



ActivityInfo

Introduction to Calculated Tables for data analysis

Starting shortly, Please wait!



ActivityInfo

Presented by the ActivityInfo Team

All in one information management software for humanitarian and development operations

- Track activities, outcomes
- Beneficiary management
- Surveys
- Work offline/online

The screenshot shows the ActivityInfo website homepage. At the top, there is a navigation bar with the ActivityInfo logo on the left and links for Features, Pricing, Customers, Support, News, Contact us, and a Log in button on the right. The main content area features a large heading: "Information management software for humanitarian and development operations". Below this heading is a sub-heading: "Everything you need for your data collection and reporting needs. No-code relational database builder. Integrated analysis tools and advanced user management capabilities." Underneath, it states "ActivityInfo is perfect for" followed by three icons and labels: "Case Management" (with a document icon), "Monitoring and Evaluation" (with a line graph icon), and "Humanitarian coordination" (with a globe icon). On the right side of the page, there is a map of Africa with several colored bubbles (blue, yellow, purple) of varying sizes, each containing a number, representing data points on a geographical map.

Meet your instructors



Jeric Kison

Customer Success Director
BeDataDriven



Victoria Many

Customer Education Specialist
BeDataDriven

Webinar Series

Calculated Tables

NOV 2

SESSION 1

Introduction to
Calculated Tables for
data analysis

NOV 9

SESSION 2

Office Hours -
Calculated Tables

Outline

01 Understanding Calculated Tables

02 Creating Calculated Tables

03 Worked examples

04 Q&A and wrap-up

Presentation outline

Overview

- Explaining calculated Tables
- Calculated Tables and functions
- Combine, transform, and manipulate data tables for meaningful insights in ActivityInfo
 - Conduct analysis on existing tables that require further transformation prior to analysis
 - Combine multiple tables into a single table for analysis
- Q&A

01

Understanding Calculated Tables

Understanding Calculated Tables

Key concepts: Tables

Table

Column

Name ▼	Gender ▼	Date of birth ↑ ▼	Education level ▼	Phone number ▼	Email address ▼
Vinnie Carter	Male	2039-10-31	University degree...	(679) 854-3793	vinnie.carter@g...
Vanessa Sharpe	Female	2039-10-17	High school degree	(247) 090-6768	vanessa.sharpe@...
Theresa Mccall	Female	2039-09-23	High school degree	(810) 553-6054	theresa.mccall@g...
Yousuf Sparks	Male	2039-08-29	High school degree	(441) 913-5322	yousuf.sparks@g...
Margaret Burgess	Female	2039-07-20	Less than high sc...	(240) 688-1806	margaret.burgess...
Rhianna Cohen	Female	2038-06-21	University degree...	(258) 573-1866	rhianna.cohen@g...

Row

Understanding Calculated Tables

Key concepts: Tables

- In ActivityInfo, forms are structured with records and fields.
- During analysis, these forms are perceived as tables.
- Each row in these tables symbolizes a record.
- Similarly, each column signifies a field within the data structure.
- Generally, in ActivityInfo, the term "table" denotes a specific form.
- All forms within ActivityInfo are considered "tables" for calculated table purposes.
- However, not every table within ActivityInfo corresponds to a form.
- When a "table expression" is needed, you can utilize either the form ID or a table function for representation.

Understanding Calculated Tables

Key concepts: Data Types

Data Type	Example
Number	24, 42, 2.5, 0, -1.5
Boolean	True, False
Date	2023-10-14
String	"Alice"
Week	2023W2
Month	2023-02
Quarter	2023Q1
Geographic point	52.0705° N, 4.3007° E
Multiple selection	[TV, Radio, Generator]

Understanding Calculated Tables

Key concepts: Column Types

Name ▼	Gender ▼	Date of birth ↑ ▼	Age ▼	Education level ▼	Phone number ▼
Kamran Decker	Male	2009-08-07	14	University degree...	(501) 833-7856
Samir Mathews	Male	2009-07-30	14	High school degree	(263) 254-1542
Elliot Mccullough	Female	2009-05-01	14	High school degree	(274) 942-2020
Willie Bond	Female	2009-04-17	14	Less than high sc...	(538) 951-3530
Kyra Berger	Female	2009-04-10	14	Less than high sc...	(154) 267-5152
Mason McBride	Female	2009-02-26	14	High school degree	(013) 742-9003
Bobby Burton	Female	2009-02-17	14	High school degree	(788) 638-6242

String

String

Date

Number

String

String



Understanding Calculated Tables

Why use Calculated Tables?

Data collection structure

Add record

Farm* REQUIRED

Select Name of Farm

+ Add reference record in Farm

City

Farmer owner

Owner's Gender

Year* REQUIRED

2019

2021

2022

2023

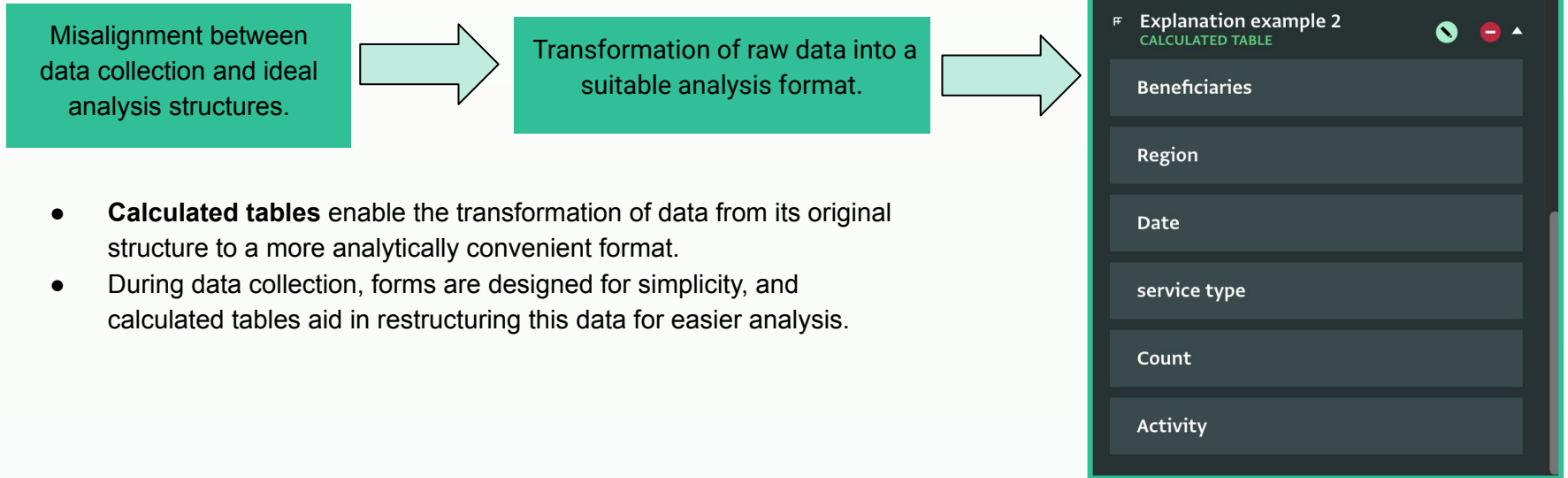
Farm Name of Farm	Year	Total yield
Almost Home Family Farm	2022	315
Triple J Farms	2022	461
Sweet Endings Sugar House	2022	441
Uncle Bob's Maple Products	2022	552
Rustic Rock Maple Farm L...	2022	486
Bush Hill Maple Farm	2022	246
Shumake, Jim	2021	412
Micsky, Jim & Cindy	2021	276
Bean Hill Maple Farm	2021	483
Maple Magic	2021	478
Almost Home Family Farm	2021	122

Analysis structure

Farm	2021	2022	YoY Difference	YoY % Change
Almost Home Family Fa...	122	315	193	158%
B. J. Kimball Maple	321	344	23	7%
Bean Hill Maple Farm	483	340	-143	-30%
Blue Eye Maple Syrup	274	665	391	143%
Bortles Sugar Shack	157	180	23	15%
Boylan Farms Maple Pro...	395	676	281	71%
Brantview Farms Maple	274	537	263	96%
Burcharde's Sugar Shack	254	405	151	59%
Bush Hill Maple Farm	142	246	104	73%
Butler Family Maple	240	469	229	95%
Cambridge farms	328	397	69	21%
Casbohm Maple & Honey	261	296	35	13%
Clinger's Maple Syrup	311	491	180	58%
Copeland's Sugar House	518	58	-460	-89%

Understanding Calculated Tables

Why use Calculated Tables?



Understanding Calculated Tables

Why use Calculated Tables?

Convenience in data analysis

From data collection forms to reports

Region	Male	Female	Elderly female	Elderly Male
East	100	300	300	900
West	200	199	700	700
North	600	800	200	400
South	10	2	7	7

Region Gender	Value
East	
EF	300
EM	900
Female	300
Male	100
West	
EF	700
EM	700
Female	199
Male	200

Understanding Calculated Tables

Why use Calculated Tables?

Calculated tables are helpful when you need to:

- merge multiple forms into a unified table
- create a new table that includes only the relevant values for analysis
- reorient fields or columns, shifting them between rows and columns

... and more!

02

Creating Calculated Tables

Creating Calculated Tables

Overview

Calculated Tables are generated by using a **table function**

Table functions generally require you to:

1. **specify** the table containing the data you need and,
2. **define** the way by which that data will be transformed

Creating Calculated Tables

Scalar vs Table Values

Scalar values & types

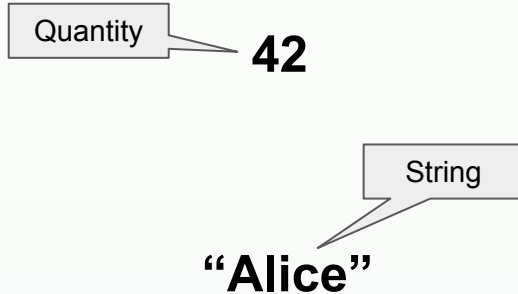
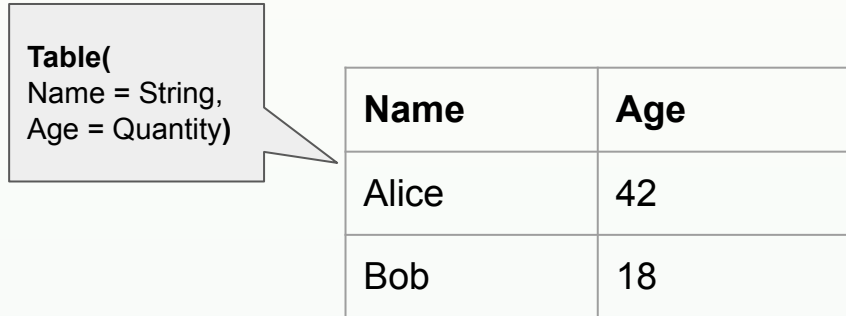


Table values & types



Creating Calculated Tables

Table functions in ActivityInfo

Function	Result
ADDCOLUMNS	new calculated columns added to an existing table
SELECTCOLUMNS	selected columns from a given table
FILTER	subset of a table that matches a specified condition
UNION	new table combined from two or more tables
SUMMARIZE	table with values summarized by specified groups
PIVOTLONGER	new table where columns are moved to rows

Creating Calculated Tables

Table functions in ActivityInfo

UNION

new table combined from two or more tables

Usage

```
UNION(Table Expression, Table Expression2, Table Expression3)
```

Food distribution

Activity	Beneficiary
Food distribution	Jay
Food distribution	June

Medical outreach

Activity	Beneficiary
Medical outreach	Jerry
Medical outreach	Jones



```
UNION(Food distribution, Medical outreach)
```

Activity	Beneficiary
Food distribution	Jay
Food distribution	June
Medical outreach	Jerry
Medical outreach	Jones

Creating Calculated Tables

Table functions in ActivityInfo

ADDCOLUMNS

new calculated columns
added to an existing table

Usage

```
ADDCOLUMNS(Table Expression, "NewColumnName1", Expression1[,  
"NewColumnName2", Expression2] ...)
```

Food distribution

Activity	Beneficiary
Food distribution	Jay
Food distribution	June

Beneficiaries

Beneficiary	Sex
Jay	Male
June	Female



```
ADDCOLUMNS(  
    Food distribution, "Sex",  
    LOOKUP(Beneficiary, Beneficiaries,  
    Beneficiary, Sex)  
)
```

Activity	Beneficiary	Sex
Food distribution	Jay	Male
Food distribution	June	Female

Creating Calculated Tables

Table functions in ActivityInfo

SUMMARIZE

table with values
summarized by specified
groups

Usage

```
SUMMARIZE (Table Expression, GroupBy_columnName[,  
GroupBy_columnName]...[, "Name", Expression]...)
```

Activities

Activity	Beneficiary
Food distribution	Jay
Food distribution	June
Medical outreach	Jerry
Medical outreach	Jones



```
SUMMARIZE(  
  Activities, Activity,  
  "Beneficiaries",  
  COUNTDISTINCT(Beneficiary)  
)
```

Activity	Beneficiaries
Food distribution	2
Medical outreach	2

Creating Calculated Tables

Creating a Calculated Table

- **Creation of calculated tables** occurs within Pivot Table reports, utilizing selected data sources.
- These tables rely on the data stored in existing forms within ActivityInfo.
- Continuous updating of calculated tables ensures their alignment with any changes made to existing records, maintaining relevance and accuracy in the analytical process.

The screenshot displays the 'Report design' interface. On the left, under the 'Fields' section, there are two buttons: 'Select forms' and 'Add calculated table'. The 'Add calculated table' button is highlighted with a red border. To the right is the 'Formula editor' window. It features a 'Functions' list on the left with categories like 'Logical functions' and 'Text functions'. The main area of the formula editor contains a 'Calculated table name' input field, a text area for 'Enter your formula here...', and a dropdown menu on the right labeled 'Forms'. This dropdown menu is also highlighted with a red border and lists several forms: Projects, Partner, Sub-sector, Sector, Admin 2, Admin 1, and Monthly reports.

In the formula editor, you will see *both* the list of forms *and* the fields in each form

03

Worked examples

Worked examples

Merging columns

- Scenario: Reporting number of beneficiaries with disaggregation
 - Number of beneficiaries are reported for each region in the country
 - Numbers reported by implementing partners are disaggregated by sex and age group
- Analysis requirements
 - Reports required by donor are to be aggregated by sex only
- Approach
 - Use `SELECTCOLUMNS` to combine the columns associated with the same sex

Worked examples

Combining tables

- Scenario: Reporting number of unique beneficiaries
 - Team members submit records on different forms according to the type of activity
 - Beneficiaries potentially participate in more than one type of activity
- Analysis requirements
 - Report required by HQ needs the total *unique* number of beneficiaries served across activities
- Approach
 - Use `UNION` to combine the two forms and generate a single list of all beneficiaries served
 - Use `COUNTDISTINCTX` to count the unique number of beneficiaries from this new table

Worked examples

Calculating new values based on existing data

- Scenario: Farm assistance programme annual survey
 - Beneficiaries submit responses annually and report on key progress indicators using a single form
- Analysis requirements
 - Report required by HQ requires an analysis of year to year change on the indicators at the individual beneficiary level
- Approach
 - Use SUMMARIZE to group the survey responses by beneficiary
 - Use SUMX to derive the indicator values per year
 - Use operations for calculating the difference between the values for each year



Q&A

Up next

Office Hours

NOV 9

SESSION 2

Office Hours -
Calculated Tables

What we'll cover:

- Interactive Q&A to address participants' questions
- Equipping attendees with the knowledge to effectively use calculated tables in their databases
- Opportunities to learn from other colleagues challenges and how Calculated tables facilitates this solution



APPENDIX

Remember column types?

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Bobby Burton	Female	2009-02-17	14	High school degree	(788) 638-6242

String

String

Date

**Integer
Quantity**

String

String

Functions have types as well

`YEARFRAC([DOB], TODAY())`

Quantity
type

Date type

Date type