

## Project 6 – Data Search and Reporting

For this project, we'll leverage the concepts that were learned in Section 7 of the Excel for Project Managers course.

**Step 1:** We will first take a look at the VLOOKUP function. Please download the Project 6 spreadsheet located here: <https://www.danriverapmp.com/ms-excel-for-project-managers>

**Step 2:** In cell C24, enter the label: *2020 Vendor Labor*.

	A	B	C	D	E
17		<b>Benefits</b>			
18			Spend Reduction		\$1,630,000
19			Increased Sales		
20			<b>Total Benefits</b>	\$ -	\$1,630,000
21					
22			<b>Cash Impact</b>	\$(560,000)	\$1,070,000
23					
24			2020 Vendor Labor:		

**Step 3:** In cell D24, enter the formula: `=VLOOKUP("Vendor Labor", C3:J22, 2, FALSE)`. Within this function, there are 4 parameters.

- *Vendor Labor* is the text value that will be searched for. You can also use a cell reference such as *C6* without quotation marks.
- The range *C3:J22* is the specific range where the value associated with *Vendor Labor* will be retrieved.
- The third parameter, *2*, indicates that the value in the 2<sup>nd</sup> column of the range will be returned. Since the range begins with Column C, this column becomes the first Column within the function. Column D, the second; Column E the third; etc.
- The last parameter, *False*, indicates that only the exact match should be returned.

	A	B	C	D	E	F	G
6			Vendor Labor	\$ 125,000	\$ 125,000		
7			Internal Labor	\$ 125,000	\$ 125,000		
8			<b>Total Investment</b>	\$ 500,000	\$ 500,000	\$ -	\$ -
9							
10			<b>Operating</b>				
11			Annual Software License			\$ 1,000	\$ 1,000
12			Project Internal Labor	\$ 50,000	\$ 50,000		
13			Time & Expense	\$ 10,000	\$ 10,000		
14			Support Internal Labor			\$ 15,000	\$ 15,000
15			<b>Total Operating</b>	\$ 60,000	\$ 60,000	\$ 16,000	\$ 16,000
16							
17			<b>Benefits</b>				
18			Spend Reduction		\$1,630,000	\$2,200,000	\$2,200,000
19			Increased Sales				
20			<b>Total Benefits</b>	\$ -	\$1,630,000	\$2,200,000	\$2,200,000
21							
22			<b>Cash Impact</b>	\$(560,000)	\$1,070,000	\$2,184,000	\$2,184,000
23							
24			2020 Vendor Labor:	\$125,000.00			

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Next up will be the MATCH function. This function is used to find the position of the lookup value in a row, column, or table. Generally, MATCH is combined with the INDEX function to retrieve the actual value in the associated MATCH position. Keep in mind that the MATCH function only returns the position value only and not the actual value associated with the lookup.

**Step 4:** Enter *2021 Vendor Labor* in cell C25. Within cell D25, enter the formula `=MATCH(C6, C3:C19, 0)`. The parameters are as follows:

- C6 is the lookup value. This can be text or a cell reference.
- C3:C19 is the range to look up the value to attain its position only (not the value).
- 0 indicates that you are looking for an exact match.

		=MATCH(C6, C3:C19, 0)			
	A	B	C	D	E
3			Hardware Purchase	\$ 100,000	\$ 100,000
4			Software Purchase	\$ 100,000	\$ 100,000
5			Software License	\$ 50,000	\$ 50,000
6			Vendor Labor	\$ 125,000	\$ 125,000
7			Internal Labor	\$ 125,000	\$ 125,000
8		<b>Total</b>	<b>Investment</b>	<b>\$ 500,000</b>	<b>\$ 500,000</b>
9					
10			<b>Operating</b>		
11			Annual Software License		
12			Project Internal Labor	\$ 50,000	\$ 50,000
13			Time & Expense	\$ 10,000	\$ 10,000
14			Support Internal Labor		
15		<b>Total</b>	<b>Operating</b>	<b>\$ 60,000</b>	<b>\$ 60,000</b>
16					
17			<b>Benefits</b>		
18			Spend Reduction		\$1,630,000
19			Increased Sales		
20		<b>Total</b>	<b>Benefits</b>	<b>\$ -</b>	<b>\$1,630,000</b>
21					
22			<b>Cash Impact</b>	<b>\$ (560,000)</b>	<b>\$1,070,000</b>
23					
24			2020 Vendor Labor:	\$125,000.00	
25			2021 Vendor Labor:	4	

## Project 6 – Data Search and Reporting

Previously, we were leveraging the MATCH function to just attain the position of the value that we were looking for. Now, we want to attain the actual value returned by leveraging the MATCH function. This is possible but you will need to combine both the INDEX and MATCH functions.

**Step 5:** In Column M, enter the below values for rows 3, 4, and 5. Then, in cell L5, enter the formula: `=INDEX(D3:I7, MATCH($L$4, C3:C7,0), MATCH($L$3, D1:I1, 0))`. Initially, you will get an Excel generated error because you haven't entered any parameters for the referenced cells L3 and L4. Enter 2020 in cell L3 then Vendor Labor in cell L4. Your sheet should look similar to the below.

			D	E	F	G	H	I	J	K	L	M
			2020	2021	2022	2023	2024	2025	Total			
1	Investments											
2	Capital											
3	Hardware Purchase	\$	100,000	\$ 100,000					\$ 200,000		2020	Year
4	Software Purchase	\$	100,000	\$ 100,000					\$ 200,000		Vendor Labor	Account
5	Software License	\$	50,000	\$ 50,000					\$ 100,000		125000	Value
6	Vendor Labor	\$	125,000	\$ 125,000					\$ 250,000			
7	Internal Labor	\$	125,000	\$ 125,000					\$ 250,000			
8	Total Investment	\$	500,000	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000			

The INDEX function retrieves the actual value (not the position value) at a given point in a cell range. Keep in mind that the MATCH function is the exact opposite where only the position is returned and not the actual value.

The formula for INDEX is: `=INDEX(cell range, row position, column position)`. In the above example, the row position is represented by `MATCH($L$4, C1:C7,0)`. The column position is represented by `MATCH($L$3, D1:I1, 0)`.

That will do it for this Project 6. If you have any questions or feedback please let me know on my contact form at: <https://www.danriverapmp.com/ms-excel-for-project-managers>.