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By Patricia Cox

## Master Budget Project: Analyzing the Pro Forma Statements

>>> In Part 5 of the Excel Budgeting article (June 2010), Jason Porter and Teresa Stephenson discuss how to process the budget data to create pro forma statements, including the Income Statement, Balance Sheet, and Statement of Cash Flows. In addition to the statements themselves, the article shows areas of the spreadsheet that contain the calculations and notes about the calculations. This structure allows you to easily understand which values and data input sheets are used to create which statement line item.

This month we'll look closely at the statements and analyze what data is needed in them. In a database, we might do things a little differently than in a spreadsheet, but we have the same goals: (1) input data into one place and (2) make it clear what inputs go into the calculations. In order to create these statements, we need to store data effectively to create and lay out reports to display that data. These reports are summary reports—in other words, detail data is accumulated into various categories, and then several calculations are made using the summarized data to arrive at net income, to balance assets to

liabilities and stockholders' equity, and to track cash flows. This gives us a chance a little later in the project to create some complex reports.

One option might be to create reports from the data input tables directly. This would be a challenge that in some ways would document the process for the calculations, but a clearer, stepped process like that used in the Excel project will probably serve us better. It also gives us a chance to look at reporting and “temporary” tables that are used for reporting. These tables can be used to create a variety of complex reports and leave a trail of the processes needed to create the report. We will use queries to summarize and append or update data from the data input into the tables using the various calculations in the Excel Budget example to guide us as well as a macro to process the steps to create the report each time. In coming months, we'll cover the queries needed to do this, as well as the reports and the macros. For now, we want to think about how to store the data for the reports and create a table structure to do so. I suggest we create a separate table for each statement (report).

### Income Statement

For the Income Statement, we need a table with three fields: (1) a Description column to hold the labels for each line of the statement, such as Sales, Cost of Goods Sold, Interest Expense, etc.; (2) an Amount column to hold the summarized data from the input; and (3) possibly a third column to show calculated values, such as Gross Profit. There are two options for how we can handle the calculated values. We may be able to calculate them directly on the report we'll create, but we can also include a field for them in the table just in case. This brings up a challenge that we run into sometimes when doing this type of work—we don't always know going forward exactly how something we want to do will turn out, so it's best to have alternatives to consider. In this case, we have a Plan A—three fields in the Income Statement table and a number of queries to append the values to the table. The queries will build each line of the report—Sales, Cost of Goods Sold, etc.—one at a time; one query for each line. We may not need lines for the Gross Profit because it's a calculation, but it may be far easier to do the calculation in a query and update a

**Table 1. Sample of Income Statement**

Description	Income Statement Amount 1	Income Statement Amount 2
Cash	\$5,490,052	
Cost of Goods Sold	(\$3,884,140)	
Gross Profit		\$1,605,912

table than it is to do the calculation on the report. This will become clear as we work on the details of each of these items. Reports that are easy to do in Excel can sometimes be interestingly complex to do in Access, where reports have structure rules that give us certain constraints a spreadsheet wouldn't have. Figure 1 shows the field names and the data we would like to see in the tables (for the first few lines of the report). A query would be created to complete each of these lines.

And we have Plan B—try to calculate the values on the report first, and only include the table field if needed to store data for the report. It's helpful to keep an open mind in the process so that you can select the best options as they become clear.

## Balance Sheet

For the Balance Sheet, four fields will work in our temporary table: (1) a Category field for Asset, Liability, or Equity summary levels; (2) a Description field for the account type, such as Cash; (3) an Amount field; and (4) a Note column for the letter that refers to the notes. We may also want a separate Note table to

store the notes. We'll create a series of queries to append and update this table and a macro to run them. This will also provide an opportunity to look at sub-reports later on.

## Statement of Cash Flows

For the Statement of Cash Flows report, we'll want a table that has four fields: (1) Description, (2) Amount1 for the values in the left-hand column, (3) Amount2 for values in the right-hand column, and (4) Note. We'll create a series of queries to append and update this table and a macro to run them.

## Table Design for Complex Reports

We started by using the result we want to accomplish to visualize the fields we need to store in the tables. Then we designed three- or four-field tables for each report and recognized that we would need a series of queries to summarize the data into the table (similar to the summary report areas on the spreadsheet). We'll create macros that will show the order the queries will process, and record any notes we want to document the process. Ultimately we'll also

create a report to present the financial statements in a professional format. In some ways, that will be the easiest task because of the structure we designed for the tables.

As you can see, we're breaking down the design into manageable chunks to analyze. At this point, we have a preliminary design for our main tables and have discussed the design for temporary tables to assist us with reporting. Next month we'll review these tables against the Excel articles to see if there's anything else we need to include. Then we'll create the tables, and I will make the file available to use as we move on to create queries, forms, reports, and macros for the process in the remaining months of our project. **SF**

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