



## Brand Your Department Through Excel:

# First Steps To Supporting Your PI And Institution

By Patrick DeCoste

Imagine being able to accurately predict the final balance on an award, or how a change in your effort will affect the bottom line, or even catching potential proposal submission errors before they occur. With the ability to build Excel templates encompassing all these things, along with other functions both you and your PI would like to see, you can have a system which promotes efficiency, effectiveness and flexibility tailored to your department's perspective.

Unfortunately, some institutions frown (or outright prohibit) such "shadow systems" citing existing functionality in their accounting system or stating the resources they put into the current system outweigh the resources needed to build a second module. But make no mistake: although the institution's software is the system of record and subject to audit, having checks-and-balances templates only enhances your due diligence while supporting your PI and, more importantly, the institution itself.

In building your own system(s), you can create transparency while developing personalized templates catered to the unique needs of the department. Whether it's as simple as a grant/ contract proposal template or a worksheet that includes more complex functions projecting spending through the life of the grant, this system can be a useful tool allowing even those with minimal Excel skills to obtain a quick status "snapshot" report.

Additionally, a successful system can establish a brand and identity for yourself as well as your department. In the creation of such systems, I find there are 3 major steps to success:

1. Decide what you want your template(s) to do: Is it salary projections? Expense reconciliations? Sub-recipient monitoring? A required documents checklist for a particular proposal? Or some combination of these things?

2. The second step will showcase your creativity: building your customized template. This includes functionality, data to be shown and understood as well as your vision realized.
3. Arguably the most difficult of steps has been saved for last: deciding its layout. Do you use colors? How many worksheet tabs? Will charts/ graphs be useful or distracting the end user?

(IMAGE 1) is a screenshot which mimics an institution's finance system with the baseline "snapshot" template I built to mirror it. Its simplicity allows PIs a quick overview of a particular grant without getting bogged down by details, without needing to click around the institution's system to find this info and without wasting any more time on their research!

For those researchers seeking more detail, they may need to delve further into the institution's system whereas this same excel "snapshot" Excel template allows for expanded detail with the click of a button, in this instance, the salaries by person. To do this, they simply need to click the "+" button found to the left of particular expense categories to view the detail.

Many finance systems have complex algorithms/ entry methods causing inaccurate projections - in particular, the biggest drivers of expenses: salaries and subcontracts. In an effort to keep this grant "snapshot" simple,

Image 1

TOTAL BUDGET AS OF 09/08/2015				PERIOD ENDING PROJECTION	
Expense Description	Finance Budget	Awarded Budget	Actual Expenses	FUTURE EXPENDITURES	BALANCE
Janis Doe - PI	156,406		133,468		22,938
John Doe 1	-	-	788		(788)
John Doe 2	-	-	151,017	22,860	(173,877)
John Doe 3	-	-	37,207		(37,207)
John Doe 4	-	-	0		0
John Doe 5	21,028		79,433	41,219	(99,625)
Jane Doe 1	-	-	15,483	9,887	(25,369)
Jane Doe 2	60,636		4,355		56,281
Jane Doe 3	42,920		3,484		39,436
Jane Doe 4	-	-	8,440	7,747	(1,693)
Jane Doe 5	-	-	-	-	-
Salaries and Wages	271,224	280,989	433,814		
Fringe Benefits	70,565	70,253	115,335		
<b>PERSONNEL TOTAL</b>	<b>341,789</b>	<b>351,243</b>	<b>549,149</b>	<b>81,713</b>	<b>(279,619)</b>
<b>CONSULTANT TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0</b>	<b>0</b>
<b>OTHER DIRECTS TOTAL</b>	<b>150,516</b>	<b>43,501</b>	<b>6,899</b>	<b>593</b>	<b>36,089</b>
Travel Domestic	13,421	15,869	3,358	289	12,222
Travel Foreign	-	-	0	0	0
<b>TRAVEL TOTAL</b>	<b>13,421</b>	<b>15,869</b>	<b>3,358</b>	<b>289</b>	<b>12,222</b>
Other Contracted Services	43,267	-	9,980	858	(10,838)
Sub-awards	3,214,863	3,361,284	3,124,300	(1)	236,885
<b>SUBAWARD TOTAL</b>	<b>2,254,249</b>	<b>2,364,284</b>	<b>2,134,280</b>	<b>857</b>	<b>226,146</b>
<b>TOTAL DIRECT COSTS</b>	<b>2,771,975</b>	<b>2,771,976</b>	<b>2,693,686</b>	<b>83,453</b>	<b>(5,162)</b>
<b>TOTAL MYDC</b>	<b>582,013</b>	<b>545,845</b>	<b>594,385</b>	<b>83,454</b>	<b>(5,162)</b>
F&A	340,134	348,134	371,493	11,559	(34,860)
<b>Total Expenses</b>	<b>3,112,089</b>	<b>3,319,821</b>	<b>3,288,071</b>	<b>94,912</b>	<b>(68,028)</b>

Image 2

Funding Type:	Opportunity Number:	Due to funder:
Application Name:	PIA Login:	to Grant Admin:
Internal Begin Date:	Proposed Start Date:	Proposed End Date:
<b>Research Investment Items</b>		
Qualify	Completed?	Budget Justification
Contract/Interest	Completed?	Completed?
<b>Research &amp; Related (Other)</b>		
Are Human Subjects Involved?	Yes/No	Are Vertebrate Animals Used?
If "Yes," is exempt from Federal regulations?	Yes/No/In Progress	If "Yes," is the IACUC review pending?
If "No," is the PI review pending?	No/PI review pending	IACUC Approval Date:
Human Subject Assurance Number:	Public/XXXXXX	Animal Welfare Assurance Number:
Is there proprietary/confidential info included?	No	Any actual potential impact on the environment?
Is the research performance data historic?	No	If "Yes," has an exception been authorized or an EAOI been performed?
Activities outside of the US (w/ partnerships)?	Yes/No	If "Yes" to any of these questions, has an explanation been provided?
Project Summary/ Abstract	Completed?	Allow: Section number no longer than 30 lines of text
Project Narrative	Completed?	Allow: No more than 250 characters
Biosketch & References Check	Completed?	Allow: No page limitations
Facilities & Other Resources	Completed?	Allow: No special terms requested
Equipment	N/A	Allow: Appropriately identify location/ownership capabilities (if applicable)
<b>Personnel &amp; Payroll Profile</b>		
Add Is Key Person Profiles - see other tabs?	Auto-Populates	Allow: Should be filled in alphabetical order
		Research & LOS Dept & Justification
		LOI & LOS
		COI & Fast Res.
		EAO
<b>Project Performance Data Location</b>		
Performance Start?	Completed?	Allow: GLAS Congressional District needed if outside of BLMC
		Implement
<b>Research Plan Attachments</b>		
Introduction (transmission/revision only)	Completed?	Allow: No to proceed (single For transmission/revision only)
Specific Aim	Completed?	Allow: No to proceed (single)
Research Strategy	Completed?	Allow: No to proceed (single)
Inclusion/Exclusion Report	Completed?	Allow: If critical to research, you must report on effectiveness & budgeted
Progress Report Publication List	N/A	Allow: List publications, manuscripts/accepted/rejected from project since competitive review
<b>Human Subjects Section</b>		
Protection of Human Subjects	Completed?	Required if involves human specimens/data, justify the claim of no human subjects
Inclusion of Women & Minorities	Completed?	Required if human subjects are involved
Targeted Planned Enrollment Table	Completed?	Required if involving the inclusion of women and minorities
Inclusion of Children	Completed?	Required if involves human specimens/data, justify the claim of no human subjects
		Allow: Required if "Yes" to the research plan attachment
<b>Other Research/Support</b>		
Vertebrate Animals	N/A	Allow: Required if "Yes" to the research plan attachment
Subcontract Research	N/A	Allow: For applications aligning with the PI's research plan
Multiple PDR/ Leadership Plan	Completed?	Allow: For applications aligning with the PI's research plan
Consent/Contract Arrangements	Completed?	Allow: For applications aligning with the PI's research plan
Letters of Support	Completed?	Allow: For applications aligning with the PI's research plan
Resource Sharing Plan(s)	Completed?	Allow: For applications aligning with the PI's research plan
Appendix	Completed?	Allow: No more than 10 allowed to be uploaded
<b>PI &amp; PI Support/Project Submissions</b>		
PI & PI Support/Project Submissions	Completed?	Allow: For applications aligning with the PI's research plan

I incorporated a multi-tabbed workbook utilizing various tabs to itemize salary detail, subcontracts and Other Support (not shown). Those worksheets maintain a similar look and feel as the other sheets while being cross-referenced to this budget-to-actual “snapshot” template.

One final example of a template I built for proposal development (IMAGE 2). Much of it is automated allowing the PI to simply check off when a document is complete. It includes all the key data needed during a proposal: due dates, required documents and various workbook tabs and hyperlinks such as budget, contact info, etc. Further automation allows for auto-filled information required by an institution’s Sponsored Programs office in order to submit the proposal (ie. Letter of Intent, Cover sheet, etc.) on other tabs within the workbook (not shown).

With such a structure in place, you help build trust and transparency within the department allowing others to work with a system they can use and likely have knowledge in. Such a powerful program as Excel can do many things with much of its functionality being easy to learn and rewarding once implemented. Using some basic tips/ tricks, you can wow your colleagues while creating a usable, PI-friendly resource.

To help get you started, here are 3 of my favorite time saving functions I find most useful:

1. **Grouping:** found in the “Data” tab at the top of the worksheet, this allows you to hide/unhide areas with one click. Simply highlight entire rows numbers/ column letters and click the “Group” icon. A “-” will un-hide that section and when clicking the “+”, it hides it! To undo this at a later time, simply re-highlight the grouped section and click the “Ungroup” icon. (The function could also take the place of using the “Hide/ Unhide” function.) *Example: in the above “snapshot” template (IMAGE 1), PIs can view their expenses by cost category or itemize out for more detail by simply clicking the “+” options within the worksheet – in this instance, personnel detail.*
2. **Conditional Formatting:** ever want a cell’s value to change colors based on its value? You can do so by highlighting the cell, going to the “Home” tab at the top of the screen and choosing “Conditional Formatting”, and then “Highlight Cell Rules”. Simply select the criteria you want to fulfill, type the value (or select the cell you want to reference) and choose which color scheme you want. (The function could also take the place of manually filling in cells with color.) *Example: in the above “snapshot” template (IMAGE 1), the budget entered into the finance system (column AK) isn’t equal to Notice of Awards total (column AL) causing the red text to alert me of this discrepancy.*
3. **Filtering:** This tool allows you to either sort or “filter” out variables within a column of data. Simply highlight the header row containing the data you wish to view a certain criteria for, then click the “Data” tab and select “Filter”. Click on the down arrow which now appears in the first row of the column and either select your sort preference or select the variables you would like to either see or not see without actually deleting any data! (The function could also the replace of using the “Sort” function.) *Example: Every month, I download all detailed grant expenses from the grant Start Date then filter out all automated costs (ie fringe & F&A) so the PI can see the detail of their direct spending each month (feature not shown).*

Other function favorites include: “Pivot Tables” which are used to summarize/ consolidate massive amounts of data into a small group and

Image 3

TOTAL BUDGET AS OF 09/09/2015				PERIOD ENDING PROJECTION	
Expense Description	Finance Budget	Awarded Budget	Actual Expenses	FUTURE EXPENDITURES	BALANCE
PERSONNEL TOTAL	341,789	351,243	549,149	92,712	(276,619)
CONSULTANT TOTAL				0	0
OTHER DIRECTS TOTAL	158,516	43,581	6,899	195	96,089
Travel Domestic	15,421	15,869	3,358	289	12,222
Travel Foreign			0	0	0
TRAVEL TOTAL	15,421	15,869	3,358	289	12,222
Other Contracted Services	42,377		3,900	858	(10,929)
Subawards	2,114,962	2,341,208	2,126,300	(1)	236,965
SUBAWARD TOTAL	2,114,962	2,341,208	2,126,300	857	236,965
TOTAL DIRECT COSTS	2,771,975	2,771,976	2,689,686	89,455	(5,142)
TOTAL FRINGE	582,015	446,815	596,205	59,154	(5,142)
F&A	340,134	348,134	371,431	11,305	(34,896)
Total Expenses	3,120,109	3,120,119	3,065,176	94,962	(40,029)
F&A Rate		Funder Rate	84%	Grant	123456
		Institutional Rate	63%	Sponsored Award	SR011234
		F&A Rates Don't Match		Federal Award	Yes
				Project Investigator	PI Last Name - 1111

“Workbook/ Worksheet Protection” to lock information in place ensuring no one can edit either the formatting or data without your password.

In addition to the functions outlined above, here are 3 of my favorite formulas:

1. **“If” Clauses** (IMAGE 3): Have you ever wanted a cell to return a specific text if a certain condition is met or/ true? By using the following formula in the cell where you want to see that value this can be done: `=IF([Click on Desired Cell][Insert Desired Formula])[“Including quotations, type what you want to know to be true”],[“Including quotations, type affirmative response”],[“Including quotations, type if your condition isn’t met”]`. In this example, I’m notified the F&A rate the institution is charging is not equal to the rate agreed upon by the funder.
2. **Calculate between dates:** knowing how much time is left in a grant period is critical. You can easily find out how many days remain by typing in: `=DATEDIF([Click on later end date],[Click on earlier date],“m”)`.
3. **Concatenate** (IMAGE 4): sometimes I want a cell to display the values from at least 2 different cells in one cell. Here is that formula: `=CONCATENATE([Insert 1st cell to reference], [Insert 2nd cell to reference], [Insert 3rd cell to reference])`. In this example, I title my sheet by Grant Name and internal Grant Number.

Image 4

B1	=CONCATENATE(AR78,AR83,AR74)
1	A
2	B
1	1
2	Cancer - 123456

By having these visuals as well as seeing them work in real time, you can hopefully either get started or incorporate some of these ideas in your current system. I found if you want Excel to do something, it probably can - you just have to be creative in getting there. Whether it takes asking a colleague, referring to Excel’s “Help” option or even a few quick trips to Google and YouTube, you’re only a step or two away from the answer. Good luck! ■



Patrick DeCoste has been in Research Administration for over 10 years, currently at Boston University. He has built a number of shadow systems for several major organizations in the Boston area both in the non- and for-profit arenas. He is an active NCURA member and can be reached at [Patrick@DeCosteOnline.com](mailto:Patrick@DeCosteOnline.com)