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Prologika Newsletter Fall 2017

Business Performance Management

As I'm writing this newsletter, Florida and Georgia (I live in Atlanta, GA) are in the midst of planning for hurricane Irma, which is expected to be one of the most powerful Atlantic Ocean hurricanes in recorded history. I hope that this won't be the case and we don't have to deal with a disaster of the magnitude of hurricane Harvey that took place just two weeks ago. To avoid and mitigate this, a great deal of planning happens at every level: from government to citizens. Did you know that over 5 million of people in Florida were evacuated, making this the biggest US evacuation to date? Speaking of planning, how does your company approach Business Performance Management? Do you use Excel spreadsheets or expensive high-end planning software? In this letter, I'll share how Prologika helped a mid-size organization to improve its budgeting and planning process, powered by a cost-effective solution based on Microsoft Analysis Services.

Why Business Performance Management?

Wikipedia <u>defines</u> Business Performance Management (BPM) as "a set of performance management and analytic processes that enables the management of an organization's performance to achieve one or more pre-selected goals". A simpler BPM definition might be a methodology to help the company predict its performance. An integral part of a BPM strategy is a process for Budgeting, Planning, and Forecasting that typically has the following workflow:

- Every planning year, a planner in the Financial department creates a budget for a certain number of future periods. The budget is revised and multiple versions are proposed to management. Once budget is approved, it becomes fixed for the duration of the planning year.
- 2. As actuals come in, the planner works on forecast scenarios. Multiple forecast scenarios are typically prepared as the planning year progresses over time.
- 3. The planner monitors the variance between actuals and budget, actuals and forecast versions, and between forecast versions to improve the accuracy of the forecasted periods.

Business Needs

When it comes to Finance, nothing is simple and BPM is no exception. In fact, it very well might be that that your BPM solution might be the most complicated software you've ever developed. The temptation is to buy a prepackaged software but even that route would require a lot of customization and compromises. To gauge complexity, let's look at some of the business requirements we faced.

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PlanningYear	2018	Ţ									
Timespan Type	Short	Ţ									
	Column Labels	Ţ,									
	⊕Actual										
Row Labels	Aug-2016		Sep-2016	Oct-2016	Nov-2016	Dec-2016	Jan-2017	Feb-2017	Mar-2017	Apr-2017	May
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SP5 -											
Gross Adds		22	23	3 65	5 24	365	5 194	311	L 247	7 229	(
Gross Adds Rule											
Average of Subscribers	5,:	,109	4,986	5 4,917	7 4,865	6,228	7,856	8,128	8,311	1 8,517	/
SP6											
Gross Adds		63	36	5 92	2 72	2 110) 22	2 61	L 33	3 22	2
Gross Adds Rule											
Average of Subscribers	7,	,896	7,721	L 7,605	7,517	6,529	5,572	2 5,351	L 5,078	8 4,865	ذ
Gross Adds		85	59	9 157	7 96	475	216	372	2 280	0 251	L
Gross Adds Rule											
Average of Subscribers	13,/	,005	12,707	12,522	2 12,382	12,757	13,428	13,479	13,389	9 13,382	2
Total Gross Adds		85	59	157	7 96	475	216	372	2 280	0 251	1
Total Gross Adds Rule											
Total Average of Subscribers	13,/	,005	12,707	12,522	12,382	12,757	13,428	13,479	13,389	9 13,382	2
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Similar to a Telco, this company has customers and service plans. As a B2B organization, their customers are other companies. Planning is done at the customer and service plan level, and across multiple subject areas. For example, the Excel report shows a subset of the measures for planning growth of the customer base. The planner can change the budget and forecast values of some measures, called *drivers*. For example, the planner can overwrite Gross Adds for future periods. Further, the planner can overwrite a rule **in each cell** to change how the driver cell value is computed. The rules are:

- 0 (default rule) By default, planned values are calculated as 3-mo average of previous periods. For example, Gross Adds for Aug 2017 for the first plan is 221 and has a Gross Adds Rule of 0. This means that the system will calculate the value as a 3-mo simple average of the values of the previous three months (221, 218, and 223). Note that a previous month might fall in the Actuals range. Also notice that recursive calculations are required, where the value of each month is based on the same measure for previous periods.
- 1 (6-mo average) Instead of 3-mo average, 6-mo average is used.
- 2 (seasonality index) The value is computed by multiplying the driver values for the past 12 months by a seasonality index.
- Any other value The planner enters the driver value manually.

The driver measures are used to calculate other (output) measures. For example, Average of Subscribers has a formula that is based on Gross Adds and other measures. Finally, the drivers and output measures are allocated across a Chart of Accounts dimension (not shown on the report) to give managers the financial perspective of how the company is doing.

The Solution

Previously, the company has used an Excel-based home-grown solution. However, the process was manual, lengthy, error-prone, and it couldn't give management a quick and accurate picture of the company's performance. A Business Analytics group was responsible for retrieving and consolidating actuals. Then, the Finance group would manually input actuals into an Excel template. Complicated Excel formulas were used to calculate drivers and output measures but even Excel had difficulty with more complex recursive measures. Most of the time and effort was spent on working the system than on business performance management. The company looked at other high-end financial solutions, with a starting price tag of \$300K, plus yearly maintenance fees and consulting feeds. At the end, the company entrusted Prologika to implement the solution.

We used Analysis Services 2016 Multidimension, Initially, we considered Tabular but we realized that the solution complexity exceeded the Tabular capabilities, including:

- No support for writeback Currently, Tabular doesn't writeback although third-party solution such as Power Planner can be overcome this limitation.
- No support for recursive measures Currently, Tabular doesn't support recursive measures, where the measure DAX formula references the same measure.
- No scope assignments Tabular doesn't support scope assignments for allocations.
- No parent-child dimensions and hierarchy functions Tabular doesn't support parent-child hierarchies and functions for navigating the hierarchy, such as Parent, Children, etc.

This is a classic example of using the best tool for the job. While Tabular could be a good fit for perhaps 80% of semantic models out there, Multidimensional is probably your best bet for Financial projects and projects that require massive data volumes. No tool is perfect. "When all you have (know) is a hammer, everything looks like a nail" doesn't work for BI.