Planning, Budgeting & Forecasting—Whitepaper

Cortell Australia

Graduate from Spreadsheets to Analytics

How to streamline the budgeting, planning, reporting & analytical processes for your University

Collaborative Planning, Budgeting & Forecasting

Introduction

The modern university is one of the most complex businesses of our times. Add to this complexity the fact that transformations that are happening at break-neck speeds and you have the perfect storm. The transformations range from how universities are delivering their courses - for example online - competitive practices to enlist students and a push for better student outcomes.

These changes impact the ability of a university to budget, plan, report, and analyse their data and key performance metrics in a timely, accurate and efficient manner.

Cortell Australia is engaged with 15 universities across Australia and we hear a very consistent message from the budgeting and planning teams we work with. We constantly get feedback about the need to speed up the process, remove inaccuracies, improve the quality of data, empower the finance teams and move away from budgeting and evolve to forecasting.

While technology has advanced, spreadsheets – and primarily Microsoft's Excel - remain the key tool to collect data, report, analyse, and deliver financial and operational results.

The reality is that the spreadsheet is one of the world's greatest desktop tools. If you, personally, want to analyse a bunch of numbers or do some complex modelling on a static dataset, a spreadsheet is the way to go.

But running a university involves collaborative, multi-department processes like planning, budgeting, forecasting, and reporting.

Where the power of the humble spreadsheet falls short

Rows & columns: Spreadsheets are not good for real-time data. They can only ever provide a historical snapshot of the numbers at a single point in time. The result is that you're always chasing after "the latest number" for anyone who needs to know the current position against the plan, budget or forecast.

Audit: When you have a lot of people updating a spreadsheet, it becomes impossible to identify where changes have been made, who made them, and when. The audit trail goes cold quickly – and that's not good for governance, efficiency or investigating the source of mistakes and inaccuracies.

Global business: Spreadsheets are frustrating enough when you're only dealing in one currency and one fiscal regime. If you have to take into account multiple currencies, exchange rate fluctuations and the notions of national and international taxation, your consolidation, forecasting, budgeting, and reporting activities enter a whole new dimension of complexity that spreadsheets cannot handle easily.

Enterprise scalable: Spreadsheets can do many things - but they are not a management information system. You may be able to perform some analytics, and even share the results with a few colleagues. But if you want vice chancellors, faculty heads and departmental managers to have management dashboards and run their own reports (for example to compare actual performance with forecast performance, or to run "what if" analyses), the humble spreadsheet simply won't cut it.

In our dealings with Australian universities, we see this scenario often. Let's refer to this as the 'hard way' to do budgeting, planning and forecasting.

The Hard Way

Using "spreadsheet data repositories" the process starts with the budget administrators updating dozens, hundreds or thousands of templates and workbooks. They check and recheck each cell for calculations, seeded actuals and correct row and columns – and check again. Maybe they develop some macros to assist this process, or maybe they even write some visual basic code.

Once the templates are ready to go - and that one broken calculation in cell "AB32" is fixed - they send out the templates, desperate to see them return full of new, planning data. Then, the usual e-mails from the budget owners start to flood in.

The broken formulas, including that cell "AB32" that they thought was fixed; requests for additional rows, columns, data; requests for the correct cost centre as they received someone else's templates; the demands for more information; and the gnashing of teeth as the budget cycle is in full swing.

The files are then e-mailed back, saved in that directory on the server known as "*E:\Finance\Budget\2012-13 \John\Version1\May_Update*". And usually 2 or 3 days after the deadline, which had been communicated 3 weeks prior – and reinforced with a dozen or so reminders.

Now the arduous work begins

Add up and consolidate the numbers to provide cut-one of the planned results. At this the point, the budget team run the 'smart' macro to open each file in turn, strip out the data and pull it all together in one neat view - or they hope it does.

After many attempts to automate the process, and discovering some of the budget contributors modified the templates - adding new rows and columns, renaming files, and changing formulas where security was missed - the budget team decide to open and manually copy each piece of data into their budget master model.

Hours later, a consolidated number is calculated, but do they have any confidence in sharing the findings with their finance team? Not really.

First, they complete some basic analysis by simply comparing the result with what happened 12 months prior, and then going back to the individual user's templates and requesting adjustments,- causing an endless loop of e-mailing and consolidating data.

File versions quickly go to two decimal points with v1.21, v1.22, v2.98a, while data goes missing, and there's always one person who requests that they go back to v1.18 – *because it was definitely in that cut of the plan*!

After a state of limbo, the budget team comes to their senses and compiles a Profit and Loss report by months, and send to the Executive Team for Board Approval.

The key realisation hits

The numbers don't add up. On top of that, there is a request from the Board to reduce travel expenditure by 5% and increase revenue by 65%.

The team make quick changes to the totals to get sign-off, while making a note to go back – time permitting, of course - to push those numbers back down to the individual business plans at the granular level. And then it's crossed fingers, hoping that the Board approves the plan.

With a sigh of relief, eyes heavy from the four days of seven in the morning to midnight racing to cross the finishing line, the budget team closes the budget round off, and prepares for Monday's task – the start of the re -forecast - just four months after the budget cycle started.

The end result

This scenario is very common. It also applies to the compilation of the Board Reports, Monthly Management Reporting Packs, KPI and Dashboards and other such reporting processes that we complete in spreadsheets.

It adds nothing of value to the process and only results in wasted time and ultimately cost. It does not empower the teams to add value to the process and rarely allows the opportunity to sit back and analyse the data, identify opportunities and add value.

The Easy Way

From our engagements with more than 900 organisations in Financial and Operational Performance Management projects, we have learned a number of techniques, leveraged different tools and created solutions that have provided the much-needed business benefit to our clients. These learnings have been used in designing solutions for 15 universities across Australia.

At the core of these solutions is specific functionality married with the appropriate process to address the problems identified in the above scenario.

The following areas are key to addressing the problem of living in "*spreadsheet hell*".

1. Integration with multiple and varied data sources including metadata/business dimensions

Most budgeting processes need to reference the 'actuals' from previous period's performance. There are many data sources for 'actuals'.

Often this data is scattered in separate buckets of information: general ledger and financial data is in the core finance system; payroll, headcount and FTE's in the HR system; FTSLs in the student system and asset details and maintenance plans in the fixed asset database.

Access to this data needs to be automated. The data should be refreshed on a timely basis; daily, weekly, monthly or on demand. It's important to understand what decisions this information will inform and drive. And, it's important to know where this information will be used for more than one purpose.

With the actual data, the business dimensions – or metadata - need to be refreshed along with all the relevant attributes. This data is literally how we describe our structures, hierarchies and lists of information that will drive the reports and plans.

Examples of key dimensions include the chart of accounts (COA), business units and organisation hierarchies, course lists with attributes such as faculty, length, pre-requisites and other relevant information.

We also need to schedule and automate these updates, as well as log, audit and track any and all changes. As often is the case when planning, there may be a requirement to add new courses into the structure, create new business units or faculties, or simply model changes across one or a series of dimensions.

2. The issue of two-dimensional spreadsheets (and the limitations they create) to thinking in many multiple dimensions

Once access to the data and dimensions is enabled, the process then moves to populating the central data store.

Cortell recommends a multi-dimensional, cube based, OLAP data store such as IBM's market leading Cognos TM1.

There are many reasons why OLAP is the preferred choice. This in itself is a lengthy discussion. To summarise the benefits, a multi-dimensional database allows the user to pivot the data points to conduct speedy analysis and modelling.

Using university data as an example, there are key dimensions such as student, course, time, scenario (act vs. bud), region, lecturer, to name some. The requirement may be to analyse or model any "measure" or "variable" against any combination of these dimensions. Some possible questions and modelling scenarios could include:

- How many students completed "course a" and "course b" at the city campus in May 2015?
- What is the impact of increasing the fees for all medicine related courses by 1.5% for the next term, but only for local students?
- How does the revenue for "city campus" compare to "regional campus" for the previous two terms?
- What is the most profitable course for the past three consecutive terms and what student demographics contribute to this profitability?

Using a multi-dimensional database, we can easily get answers these and many other, more complex questions.

Having a solution that resides "in-memory" will help generate the results much faster compared to a relational CPU based database. More information on in -memory vs. disk based solutions can be found at http://www.cortell.com.au/index.php?cID=89

The Easy Way - continued

3. Real time business rules engine

Many pieces of information need to be brought together in one place or derived from other information. The solution needs a business rules engine to support the easy creation of formulas. Some of the solutions we have seen in use at Australian universities involve complicated coding requiring significant IT department participation. This means that the business users cannot develop their own rules. As good solution will allow business users to develop their own formulas using plain business terms.

Instead of something like this :

=IF(VLOOKUP(E6,Summary!M2:Q19,1,TRUE)="CPI", E6*$E41, E6*$F41)

The business user can refer to business terms that make sense to them

['Budget','2016','Fees'] = ['Actual','2015','Fees'] x ['CPI Adjustment', '%']

A good rules engine uses business language to describe the calculation. It also has the capability to audit and trace any result using this formula to see and understand the variables used in completing this calculation.

A rules engine that works in real-time supports the ability to complete "what-if" analysis. We can now change the CPI Adjustment % to see the impact of various rate changes on our revenue for all courses, students and scenarios.

Rules can also be used to describe the links between different models. We can deploy an operational model that calculates staff time based on activities and tasks, or demand. Using a rate by position model with various performance increases, superannuation, PAYG, benefits and other metrics we can use rules to perform all the calculations necessary on our employment costs and link to our profit and loss.

The benefit of modelling our business from an operational detailed perspective and seeing the results on the financial output vs. modelling the financial results, and impacts on the operational models, is extremely powerful.

We can use familiar planning tasks and populate a financial model, and turn this into an activity-based budgeting model.

This allows us to validate our financial targets - and what we need to do in order to reach them. We can also see what resources and requirements we have at the operational level to support these results. We'll be able to quickly answer questions like;

- How many more students do we need to attract to increase revenue by 10%?
- How much marketing do we need to carry out to meet the revenue targets?
- When do we need the new laboratory equipment in order to meet enrolment targets?

4. Workflow & security

At first pass, these two topics don't seem related. In fact, these two elements really go together well. Reflecting on a typical spreadsheet heavy process, we know that we can't provide security adequately on a MS Excel file. They are prone to being e-mailed to the wrong person, formulas can be overwritten and are a considerable security risk.

We also have a lack of insight on the entire planning process. Who has started entering their budgets? What divisions are completed? What is approved? And, when can the entire model be signed off and locked down?

Functionality that supports a multi-dimensional security model is critical. This is where a user can have access to only their cost centres and you can define sophisticated rules like actuals data being read-only while budget data is updatable.

We gain further value by integrating security within a workflow process. So when a budget manager submits their plan to management, it becomes locked for them and opens for the next person in the approval chain to review and make changes - all the time tracking any and all changes!

Visibility into the planning process is key so the management team can start reporting and analysing the plans as components are locked down.

The workflow process should be flexible and allow for multiple users to collaborate on all parts of the plan. It should also provide the ability to track and trace a plan through the entire process. This can only improve a manual MS Excel and e-mail based, error-prone approach.

The Easy Way - continued

5. MS Excel integration

The applications we use on a daily basis are most likely to be e-mail, internet, perhaps iTunes and definitely a spreadsheet application. Despite our reservations in using spreadhseets in the planning process, they still have a key role to play.

According to numbers from Microsoft, there are currently over 150 million MS Excel users internationally. Think about your organization and try to estimate how many applications you are using spreadsheets for.

Budgeting/Forecasting and Planning, maybe the monthly board reports, perhaps a couple of KPI spreadsheets ? There are endless applications that can be delivered on a spreadsheet – it's literally a blank workbook (excuse the pun). Spreadsheet tools are popular because:

- They are readily available on most desktops and through hosted portals on the web
- Ease of use – most business users can create simple spreadsheets
- There are few boundaries - we can create our own formulas and models
- There is no requirement to involve the IT department to build a report
- The new generation of employees are learning technology as a standard part of their education are very familiar with a spreadsheet tool
- It gives the power back to the user

There are many benefits in leveraging a MS Excel front-end to collect data through a controlled template that is integrated with a server-based, optimised solution. You can control the security and access, automatic updates of data, business rules and logic – all while allowing users to work in a familiar environment.

6. Strong reporting and analytics with drill-through, across, up and down

Bringing all these aspects together, you have a solid platform to support your reporting requirements. You can analyse your data from many different dimensional viewpoints, at various levels of the hierarchy, at a total level or perhaps a lower, more granular level.

You can check the formula used in the derivation of a result, including drilling through to the variables used to create the answer. You can drill through to operational and activity-based results while also displaying your data as a graph, chart or dashboard.

Information is available wherever you are – you can access your reports from home, at the airport or office. You can have your own custom portal with your favourite reports and design. MS Excel can be used to view the data or it can be displayed on your smartphone, iPad or tablet.

You can do all of this while remaining in a single secure environment with security wrapped around the data ensuring audit and control. You can even link your reporting with your planning. As a user reviews the results for the week, they can increase targets or update a forecast at the same time.

You can answer questions very quickly. You can analyse data and respond to issues - all of which are critical to compete in the current economic conditions.

Conclusion

There are many other areas to explore when discussing Performance Management and Business Intelligence. In this whitepaper we wanted to communicate and share our experience in providing solutions to our clients and seeing the journey and evolution from their beginnings to where they are now.

The journey is always different for every organisation, however, all journeys start with the aim of removing inefficiencies, reducing the waste associated with planning and reporting – all while providing their staff with the right tools to do their job.

All of these areas have positive effects on your ability to conduct business which results in improved profitability and lowering costs.

It's important to note that embarking on a journey to implement a Performance Management solution is not a costly exercise.

Building a relationship with a partner that has exceptional experience implementing the technology, designing robust solutions and who understands the real issues in the Higher Education arena is the ideal starting point to get you going.

Cortell Australia is here to help you on your Performance Management journey.

How Monash University transformed their finance function

Financial information can now be easily sliced and diced according to user needs. Complex reports that used to take weeks to prepare now take days.

Last year, with the help of Metis, budget preparation took just four months. This year, Jessica Lightfoot - Executive Director, Financial Resources Management Division - believes the process could be even faster.

"It's become a much more efficient, streamlined, less risky and less fraught process. And that's only because of Metis. We couldn't have done it otherwise."

Inconsistencies between faculties have been substantially reduced. With no single point of failure in the budget process, risk has been reduced. Transparency has improved, ensuring better governance.

Six years ago internal research showed that for every one thousand dollars revenue generated, Monash incurred a Finance cost of twenty dollars.

Thanks to the efficiencies introduced through measures such as Metis, the cost of Finance has now reduced by 26 per cent. At the same time, customer satisfaction remains a high 86 per cent.

About Cortell Australia

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Cortell Australia is the region's largest and most experienced provider of Business Analytics and Business Performance Management solutions. We're also a multi-awarded preferred partner for the full suite of IBM applications:

- IBM Cognos TM1
- IBM SPSS
- Cognos BI
- Information Management
- Cognos Express
- Cognos Disclosure Management

900 successfully delivered solutions and counting

Our globally recognised expertise is built on experience. And with over 900 business-changing solutions delivered to more than 500 companies across a diverse range of industries, we know exactly how to deliver exceptional results on tight deadlines and budgets.

Core business strengths

Innovation – development of exemplary customer solutions
Customer Satisfaction – delivering exceptional results
Achievement – Locally, regionally and globally awarded
Growth – year-over-year growth of the business
Commitment – certification in IBM's technologies

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