

*Line managers and finance staffs are frustrated by the inadequacies of spreadsheet based planning systems for delivering useful budgets and rolling forecasts. A major problem is the disconnect between the operational elements of a business and financial plans. In particular, managers have difficulty forecasting headcount and expenses because spreadsheet templates do not contain models that allow them to relate their spending to marketing forecasts or other operating activities. Finance staff who roll up the numbers from the managers have very little backup for evaluating the reasonableness of submissions or for answering questions from the executive staff.*

*What's missing is driver-based planning, a best practice methodology where financial plans incorporate assumptions about business activities which are modeled to drive financial data such as revenue projections, headcount, spending and capital requirements. With driver-based planning, managers are empowered to do better budgeting and, in particular, improve the accuracy and decision making usefulness of rolling forecasts.*

*Alight Planning is a multi-user software package that incorporates architectures, modeling tools and analytics that make driver-based planning accessible to companies that want to improve their budgeting, forecasting and decision making processes.*

# Driver-Based Planning for Budgets & Forecasting

By Rand Heer



Helen Marston, Call Center Operations Manager for Whitehorse Corp., a \$300 million manufacturer of electronic equipment, is reworking the Excel template for her department's expenses.

Each quarter Whitehorse updates its business forecasts. Key managers such as Helen revise spending plans for the balance of the year based on the latest marketing forecasts. The process is time consuming and involves a lot of guesswork.

- ▶ In the past two weeks Helen has been given three different forecasts for unit sales, new products and new customer installations, each version supposedly

more accurate than the last. Revising her numbers takes three hours each time.

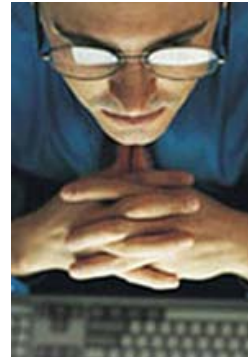
- ▶ To update the numbers, Helen pours through operating statistics for her department which are in a separate database. Metrics include number of operators, number of customers calling, calls per day, etc. Helen has no specific procedure for tying out this operating history to the marketing forecasts.
- ▶ Helen enters headcount projections into an Excel template which updates salaries and benefits. She does so with a lot of guessing; she's glad when the exercise is over; she hasn't learned anything. But her job is done for this round.

Peter Forrester, Financial Planning Manager for Whitehorse, is studying the Excel templates department managers have submitted.

- ▶ The headcount increases Helen forecasts for the Call Center seem low in relation to the latest marketing forecast which has sales up 20% in the next quarter. Helen provides no backup or justification. Peter has no special insights either. He rolls Helen's numbers into the forecast.
- ▶ The pattern is reversed for the Service Center. Harry Laswell, the manager, forecasts a dramatic increase in headcount, much higher than the 20% sales increase would seem to justify. He attaches a passionate note arguing that service has been understaffed for months and now is the time to remedy the situation before everyone quits. After a heated phone call with Harry, Peter rolls the Service numbers into the forecast.

- ▶ Staffing plans for sales reps are inconsistent. In four regions, headcount doesn't change for any of the three marketing forecasts—i.e. nobody paid attention, perhaps for good reason. For other regions, salaries and benefits vary, but other headcount related expenses that in theory should be impacted by new hires, such as training and recruitment fees, are unchanged. Peter rolls the numbers into the forecast knowing that expenses are probably understated.

"Here we go again," Peter says as he enters the board room to present the forecast update to the executive staff. The numbers add up on the PowerPoint slides, but Peter has an incomplete understanding of changes in overhead spending, a stated focus of the current reforecast. Many



times during the review he is asked the two dreaded questions: "Where did that number come from?" and "Why did that number change?" Sometimes Peter has an answer. Other times he says: "I don't know."

### **The two most dreaded questions: "Where did that number come from?" and "Why did that number change?"**

#### **What's Missing? Driver-Based Plans**

Whitehorse recognizes that annual budgets should be supplemented with forecast updates. However, the forecasts are not very accurate, and there is little analysis of underlying assumptions, partly because the forecast cycle is squeezed into a tight two week time frame after the quarter end close.

Unlike budgeting, quarterly updates don't have the luxury of a three month cycle time.

At the operations level, responsible managers like Helen and Harry do their best, but the process is essentially manual, despite the fact that the spreadsheet-based system captures information from the line managers and rolls it up to corporate. The spreadsheet templates do not contain models that allow managers to relate their spending plans to the market forecasts. Nor do Helen and Harry have information systems that integrate operational data into the forecast templates.

## **Driver-based planning is a best practice methodology where financial plans are structured using models of underlying business activities...**

What's missing at Whitehorse is driver-based planning, a best practice methodology where financial plans—namely budgets and rolling forecasts—are structured using models of underlying business activities that drive financial data.

Driver-based planning incorporates a series of step-by-step sub-models within an overall financial planning system—e.g. a call center sub-model for Helen—that integrate input assumptions about activity levels that drive revenues, variable headcount and expenses, and capital that roll up to financial statements for a company. Such company forecasts are the foundation for many executive level decisions, allocation of resources and communications with investors.

Using driver-based planning, companies like Whitehorse can empower line managers like Helen to do better budgeting and, in particular, to improve the accuracy and de-

cision usefulness of rolling forecasts. Finance staff like Peter also have the information to understand the numbers, negotiate with line managers, and explain assumptions to higher ups like the executive staff.

## **Driver Model Fundamentals**

Driver-based planning is about modeling concepts. It's based on the idea (or structure) that line items within a plan have an inherent units/rate/amount architecture that is the basis for linking up activity driver and financial relationships.

Thinking about driver-based planning using units, rate and amount makes it work. Here are the fundamentals...

- ▶ Start by identifying important drivers in a business. Drivers are typically operating activities that you can measure—*numbers of things* such as units of product, customers, installations, deliveries, transactions, throughput and the like. The key word is *units*: if an activity can be thought of as *units* of something, then it may be part of an activity driver model.
- ▶ Multiple operating activities—i.e. the *units*—may have driver relationships between each other that are connected through a *conversion rate*. For example, 50% percent of customers who buy a computer also buy a printer. The formula is: *units* of computers \* 50% = # of printers. 50% is the conversion rate.
- ▶ A unit/rate/amount structure may be applied to a series of line items that are linked. Below is a simplified example of how an activity model might be constructed for Helen's call center, starting

from marketing's forecast of new customers:

- ✓ # of New Customers \* Calls Per Customer = **Total Calls**
- ✓ Total Calls \* Length of Calls In Hours = **Total Call Hours**
- ✓ Total Call Hours / Operator Utilization % = **Operator Hours**
- ✓ Operator Hours / Hours Per Month = **# of Operators**
- ✓ # of Operators \* Salary Rate = **Operator Salaries**
- ✓ Operator Salaries \* Payroll Tax Rate = **Operator Payroll Taxes**
- ✓ # of Operators \* Benefits Rate = **Operator Benefits**
- ✓ # of Operators \* Cost Per Workstation = **Operator Workstation Assets**

Once an activity driver model is structured, several important planning and analysis activities are possible.

First, rolling forecasts with tight turnaround cycles are now feasible and efficient. Line managers like Helen can quickly respond to changes in marketing forecasts. Updates to revenue plans ripple through the activity model automatically adjusting variable headcount and related expenses. Managers spend no time calculating offline what headcounts should be. Everyone in the plan cycle can see changes immediately and talk about the underlying driver assumptions and impacts. The playing field is leveled and discussions are more objective.

Second, when using a driver model, it's easy to identify and manage the most important, financially sensitive drivers in the business. The old saying now has meaning: "Don't manage the dollars, manage the underlying units and rates that cause the dollars to be spent." Managers can focus cost reduction and performance improvement energies on the most important activities and processes, knowing a payback is there. That's what the activity driver model tells you.

Third, with driver-based planning, true causal analysis of variances is now possible. When actual financial results differ from plan, it's a straightforward exercise to identify the operational drivers which caused the variance. In many cases, the analyst can segregate financial variances by volume (i.e. units) and rate (i.e. price/cost per unit) impacts. Where the underlying unit and rate data is available, volume/rate causal analysis by line item is a powerful analytic tool for the finance staff.

**With driver-based planning, everyone can see changes immediately and talk about the assumptions...the playing field is leveled and discussions are more objective.**

### Spreadsheets and BPM

Financial planning managers typically use spreadsheets to model a few activity driver relationships in budget and forecast templates. The most common and easy to implement are driving fringe benefits from headcount and driving payroll taxes from salaries. However, true driver-based planning, where revenues or other higher level activity drivers impact headcount and department expenses, is rarely implemented in spreadsheet-based budgeting systems.

The reasons are two: a) formulas and data relationships for pervasive activity models are too complicated to maintain, and/or b) driver-based links do not automatically flow through to workbook templates distributed to line managers for department budgets and forecasting.

Support for driver-based planning in software from business performance management (BPM) vendors is limited or difficult to implement. In some BPM applications modeling tools are weak—i.e. they do not support a minimum level of modeling and linking comparable to spreadsheets. In other BPM applications, modeling and linking are more sophisticated, but the interfaces are technical requiring scripting or programming skills that finance staff do not have or want to learn.

### Driver-Based Planning with Alight

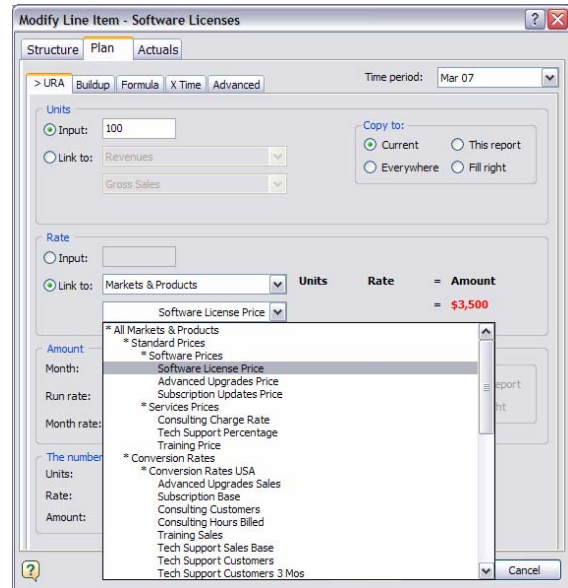
By contrast to spreadsheets and other BPM vendors, Alight Planning is sophisticated multi-user software specifically designed for driver-based planning.

Its architecture and modeling interfaces directly support requirements for building robust sub-models anywhere in a financial plan structure—for revenues, headcount, expenses and balance sheet items—with automatic rollups to financial statements.

Critical to effective driver-based planning, Alight has a built-in unit/rate/amount architecture that facilitates building activity-based sub-models as described earlier.

	Units	Rate	Jan Plan Amount
<b>Gross Sales</b>			
<b>USA</b>			
Software USA			
Software Licenses	100	\$3,500	\$ 350,000
Advanced Upgrades	50	\$1,500	\$ 75,000
Total Software USA			\$ 425,000
Services USA			
Consulting	500	\$ 150	\$ 75,000
Training	60	\$1,500	\$ 90,000
Total Services USA			\$ 165,000
<b>Total USA</b>			<b>\$590,000</b>

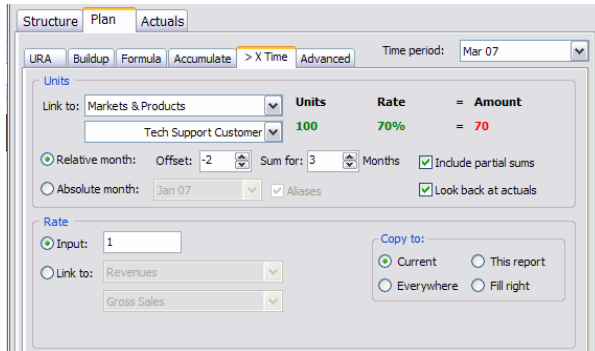
Each line item incorporates data fields for Units, Rate and Amount. URA values may be input assumptions as indicated by shaded cells, or they make be linked. URA values are automatically displayed on reports.



Alight's modeling interface is based on object-based linking versus cell formulas. You can link the units and rates of a line item to the URA of any other line item, rollup sub-total, or a search based combination of line items. Linking automatically operates across all time periods—i.e. no fill right as required with spreadsheets.

With Alight, operational or financial data at the line item level can be computed using any of six computation methods that facilitate driver-based modeling. Such methods, using the unit/rate/amount architecture, simplify cross time period, accumulation, indexing and other operations that are difficult to implement and maintain with cell-based formulas in spreadsheets.

	Units	Rate	Jan Plan Amount
<b>Cost of Sales</b>			
<b>Other COGS</b>			
Compensation [100]			
Support Manager	1.00	\$ 6,000	\$ 6,000
Tech Support Staff	2.00	\$ 4,500	\$ 9,000
Consulting Manager	1.00	\$ 9,000	\$ 9,000
Consultants	5.00	\$ 7,000	\$ 35,000
Trainer	-	\$ 5,000	\$ -
Total Compensation [100]	9.00	\$ 6,556	\$ 59,000
<b>Total Other COGS</b>	<b>9.00</b>	<b>\$ 6,556</b>	<b>\$ 59,000</b>



Alight's modeling interface includes easy-to-use tabs for special purpose calculations. The cross time period tab pictured above lets the user link to the URA of other items in prior or future time periods with accumulation of values rolling forward.

## Importing Actuals for Activity Analysis

Importing actuals into plan files is a fundamental requirement for effective driver-based planning. The import, however, cannot be restricted to financial data from the general ledger. It must also include operating data so that comparisons for variance analysis can be made for operating assumptions that are the activity drivers of the sub-models. As well, importing and integrating actuals for operating data is a foundation for analyzing activity driver trends that help tremendously when developing rolling forecasts.

The tricky part of integrating actuals into a financial plan is that operating data is usually not "apples to apples" in formats or structure to plan data. Let's walk through a common example—comparing actual staff utilization percent to plan—to illustrate the issue:

- ▶ Plan utilization percent is usually an input assumption that might be used to calculate staff headcount and salaries as shown below. Note that Utilization % is an input assumption.

$$\checkmark \text{ Plan Billed Hours} / \text{Utilization \%} = \text{Staff Hours}$$

$$500 / 70\% = 625$$

$$\checkmark \text{ Staff Hours} / \text{Hours Per Month} = \text{Staff Headcount}$$

$$625 / 170 = 3.7$$

$$\checkmark \text{ Staff Headcount} * \text{Salary Rate} = \text{Staff Salaries}$$

$$3.7 * \$10,000 = \$37,000$$

- ▶ For actuals data, Utilization % is a calculated value requiring a different modeled structure:

$$\checkmark \text{ Staff Headcount} * \text{Hours Per Month} = \text{Staff Hours}$$

$$3.0 * 170 = 510$$

$$\checkmark \text{ Staff Hours} / \text{Actual Billed Hours} = \text{Utilization \%}$$

$$510 / 500 = 102\%$$

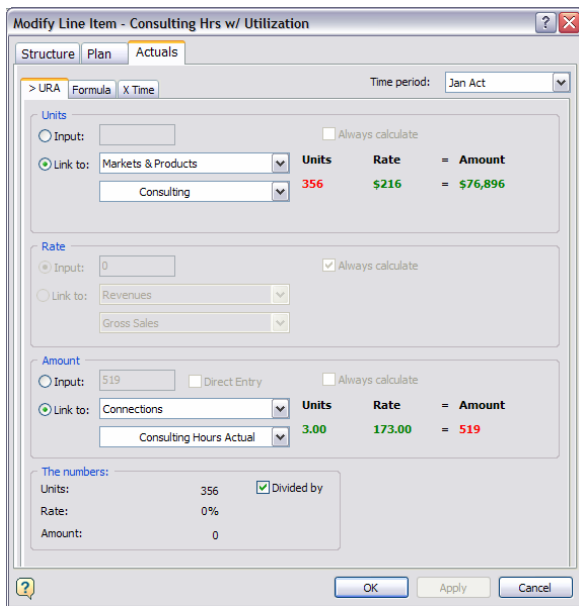
The above example represents one major difficulty with implementing driver-based planning. For comparisons and analysis, actual and plan data must often be modeled differently. But the two data sets, actual and plan, must appear as the same line item for reporting. This is difficult or often impossible to do in both spreadsheets and other BPM applications.

## Integrating Actuals with Alight

We call it *integrating actuals* instead of importing because of the example above. The issue is not simply importing. The planning application must import operating data from outside sources *and* allow easy manipulation—i.e. modeling—of actuals data once it's in the plan file. Alight Planning was specifically designed for integrating actuals as required in the staff utilization example above.

**Here's the summary statement about import:** Alight supports importing actuals from any outside database, financial or operational, to any level of detail. For example, you can import actual unit sales and amounts by product from a sales database or CRM system, and concurrently, you can import total sales from the general ledger at the account level. Alight reconciles any differences between the GL total and the sum of imported line items with a plug value.

In addition to importing from any source to any level, Alight also allows modeling actuals data with different algorithms and linking than the plan model for the same line item.



Each line item has three tabs for modeling: **Structure, Plan and Actuals**. On the **Actuals** tab, you can use the same structure and linking as **Plan**, or you can independently model actuals data with its own links—as would be required in the staff utilization example.

## Driver Analytics in Alight

A major benefit of driver-based planning using units, rates and amounts is that a world of analysis questions can now be asked and answered. Such questions as:

- ✓ How would call center headcount and expenses (or any department spending) be impacted by a 10% volume (activity) increase?
- ✓ What are the most important activity drivers in the financial plan that impact sales or profit? What are the least important?
- ✓ How much of the miss in the sales forecast for services was due to fewer product sales versus lower service conversion rates?
- ✓ Why are salaries higher? More people or higher wages? What's the ripple through affect of higher headcount on other expenses?

Just as Alight Planning's driver-based architectures let planners develop and maintain more accurate financial plans, the software also incorporates numerous automated analytic tools for understanding activity driver impacts and financial results. Such tools, not available in spreadsheets or other BPM applications, let planners quickly identify the most important driver assumptions in a financial plan and perform other sophisticated analyses.

The analytic tools include:

- ▶ **Sensitivity analysis:** Unlike spreadsheets or other planning applications where sensitivity analysis is a "hunt and peck" operation, Alight automates the process. In a special analysis pane, the planner chooses a target such as net sales or operating profit. Alight automatically produces a list of line items with input assumptions that affect the target and ranks them in order, top to bottom, based on the dollar magnitude of the impact on the target.

**CAUSAL ANALYSIS:** Alight Planning’s causal interface lets users compute volume and rate variances for line items that have underlying units and rates. The Units and Rate causal columns automatically calculate the volume and rate dollar impact on the total variance. The Causal column automatically appears on all revenue, expense and headcount reports.

	Jan Act			Jan 07			Causal		
	Units	Rate	Amount	Units	Rate	Amount	Units	Rate	Amount
<b>Gross Sales</b>									
<b>USA</b>									
Software USA									
Software Licenses	59	\$3,086	\$ 182,055	100	\$3,500	\$ 350,000	\$ (143,500)	\$ (24,445)	\$ (167,945)
Advanced Upgrades	35	\$1,857	\$ 65,000	50	\$1,500	\$ 75,000	\$ (22,500)	\$ 12,500	\$ (10,000)
Subscription Updates	61	\$ 18	\$ 1,100	100	\$ 20	\$ 2,000	\$ (780)	\$ (120)	\$ (900)
Software USA Plug			\$ 1,727				\$ 1,727		\$ 1,727
Total Software USA			\$ 249,882			\$ 427,000	\$ (165,053)	\$ (12,065)	\$ (177,118)
Services USA									
Consulting	356	\$ 216	\$ 76,800	500	\$ 150	\$ 75,000	\$ (21,600)	\$ 23,400	\$ 1,800
Tech Support			\$ 11,500	\$298,900	15%	\$ 44,835	\$ (33,335)	\$ -	\$ (33,335)
Training	23	\$1,174	\$ 27,000	65	\$1,500	\$ 97,500	\$ (63,000)	\$ (7,500)	\$ (70,500)
Total Services USA			\$ 115,300			\$ 217,335	\$ (117,935)	\$ 15,900	\$ (102,035)
<b>Total USA</b>			<b>\$365,182</b>			<b>\$644,335</b>	<b>\$(282,988)</b>	<b>\$ 3,835</b>	<b>\$(279,153)</b>

- ▶ **Goal seek analysis:** Alight automates goal seek operations. The planner chooses a target for a time period then specifies a desired goal and input variable. For example: profits in May are forecast to be \$50,000; the planner enters a goal of \$75,000, then selects Unit Sales as the input assumption to be tested. A dialog appears showing the required number of Unit Sales necessary to meet the \$75,000 profit goal.
- ▶ **Causal analysis:** Alight’s built-in URA architecture allows producing volume/rate computations that can be applied to any activity driver or financial line item. For example, an operator column called *Causal* can be added to a revenue report that calculates the actual versus plan financial impact of unit volume and price variances for each product. The same report format computes volume/rate variances for headcount.
- ▶ **Key measures analysis:** In a special Key Measures pane, Alight lets plan administrators create custom dashboards for activity driver models that allow users to analyze in one view multiple line items or plan subtotals, otherwise

spread through out a plan, that constitute a subset driver model. For example, all drivers and resulting metrics for the call center model could be organized in one key measures group for testing, analysis and discussion. You use Key Measures to *tell the story*.

### Summary

Driver-based planning is a best practice methodology where financial plans are structured using models of underlying business activities. Alight Planning software incorporates a unit/rate/amount architecture, modeling tools, integration of actuals and analytics that make this powerful methodology accessible for any company that wants to improve their budgeting, forecasting and decision making processes.

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*Rand Heer is President of Alight LLC and the creative force behind Alight Planning. He was a contributing author to “Business Intelligence: Making Better Decisions Faster” published by Microsoft Press. He was also the founder of Pillar Corporation and designer of Hyperion Pillar, the first enterprise software for budgets and forecasting. (800) 960-7717*