal and risk assessment (especially critical when a project has no precedent).

Given these considerations, it’s not surprising that the planning and execution of large-scale projects often go spectacularly wrong from the earliest stages—a sure sign that the capital asset planning process is flawed. Take the 2008 Beijing and 2012 London Olympics: Both projects have been dogged by budget revisions on a massive scale. And they’re not alone: Countries around the world can point to public and private sector projects that have exceeded their budgets. Overruns, it seems, go hand in hand with project complexity and scale.

**An Expert’s View of the Challenge**

The Private Finance Initiative (PFI) describes a partnership between the private and public sectors in which the risks and rewards of financing long-term developments are transferred to the private sector. In most cases, this means that the private sector companies are responsible for building assets on behalf of local and central governments via commercially available funding, providing facilities management services, and maintaining the assets over their working lives. Such projects are generally large in scale and can often span 20 to 25 years.
According to Glenn McCauley, head of PFI Consulting for Deloitte Consulting, such projects generally involve an element of “crystal ball gazing.” After all, applying decisions over such a long time frame is a process riddled with uncertainty, because it involves choices about not only an asset’s development, but also about the services required to maintain that asset over the long term. Says McCauley, “The shape of future services may be difficult to define, and the public sector often finds it difficult to specify what it wants over the long term.”

Adding to these difficulties is the fact that long-term public sector plans are susceptible to changes in policy. Citing one example, McCauley says, “Many authorities are investing heavily in waste management programs and facilities for treating household waste; however, a change in government policy with regard to something like biodegradable packaging could change the overall demand for individual types of treatment facilities overnight.”

What this means is that in the capital asset planning phases, all those involved must consider a number of options, and any arrangement that’s decided upon must be flexible enough to adapt to change. Says McCauley, “You have to consider the long-term risks and the effect they may have on construction costs as well as the likely changes in services and their effect on costs.”

According to McCauley, though, organizational impacts add the biggest risk during the planning phase. “It is the cost inputs suggested by technical advisors and experts,” he says, “that create the biggest sensitivities in the project plan. An inefficient financing structure is going to have much less of an impact than flawed assumptions about costs. Evidence shows that for large-scale construction projects, it’s the cost of building things that’s important. There has to be a robust and transparent process for really scrutinizing the initial costs input.”

Promoting Multidisciplinary Engagement

Major capital expenditures—that is, projects with contract values measured in the tens of millions—almost always span a range of functional expertise. With large-scale construction projects, for example, architects, engineers, and scientists can all be expected to have input in the planning and budgeting process, as can marketers and commercial management staff, who will bring revenue assumptions of their own. The trick, then, comes in ensuring that each discrete section of the capital asset plan is a tightly integrated piece of the whole, so that changes in one area are simultaneously reflected in all other areas. In other words, when one planning assumption changes, all the rest of the assumptions must take into account the consequences of that change.

This scenario is further complicated when the capital asset plan relies on cost inputs from a number of organizations. In such cases, the plan must not only meld different functional viewpoints, but also deal with the obstacles of organizations operating in different geographies and time zones.
According to Ed Kiernan, a director of business intelligence at Deloitte Consulting, all these factors make it extremely challenging to plan large-scale capital asset projects using a standard template. Says Kiernan, “Typically, these projects are too complex for the finance department to simply issue standard Excel templates to the business. Instead, the business must do its own local modeling, planning the business as it sees it.”

But the disconnect between business and finance is very real. Says Kiernan, “The chances are that in a very large project a number of finance professionals and bankers will pore over the economic feasibility of the plan, reviewing matters such as interest rates, taxation, and accounting policies. But who’s looking at the assumptions made by the business? It’s these technical and business assumptions that can really scupper the capital asset plan.”

### Linking Long-Term Projections to Financial Plans

Managing the financial consequences of capital asset planning is especially challenging—not surprising since estimating the state of a balance sheet, a dozen years out or predicting project cash flows over a decade are exercises with an inherent amount of uncertainty. Planned and unplanned changes go with the territory. Indeed, the lengthy timescales involved introduce considerable fluidity into planning assumptions—and finance professionals often feel cut adrift from the underlying technical assumptions made by experts outside their functional areas.

As one senior finance professional in the defense sector describes it, “The financial aspects of the plan—for example, cost of capital, the depreciation policy, funding timing, exchange rates, and so on—may have a measurable impact on the project’s outcome, but these factors pale into insignificance compared to some of the assumptions made around technical and operational feasibility.” The discovery of unhelpful geology on a construction project or the impact of persistent bad weather on the delivery of a North Sea oil rig can have far more damaging consequences on financial outcomes than aspects of the plan specifically related to finance.

And the issues don’t go away when a project has been completed: They simply transition to ones associated with long-term service contracts. For example, how do you forecast the timing of your maintenance cash flows (both expenditure and revenue) when your service is unique and perhaps not that well defined? What’s more, technology changes so quickly that assumptions about service delivery methods (such as aircraft maintenance and network infrastructure) can easily become obsolete before they even come into effect.

### One Organization’s Solution

Despite the enormous challenges of linking long-term capital asset projections to financial plans, it can be done—just ask the folks at the University of Texas M.D. Anderson Cancer Center. On the heels of employing successful planning processes for IT projects and capital equipment, the Cancer Center is extending its capital asset planning to buildings and large-scale renovations.
As one of the world’s most respected facilities devoted exclusively to cancer care, research, education, and prevention, the Cancer Center provides care to approximately 78,000 patients a year and invests hundreds of millions of dollars in research. In addition, the institution, which employs more than 16,000 people, has grown by approximately 50 percent over the last five years to include three research buildings, an outpatient clinic building, a cancer prevention building, and a proton therapy center.

Clearly, managing a facility of this scale involves considerable attention to capital asset planning. Juan Castro, director of financial forecasting and analysis for the Cancer Center, is a member of the finance team responsible for coordinating and planning the annual US$400 million capital asset budget.

Typically, three-quarters of the yearly expenditures relate to new buildings and renovation, with the rest divided between IT investments and equipment such as linear accelerators and MRI scanners. The latter are handled within existing Oracle Hyperion budgeting and planning systems, but expenditures on buildings require a different approach.

In describing this situation, Castro says, “The facilities department uses a specialized project management tool for planning at a detailed level, which is great for traditional budgeting and allows project managers and engineers to build up costs on an account-by-account basis. However, the tool doesn’t recognize the cost drivers or the revenues associated with the asset, making it difficult to plot return on investment or carry out any sensitivity analysis, which means that the financial consequences of the capital asset are not obvious.”

To overcome these limitations, the Cancer Center deploys finance staff within the facilities department to help prepare the plans and communicate the results. Nevertheless, the process relies on intermediary spreadsheets that Castro would like to see replaced by proper applications, stating, “There’s always the risk that something will fall through the cracks [with the current system].”

Says Castro, “Finance and operations personnel should be working in the same environment and sharing the same model. At the moment, we rely on an embedded finance function and good communications to paper over the cracks in systems.”

The way forward, Castro believes, is to build on the success of the existing Oracle Hyperion system that project managers use for IT capital asset planning. “Project managers understand project phases such as analysis and planning, execute and control, and rollout,” Castro says. “But they don’t necessarily appreciate the different accounting policies required for each phase. By using a driver-based approach, project managers simply drop their costs into operating expense lines, and the system does all the work behind the scenes, capitalizing costs where appropriate. When considering new building facilities, we could build in revenue drivers based on number of patients served, incremental operating beds, and vehicle parking requirements.”
Another existing system at the Cancer Center allows budget holders to rank proposed capital asset spending—something Castro and his department are keen to see in any further development of a capital asset planning system. In this type of system, departments are able to rank their equipment requests—priorities that can be reworked at the divisional level until various committees review and approve or reject the proposed spending. The new equipment requests and known replacement cycles are then built into the long-term (10-year) plan. Although Castro is eager to build this capability into the capital asset planning process for buildings, he’s also conscious of the need for more-sophisticated functionality around performance metrics, depreciation schedules, and ongoing operating costs such as renewals and maintenance.

Even though the planning process Castro envisions is complex, he’s confident the institution can define core requirements for capital asset planning—provided they have some flexibility. Says Castro, “Large-scale capital asset planning is definitely on our road map.”

**Record Keeping and Compliance**

Because complex assets tend to be multifaceted, they often require a variety of accounting treatments. Providing the level of detail required to accommodate these various accounting treatments is one of the greatest challenges of capital asset planning.

When developing a capital asset plan for a complex project, organizations must correctly categorize every major component so that they’re treated appropriately in the financial forecasts contained in the capital asset plan. For example, each component of an asset (property, plant, or equipment) whose cost is significant in relation to the total cost of the asset must be depreciated separately. For examples of this, think of an aircraft and its engines, or a blast furnace and its lining. The appropriate “cost” is the purchase price plus any costs directly attributable to bringing the asset to the location and into the condition necessary to operate it as intended by management. This cost also includes the estimated costs of dismantling and removing the asset and restoring the site on which it is located.

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* Most of the companies on the Forbes Global 2000 follow either International Financial Reporting Standards (IFRS) or U.S. generally accepted accounting principles (US GAAP), and most standards worldwide are based on one of these standards; therefore, this white paper does not consider accounting treatments beyond these. Although there are differences between US GAAP and IFRS, they affect the basis of measurement rather than the level of detail offered. IFRS allows assets to be valued at their historic cost or on a revaluation (fair value minus accumulated depreciation and impairment losses), whereas US GAAP generally requires the use of historic cost. The other big difference is that IFRS allows major inspection or overhaul costs to be included as part of the cost of an asset, whereas US GAAP expects these costs to be expensed.
When planning for capital assets, organizations must also take care to include, where appropriate, any costs directly related to employees (such as site preparation, assembly, and professional fees), which can be capitalized.

To ensure that the correct accounting treatment is applied to all the complex assets that make up significant capital expenditures, both technical expertise (engineering and scientific) and financial expertise are required.

**CHALLENGES PRESENTED BY CURRENT PRACTICES FOR CAPITAL ASSET BUDGETING**

It is clear that budgeting for capital assets is a complicated process involving cross-disciplinary teams and a high degree of inherent uncertainty. Thus, it should come as no surprise that traditional practices fall short when it comes to planning and budgeting for such large-scale, long time frame assets. Chief among the challenges organizations face today in trying to plan for capital assets is a heavy dependency on manual controls and spreadsheets and poorly developed processes and audit trails. The following sections describe these challenges and some of the ways organizations are dealing with them.

**Heavy Reliance on Manual Controls and Spreadsheets**

Current capital asset planning and forecasting practices rely heavily on spreadsheets. But spreadsheets—though ideally suited to performing complex calculations on behalf of individuals—are no substitute for complete applications.

What’s more, spreadsheets can present a serious risk of error: Unnoticed flaws in logic and inadvertently overwritten formulae are just two conditions that can give rise to serious adverse consequences. Thankfully, many mistakes are spotted early or contained within the boundaries of the authoring company. On other occasions, however, problems “escape” into the public domain, leading to serious financial loss or reputation damage. This is particularly true of large-scale capital asset projects such as the preparations for the 2012 London Olympics, which failed to properly account for value-added tax, adding unexpected millions to the latest budget estimate.

**Poorly Developed Processes and Audit Trails**

An even more important limitation of spreadsheets is their limited support for capital asset planning and approval cycles. With different aspects of capital asset planning carried out in functional “silos” (so that, for example, technical and engineering costs and assumptions are performed separately from the financial plan and projected balance sheet), changes in one area are not automatically reflected in the other. The result is a lack of visibility and collaboration that jeopardizes the integrity of the plans and introduces unwelcome delays into the planning process.

Similarly, the lack of process support that characterizes spreadsheet-bound processes makes it difficult to monitor changes and trace them back to individuals.
One Company’s Dilemma

Handling as many as 18 billion Web and e-mail lookups every day, VeriSign operates the systems that manage .com and .net. It also provides managed security services; security consulting; authentication solutions; and commerce, e-mail, and antiphishing security services to organizations all over the world—and it runs one of the largest telecommunications signaling networks in the world. Not surprisingly, capital asset planning is critical to VeriSign’s business and thus a key aspect of its planning process.

When VeriSign business units submit their annual capital asset requests, each request must include a fully worked business case that contains justifications and expected return on investment (ROI). In the planning process that occurs prior to the development of these detailed business cases, financial planners create multiple “placeholders” for anticipated capital asset spending, which are then filled in once the business cases have been completed. Since the planning and capital expenditure systems are manually linked, the biggest challenge comes in ensuring that the detailed financial plan reflects a realistic anticipated ROI for the project.

Explains VeriSign Director of Planning Elysse Hack, “While the incremental-expense side of approved capital asset projects flows through to the detailed plan, it’s difficult to get accurate revenues and expense savings. As a result, businesses come up with more-optimistic projections of revenues and cost savings than turns out to be the case. Naturally, when the business cases are prepared, the detailed analysis of revenue or cost savings is validated, but since the planning process occurs prior to the business case development, the initial ROI created by the business owners is used, and this ROI may not reflect the validated revenue or cost savings that have been determined during the business case process.”

In addition, it can be difficult to confirm the strategic alignment of capital asset spending. Explains Hack, “Capital asset spending is generally strategic in nature, but this information is currently not captured in the plan. Similarly, the detailed financial plans give no sense of the priority of the different projects or the correlation of capital expenditure spending to revenue.”

Like other large companies, VeriSign has considered automating the link between its capital asset approval system and its planning system. However, the creation of such a unified system is hampered by the need to budget at very different levels of detail and reluctance by business units to base their plans on benefits that have not been fully determined at the time of the planning process.

EMERGENCE OF SPECIALIZED SOFTWARE SOLUTIONS

As the market for budgeting and planning software matures, specialized solutions for capital asset planning are starting to appear. Building on a solid Web-based planning process, this new generation of products seamlessly integrates detailed financial and operational capital asset planning.
By coupling financial capital asset planning with operational capital asset planning, these solutions overcome the limitations of spreadsheet-based systems, ensuring the financial and operational integrity of proposed expenditures. Best of all, such solutions allow technical and financial experts to view the effect of their changes on overall operational planning assumptions.

Many of these systems support common capital asset planning tasks such as categorization of assets, depreciation calculations, funding, and cash flow options over the duration of a project. In some cases, existing assets can be brought into capital asset planning via a fixed assets register, where partial additions and disposals can be recorded and depreciated or revalued as required after taking into account impairments. Some packages also let users plan for capital asset-related expenses such as maintenance costs, repairs, and insurance.

One of the most-welcome features offered by such solutions is the guided workflow governing the approval process for capital asset spending. With such workflows in place, plans can be reviewed at critical stages, and successive reviewers can accept or reject plans, proposing or making adjustments as required. Automating the approval chain in this way accelerates the process while maintaining a full audit trail of changes.

CONCLUSION

Capital asset planning is a complex process that typically involves high levels of expenditure and substantial exposure to risk. Hindered by noncollaborative, error-prone spreadsheet-based processes, large-scale projects of this nature have historically demonstrated a propensity to go off the rails. With a new breed of Web-based software solutions emerging, however, this need not continue to be the case.

Building on successful Web-based implementations of more-straightforward budgeting and forecasting applications, these new software solutions combine the specialized functionality required for capital asset planning with guided workflow and process support. Linking financial and technical plans, these solutions allow organizations to plan for all phases of an asset’s useful life—from planning and construction to maintenance and decommissioning.

With this type of tool, operational matters are automatically reflected in financial outcomes, and management can assess the impact of different scenarios on cash flows, taxation, and projected balance sheets spanning several years. A more-tightly controlled approval process emerges, offering greater visibility for decision-makers and a faster decision cycle. Suddenly, a high-risk endeavor—capital asset planning—has been transformed into a controlled and dependable process.