



## **Retention Calculations Using Excel Macro**

# Retention Calculation Using Excel Macro

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**Original Author:**

Sue Good

Alexant Systems Corporation

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# Retention Calculation Using Excel Macro

## Overview

One of the most important pieces of information affecting long term agency profitability and success is the regular tracking of retention information. Yet, in the vast majority of agencies, running this report is the exception rather than the rule. The reason for this is simple: up until now such reporting has been difficult and time consuming.

The purpose of this Excel tool, created by Alexant Systems Corporation, will help eliminate much of this difficulty. You can use Production or Billing Screen data to calculate not only Retention, but also New Business, Lost Business, and the Difference on Retained Accounts between two periods of time.

## Sample Summary Report

Here's what the summary report looks like:

**YOUR AGENCY NAME**

**BOOK OF BUSINESS AT 07/31/2013 VS 12/31/2012**

**NEW BUSINESS, LOST BUSINESS, DIFFERENCE IN COMMISSION ON RETAINED ACCOUNTS**

CUSTOMER LEVEL	12/31/2012	7/31/2013	Difference	New Business	Lost Business	Diff in Retained Accts
<b>ALL DEPARTMENTS</b>						
TOTAL - COMM	1,005,107	1,080,632	75,524	109,467	(43,879)	9,937
TOTAL - COUNT	2,715	2,865	150	324	174	2,541
<b>RETENTION</b>	<b>93.59%</b>					

You can run a report in your management system that will give you the same commission difference as the example, but of the \$75,524 that the commissions went up, wouldn't you (or the boss) want to know that you actually had \$109,467 in New commissions, and had \$43,879 of Lost commissions, and, of the accounts you kept, the commissions went up by \$9,937? You could delve into the detail of the Difference in Retained Accounts to find out why the commissions increased. Was it due to account rounding, or premium increases?

Follow the steps in the appendix to collect your data, use Pivot Tables to total data quickly by **customer** or **policy**, and run the reports using the Retention Macro. A macro is recorded keystrokes and programming in Excel to automate tasks, like the formulas and formatting needed to do the calculations.

Use the power of Pivot Tables to quickly collect this same information by Agency, Branch, Producer, CSR, Billing Company, Policy Type, Department, etc. Just Copy and Paste the data from the Pivot Table into a new sheet in your Retention Workbook, and run the Macro again.

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## ***Definitions***

### **Retention**

Let's start with a basic definition of Retention, and then look at how we can measure it using data from your management system. In **THIS** tool, the definition of Retention is what percentage of Customers or Policies did we keep between two points in time? Or, stated another way, the macro will take the number of Customers or Policies we had in Period 1 less the number we lost between Period 1 and Period 2, divided by the number we had in Period 1.

For example, at 12/31/2012, we had 2,715 customers, and at 07/31/2013, we had 2,865. So, the customer count went up by 150. Ok, but we actually LOST 174 customers, but wrote 324 NEW customers during those five months. The net difference is still 150 more customers, but our Retention Ratio would be 93.59% (2,715 minus 174, divided by 2,715). New customers are extremely important to grow our business, but retaining existing customers provides the foundation.

So, to calculate Retention, we need to know two things – how **many** did we start with, and how **many** did we lose between Period 1 and Period 2?

### **New Business**

When comparing one period of data to another, the macro makes the assumption that if there is NO data in Period 1, but there IS data in Period 2, it is New Business.

### **Lost Business**

When comparing one period of data to another, the macro makes the assumption that if there IS data in Period 1, but there is NO data in Period 2, it's Lost Business.

### **Difference on Retained Accounts**

When comparing one period of data to another, the macro calculates the difference if there IS data in Period 1, and there IS data in Period 2.

### ***Assumption***

When the macro encounters a zero or negative number, it will ignore the value. For example, if the amount in the pivot table from the billing screen or transaction is zero or less, this policy or customer should not be included in our "count" of policies or customers when calculating Retention.

### ***Data Sources***

This is a powerful tool, but you need to understand the data you are using to compare one period to another. There are two sources of data you can pull the information from to use this tool: Transactions (Production Report) and Billing Screens (Book of Business or Search-Policies Current).

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### Transactions (Production Report):

When comparing two periods of data based on transactions, understand the dates available in a transaction record to be sure you are getting the information you want.

- **Transaction Effective Date:** this defaults to the Policy Effective Date unless it is changed, as when invoicing an Endorsement, Audit or Cancellation.
- **Transaction Date:** the date the transaction is created, or printed in the case of an installment transaction.
- **Accounting Month** – the accounting month on the transaction

There are challenges with using Production Data to compare one period to another. One challenge is timing differences. Were ALL the policies invoiced in the same Accounting Month each year? There's a good chance they weren't, especially if you are recording Direct Bill Commissions from the commission statements. You aren't getting paid until the client pays the company, and even then, you may be paid on installments.

Another challenge when basing your analysis on transaction date or accounting month, is Audit transactions, since we all know that audits are transacted after the policy period and could disguise the fact that an account has been lost.

The Transaction Effective Date can be the more reliable date to use when comparing one period to another, but be aware the monthly totals will not match the commission income on your Income Statement for those months.

### Billing (or Policy Detail) Screens:

A Book of Business Report or Search-Customers, Policies Current is a snapshot of the billing screens at the moment the report is run. If this report is run every month at the same time (for example, at month end), and using the same criteria, then it can be compared to the same snapshot in the future. In Applied TAM, the report **MUST** be exported to Excel and saved each month in order to use it for comparison purposes in the future.

Now, do you trust your Billing Screens to be an accurate reflection of the policy status, policy premium, agency commission and producer commission? If you answered yes, then you are able to get powerful information from your data. If you answered no, it's time to audit your Billing Screens, and clean them up.

**Tip:** *Even if you're not ready to try the Retention Macro right away, start running a monthly Book of Business or Search-Customers, Policies Current with the Output Destination of Excel-Raw Data each month, and save it. When you are ready, you will have the data from earlier periods to compare to the current period. See **Appendix II** for setup of a sample Search-Customers, Policies-Current report.*

**Workaround:** *If you don't trust the Premium or Commission amounts on your billing screens, but still want to get a Retention %, run the Search-Customers, Policies Current for Active policy statuses to Excel (see **Appendix I**). Enter any dollar amount in the*

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*Premium or Commission fields. Now, when you run the macro, these billing screens will be “counted” towards your Retention Calculation.*

### **Gotcha’s**

**ADDING NEW BILLING SCREENS ON REWRITES:** One of the biggest “gotchas” when calculating Retention by comparing Billing Screen data from one period to another is if your agency adds a new Billing Screen when a policy is rewritten from one carrier to another. When the macro compares the two snapshots at the policy level, it will look like the original policy was “lost”, and the rewrite is “new”. This is not a valid statement, since it is a renewal to the agency.

A workaround is to combine (using an Excel tool called Concatenate) the Customer Code and Policy Type into a new column in your spreadsheet, and then use the newly created column in the Pivot Table rows to get the totals per period. The macro will then tell you, for example, if the client, Joseph Abbott, has one or more Auto policies in Period 1, and if he still has one or more Auto policies in Period 2. In this case, the “gotcha” is that it will not catch the situations where, for example, a client had four Fire policies in Period 1, but only three Fire policies in the Period 2.

**CUSTOMER RENAMES:** If a customer has been renamed to another Customer Code between the two periods, it may appear as the original customer was “lost”, and the renamed customer is “new”.

As you can see, there is no PERFECT way to do this. Retention reporting is complicated because of the tremendous variety of billing and timing scenarios that affect each of your agencies. Factor in download and varying workflows and you have a lot of challenges to calculating a true retention for your agency, carriers and producers. But, using the power of Pivot Tables and this macro enabled Excel workbook, you now have one really good way to start the process of calculating retention. From there, you can refine your workflows and data input to get you on the right road to having better data and, ultimately, good retention numbers for your agency.

## ***APPENDIX I***

### ***RETENTION WORKBOOK Sample***

In our example, we'll be comparing a billing screen report (Book of Business or Search-Customers, Policies Current) from 12/31/2012 to 07/31/2013. We want to see at the Customer Level and the Policy Level how our Book of Business has changed. Here are the steps we need to complete:

1. Collect Data Sources
2. Add Data Column to each Data Source for Comparison Purposes
3. Combine Worksheets
4. Create Pivot Table
5. Copy & Paste Pivot Table data into new Worksheet
6. Run Retention Macro to calculate New Business, Lost Business, Difference in Retained and Retention

### **Step 1 – Collect Data Sources**

Collect two sources of data to compare, and copy and paste each report into a worksheet in the “Retention Calculations Using Excel-Sample Workbook”. You can name each sheet by **[Right Clicking]** on the Sheet Name (Sheet1) and choosing *Rename*.

This has already been done in the sample Workbook. You have two worksheets titled “BOB 2012-12” and “BOB 2013-07” Look at the bottom of the Workbook to see the sheet names. These were reports exported to Excel from a Search, Customers – Policies Current for Active Policy Statuses. One report was run on 12/31/2012 and other on 07/31/2013.

A Search, Customers-Policies Current, like a Book of Business report, is a “snapshot” in time since it pulls its data from policy billing screens. By exporting the report to Excel every month, you can now compare one snapshot to another snapshot whenever you want.

You could also use Production Data to compare one period to another.

### **Step 2 – Add Data Column for Comparison**

We need to do this since these are two “snapshots” we want to compare. If we just combined two “snapshots” of billing screen data, how would we be able to tell which billing screen was from which “snapshot”? If you are using Production Data, you may not need this step if you can do the comparison you want using an existing field in your spreadsheet (for example, Transaction Effective Date). In that case, you aren't comparing “snapshots”.

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### Add Data Column to Worksheet “BOB 2012-12”

- Highlight [**Left click**] Column A – [**Right click**], *Insert*
  - This will insert a blank column to the left of Column A.
- Type **Period** in Cell A1
- Type **1** in Cell A2.
- Place your cursor in the bottom right hand corner of Cell A2. When the cursor changes to a plus sign, you can [**Double Click**] and all the cells in Column A will fill with “**1**” (**Autofill**)

### Add Data Column to Worksheet “BOB 2013-07”

- Highlight [**Left click**] Column A – [**Right click**], *Insert*
  - This will insert a blank column to the left of Column A.
- Type **Period** in Cell A1
- Type **2** in Cell A2.
- Place your cursor in the bottom right hand corner of Cell A2. When the cursor changes to a plus sign, you can [**Double Click**] and all the cells in Column A will fill with “**2**” (**Autofill**)

### Step 3 – Combine the Two Worksheets into One

- Insert a new, blank worksheet in the “Retention Workbook” by clicking on the  icon next to the last sheet in our workbook.
- Rename the new worksheet “**Combined Data**”
- Copy the Data from “**BOB 2012-12**” into new worksheet “**Combined Data**”
  - Place the cursor in cell A1
  - Hold down [**Ctrl-A**] keys. This will highlight just the data on the worksheet.
  - [**Right Click**] [**Copy**] OR [**Home Ribbon**] [**Clipboard Group**] [**Copy**] OR [**Ctrl-C**]
  - Click in cell A1 of worksheet “**Combined Data**”
  - [**Right Click**] [**Paste**] OR [**Home Ribbon**] [**Clipboard Group**] [**Paste**] OR [**Ctrl-V**]
  - Click in any cell in Column A and click [**Ctrl**] and [**Down Arrow**] keys. This will take you to the bottom of Column A. This is where we will Paste the data from the “**BOB 2013-07**” worksheet.
- Copy the Data from “**BOB 2013-07**” into new worksheet “**Combined Data**”
  - Place the cursor in cell A1
  - Hold down [**Ctrl-A**] keys. This will highlight just the data on the worksheet.
  - [**Right Click**] [**Copy**] OR [**Home Ribbon**] [**Clipboard Group**] [**Copy**] OR [**Ctrl-C**]
  - Click in the cell below the Period 1 data on the worksheet named “**Combined Data**”
  - [**Right Click**] [**Paste**] OR [**Home Ribbon**] [**Clipboard Group**] [**Paste**] OR [**Ctrl-V**]

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- Look at the Header Row that was copied with the Period 2 data to be sure the data is in the same columns as the Period 1 data. If it's OK, delete the extra Header Row.

The data from the two worksheets are now combined in a single worksheet with a column that differentiates the two periods we want to compare called "Period".

### Step 4 – Insert a Pivot Table

- Click in any cell in the workbook.
- From the **[Insert Ribbon] [Tables Group] [Pivot Table]**
- Click **OK** to accept the default settings in the "Create Pivot Table" window. Excel will insert a new worksheet into your workbook. You can rename this worksheet "Pivot Table", if you'd like.
- [Click] and [Drag] "Period" from the PivotTableFieldList to the Column Label field.
- [Click] and [Drag] "ClientCode" to the Row Label field.
  - *To calculate Retention at the **Policy Level**, drag the Policy Index (Pol\_polidx) to the Row Label field instead of the ClientCode.*
- [Click] and [Drag] "co\_amt" to Values field.
- [Click] and [Drag] "pol\_dept" to Report Filter field.

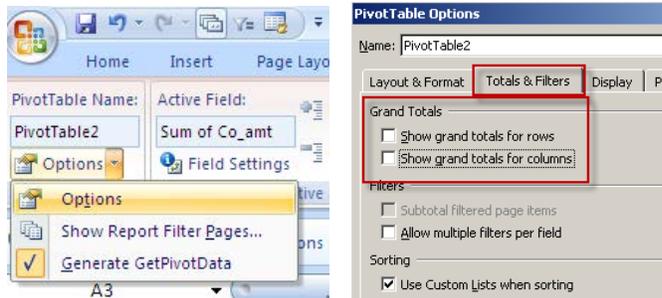
Pol_dept	(All)		
Sum of Co_amt	Column Labels		
Row Labels	1	2	Grand Total
A&JRE-1	749.2	749.2	1498.4
AAAAAA1	182	182	364
AAAANA1	74.23	76.7	150.93
AAAAPR1	296.35	317.55	613.9
AABRDO1	162.13	175.1	337.23
AABRL12	169.84	169.84	339.68
AABRL11	269.8	269.8	539.6
AABRLU1	558.99	558.99	1117.98
AABRMA1		72.54	72.54
AABRPA1	296.2	296.2	592.4
AABRTA1	403.52	771.22	1174.74
AADEER1	367.45	363.95	731.4
AADEMA2	378.17	541.8	919.97
AADODA1	382.46	261.35	643.81
AADOPA1	507.17	528.49	1035.66
AADOPA2	164.7	165.82	330.52
AAFAAA1	323.88	332.07	655.95
AAFAMA1	140.4	140.4	280.8
AAFARO1	597.04	597.04	1194.08

Choose fields to add to report:	
<input checked="" type="checkbox"/> Period	
<input type="checkbox"/> Pol_polidx	
<input checked="" type="checkbox"/> ClientCode	
<input type="checkbox"/> Pol_agcy	
<input type="checkbox"/> Pol_brch	
<input checked="" type="checkbox"/> Pol_dept	
<input type="checkbox"/> Pol	
<input type="checkbox"/> Effective	
<input type="checkbox"/> Expires	
<input type="checkbox"/> Switten	
Drag fields between areas below:	
Report Filter	Column Labels
Pol_dept	Period
Row Labels	Values
ClientCode	Sum of Co_amt
<input type="checkbox"/> Defer Layout Update	
Update	

- To remove the Row and Column Totals (we don't need them for our calculations), from **Insert – Tables Group – Pivot Table**, click **Options**
- Under the **Totals and Filters** tab, uncheck the boxes under **Grand Totals**

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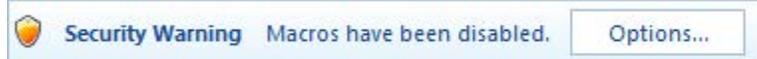
## Step 5 – Copy and Paste Pivot Table Data to new worksheet

- Click in the first cell of data (Customer Code or Policy Index, usually cell 5A)
- Hold down the **[Shift]** key and click the **[Right Arrow]** key twice. Then hold down the **[Shift-End-Down Arrow]** keys. This will highlight just the data in the Pivot Table
- **[Right Click] [Copy]** OR **[Home Ribbon] [Clipboard Group] [Copy]** OR **[Ctrl-C]**
- Insert a new, blank worksheet in the “Retention Workbook” by clicking on the  icon next to the last sheet in our workbook.
- Click in cell A1 of the new worksheet **[Right Click] [Paste]** OR **[Home Ribbon] [Clipboard Group] [Paste]** OR **[Ctrl-V]**

## Step 6 – Run Macro

- From the *Developer* Toolbar, click *Macro*, select *Retention\_Worksheet* macro and click *Run*.

**Excel 2007:** *If you don't see the Developer Tab, Click the Microsoft Office Button, and then click Excel Options. Click Popular, and then select the Show Developer tab in the Ribbon check box. You can set your Macro Security settings from here, too. Macro Security setting can be set to “Disable all macros with notification”. When you make the change, you must exit and reopen Excel for the change to take effect. Save the current workbook before exiting so you don't lose any work you've done so far. When you reopen the workbook, you'll need to “Enable this content” from the Options button on the Security Warning*



**Excel 2010 and 2013:** *To see the Developer Tab in the Ribbon, click File, Options, Customize Ribbon. On the right, check the box for “Developer”.*

The Macro will insert 4 additional columns, add Headings (that you can change), and subtotal the results. It will also sort the results from the bottom up, by New Business, then by Lost Business, and finally by the Difference in Retained Accounts.

**The Macro will also convert any negative values into blank cells.** (My assumption is that if the total of the invoices or the billing screens are a negative number, the business was lost in the previous year.)

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The formulas for columns D, E and F are:

The formula for **New Business** is: If there is NO data in Period 1, but there is data in Period 2, it is New Business. The formula for this cell looks like this:  
=IF(+D2>0,IF(+C2>0,IF(+B2=0,+D2,""),""), "")

The formula for **Lost Business** is: If there is data in Period 1, but there is NO data in Period 2, it's Lost Business. The formula for this cell looks like this:  
=IF(D2<0,IF(C2<0.01,IF(B2>0,B2,""),""), "")

The formula for **Difference on Retained Accts**: If there is data in Period 1 and Period 2, calculate the difference. The formula for this cell looks like this:  
=IF(E2="",IF(F2="",D2,""), "")

**Retention** is calculated as follows: Period 1 Count minus Lost Business Count divided by Period 1 Count.

### Step 7 - Summary Sheet

Included in the sample workbook is a Summary Sheet. If desired, copy and paste just the summary data to the summary worksheet. In order to keep the formatting when the data is pasted, use the **Paste – Special, Values**, instead of just **Paste**.

