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## Simple Excel tricks for Project Managers

At the early stages of a project it makes great sense to perform a few simple calculations to get the big picture of a project's constraints. As the practice reveals, time is always an important constraint and part of the so called "iron triangle" of constraints, hence it is always a good idea to understand what is the total working time available to perform the activities of the project.

Excel provides some really simple formulas to perform such calculations. In the step by step example below you will see how you can quickly calculate the net workdays of the project.

Open a blank Excel workbooks and format it as the screenshot or in any way you like. Insert the Start and Finish dates of the project

	A	B	C	D
1	Project X			
2				
3			<b>Total Days</b>	<b>Net work days</b>
4	Project Start Date	15 June 2016		
5				
6	Project Finish Date	20 December 2017		
7				
8	Holidays			
9				
10				
11				

As you already know Excel can perform all sorts of calculations involving dates and in our case you could use a simple subtraction such as `=B6-B4` to calculate the total days of the project. This time however you will use the "Days" build-in formula to perform the same calculation. The formula has only two parameters (arguments), the end\_date and the start\_date. Providing Excel with their references you will get the total number of days between them. This however, does not help much because there are several weekends and moreover, there are public holidays and vacations.

	A	B	C	D
1	Project X			
2				
3			<b>Total Days</b>	<b>Net work days</b>
4	Project Start Date	15 June 2016		
5			<code>=DAYS(B6,B4)</code>	
6	Project Finish Date	20 December 2017		
7				
8	Holidays			
9				
10				
11				

There is another powerful build-in formula you could use that excludes weekends from the calculations, and that is the **NETWORKDAYS** formula.

The great thing with **NETWORKDAYS** formula is that it can also take into account non-working days once you have them inserted somewhere in your worksheet and included their range into the formula.

You could use any online localised calendar service to copy and paste the public holidays in your Excel spreadsheet and you might as well type them in yourself.

Insert the formula **NETWORKDAYS** in cell D5 or any cell you would like according to your spreadsheet structure. Start\_date would be the start date of your project (cell A6), end\_date is in cell A4 and then for the [holidays] argument (which is optional) drag and select the area that includes the holidays and non working days of your project. Once you hit enter you will get the net working days of your project excluding weekends and holidays.

Project X				
		Total Days	Net work days	
Date	15 June 2016	553	<code>=NETWORKDAYS(B4,B6,B9:B38)</code>	
Date	20 December 2017		<code>NETWORKDAYS(start_date, end_date, [holidays])</code>	
Holidays				
Days	20 June 2016			
	12 August 2016			

  

Project X	
	Total Days
Project Start Date	15 June 2016
Project Finish Date	20 December 2017
Holidays	
Holy Spirit	20 June 2016
Summer Holidays	12 August 2016
	13 August 2016
	14 August 2016
	15 August 2016
	16 August 2016
	17 August 2016
	18 August 2016
	19 August 2016
	20 August 2016
	21 August 2016
	22 August 2016
National Day	28 October 2016
	20 December 2016
	21 December 2016
	22 December 2016
	23 December 2016
	24 December 2016
	25 December 2016
	22 August 2017
	23 August 2017
	28 October 2017

Another great formula you can use is **WORKDAY**. Let's assume that you have given a certain number of well-defined activities and you know that their total duration is 165 days. You would like to know when your project will finish if you also given many options in terms of when to start the project.

	A	B	C
	Project Start day	Day	Project Finish Date
1			
2	16/01/2017		
3	01/02/2017		
4	27/02/2017		
5	13/03/2017		
6	17/04/2017		
7	02/05/2017		
8	12/06/2017		

First of all, let's make sure your chosen project start dates that do not correspond to Sundays as you wouldn't like to start a project on a Sunday. To do that insert a **TEXT** formula in cell B2 as the one in the screenshot below.

	Project Start day	Day	Project Fin
1			
2	16/01/2017	=TEXT(A2,"dddd")	
3	01/02/2017	TEXT(value, format_text)	
4	27/02/2017		
5	13/03/2017		
6	17/04/2017		

What this formula does is actually transforming your date into text. Once you hit enter you will see the day corresponding to the date written in cell A2. The number of "d's" you insert in the formula refers to custom formatting and if you insert any other number of d's such as 3 or 2, you will most probably don't get the same result.

Use the autofill tool to copy your formula down to cell B6. In cell C2 inset the formula **WORKDAY**. The start\_date would be cell A2, the start date of your project and the "days" argument corresponds to the total number of days your project will last. In this case the total number of days are 165.

As in the case of the **NETWORKDAYS** formula, if you had any holidays you could select their range to include them in the last argument of your formula. Once you do that and hit the Enter on your keyboard you will get a number that will most probably not make sense to you if you don't already know that Excel translates dates into numbers (1/1/1900 = 1). You can resolve this in two ways: You can format the cells' content as Date or you can extent the formula using a **TEXT** formula to translate the number into any format you would like.

Using a cell formatting to convert the value into a date

Using a TEXT formula to convert the value into a date

	Project Start day	Day	Project Finish Date
1			
2	16/01/2017	Monday	=TEXT(WORKDAY(A2,165),"dd/mm/yyyy")
3	01/02/2017	Wednesday	WORKDAY(start_date, days, [holidays])
4	27/02/2017	Monday	
5	13/03/2017	Monday	
6	17/04/2017	Monday	
7	02/05/2017	Tuesday	
8	12/06/2017	Monday	