



Abnormal Activity Monitoring – Transaction Patterns

Transaction Pattern Change Management

INSIDE THIS GUIDE:

This guide describes the change management and data governance methodology developed by AuditLink for monitoring abnormal activity transaction patterns. This process includes adjusting the default configuration, documenting changes, reviewing accounts, calculating the false positive rate, and re-adjusting the configuration.

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Introduction

The Transaction Pattern option within the Abnormal Activity Monitoring tool was developed to arm credit unions with a means to identify anomalous account activity daily. This feature allows you to run three different series of patterns to flag member transaction activity that meets your configured abnormal parameters.

A well-tuned configuration is vital for achieving an efficient and effective abnormal activity identification and review process for credit unions. It is also imperative to record the before-and-after of what a configuration was prior to it being changed.

When adjusting, an important question to keep in mind is: "By changing this pattern, will high-risk accounts that were previously flagged no longer be identified?"

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Pattern Types

Abnormal activity monitoring groups and patterns are configured via **Tool #101** *Abnormal Activity Monitoring Config.* With transaction patterns, transaction activity is compared to the norms for the individual member. Dependent on the pattern type, these patterns can flag activity that appears excessive in transaction amount or quantity, occurs after a period of inactivity, or appears as an unusually higher transaction amount or count for that member. Monitoring transaction patterns can help identify potentially compromised accounts as well as other threat vectors.

Pre-Configured Patterns

When you first access **Tool #101**, you may notice that AuditLink has already uploaded several preconfigured patterns to your library. Please note that some of these pre-configured patterns may not be useful for your credit union, and the majority of these patterns will need to be adjusted according to your credit union's unique dataset.

Pattern Configuration

When configuring a transaction pattern, input a descriptive pattern name that will be easily identifiable when reviewing the dashboard of triggered patterns. You must select which savings/loan product(s) to watch.

You then have options to filter the pattern to monitor only specific types of transactions. You can limit the pattern to monitor only P2P, RDC, **or** shared branch transactions. (You cannot check multiple boxes.)

You can also filter the pattern to monitor only specific origin code(s). (When monitoring only P2P, RDC, or shared branch transactions, you cannot filter by specific origin codes.)

You can select to monitor withdrawals only, deposits only, or specific transaction codes. (In order to select specific transaction codes, you must set the Include field to Select by trans code.)

With the last filter option, you can monitor only transactions with specific merchant category codes (MCC). (You will need to set up the MCC monitoring groups separately via **Tool #1024** *Configure Credit Union MCC Groups*.)

You are presented with three pattern type options to choose from: velocity, idle activity, and out-of-theordinary. Each pattern type presents a unique opportunity to trigger alerts based on different forms of transaction activity.

Configure Abnormal Activity Monitoring Settings - Transaction Patterns (Tool #101)

Č B×	Configure Abnor	mal Activity Monitoring Settings									
Continue		Set Up Transaction Patterns to Monitor									
		Pattern name V5 DBT DLY Last maintained 10/19/2021 by /0									
		Description Uncover high velocity debit card activity									
		Saving product(s) to watch 🗹 SH 🗹 SD 🗌 CD 🗌 IR 🔲 TX									
		Loan product(s) to watch Closed-end (E) Open-end (0) Construction (C) Line of Credit (L)									
		Student loans (S/P) Mortgage (M) Credit Cards (V)									
		Specific Transactions to Include									
		Origin code(s)									
		Include Any transaction									
		Trans code(s) to include Select Q CU MCC group Select Q									
		Pattern Type									
		Choose one Velocity trigger (# and/or amount of transactions in a certain period)									
		O Idle activity trigger (# and/or amount of transactions after period of inactivity)									
		O Out-of-the-ordinary trigger (% increase in # and/or amount of transactions compared to prior period)									

Velocity Triggers

The velocity trigger will flag accounts which surpass the defined number of transactions and/or total daily transaction amount (\$) within the defined period. These triggers can be particularly helpful for monitoring daily activity.

Scenarios where velocity triggers are helpful for identifying:

- Accounts with an excessive number of transactions per day/week/month
- Accounts with an excessive total daily transaction amount per day/week/month
- Potential account takeovers
- Check kiting
- High-risk gambling activity

Idle Activity Triggers

The idle activity trigger will flag accounts which surpass a defined number of transactions and/or total daily transaction amount (\$) following a defined period of inactivity.

Scenarios where idle activity triggers are helpful for identifying:

- Sudden resurgence of activity in inactive accounts
- Account takeovers
- Check kiting
- Elderly exploitation

Out-of-the-Ordinary Triggers

The out-of-the-ordinary trigger will flag accounts which surpass the defined minimum percentage increase in the average number of transactions and/or average daily transaction amount.

Unlike the other triggers which compare transaction activity to fixed numbers, out-of-the-ordinary triggers flag accounts whose transactions surpass the calculated member average by a defined percentage.

Sometimes, a member's transaction activity might not meet your configured velocity threshold to be flagged as abnormal; however, that does not mean it is normal activity for that member. Out-of-theordinary triggers allow you to compare transaction activity directly against the member's averages to identify significant increases in behavior.

Scenarios where out-of-the-ordinary triggers are helpful:

- Comparing transaction activity against the norms for the member
- Recognizing abnormal activity in accounts with little activity
- Identifying potential account takeovers
- Detecting elderly exploitation
- Identifying money mules

With out-of-the-ordinary triggers, pay attention to the calculation method chosen for calculating the average daily transaction amount (i.e., dividing by the number or days or the number of transactions within the defined period). The calculation method chosen will affect the thresholds you configure. (You will likely need higher thresholds when calculating the average based on the number of days.)

Default Configuration Adjustments

Every credit union has a different membership composition, risk profile, and complexity level.

The first step is to adjust the default pattern configurations to better align with the transaction behavior of members specific to your credit union.

Configuration Starting Point

Determine a starting point for adjusting each of the 30 patterns by using **Tool #775** *Sample Transactions by Delivery Channel*. This will assist you in establishing average activity levels on which to base pattern thresholds.

Month/yea Branch ID	ar Dec 2024 Filter All All Organizatio O All Branches	n
	Analysis Method	
Go!	Teller Processing	
Go!	Loan Department Processing	
Go!	Share draft/check processing	
Go!	Atm/debit (pin) processing	
Go!	Online banking/audio response	
Go!	Online Credit Card Processing	
Go!	Teller Automation Equipment	
Go!	RTP Processing	
Go!	FEDNOW Processing	
Go!	Cryptocurrency Integrations	
Go!	Direct Integrations	
Go!	Debit card (sig) processing	
Go!	ACH Processing	
Go!	Phone operator processing	
Go!	Bill PAY/P2P (batch)	
Go!	Certificate Processing	
Go!	Direct/mail posting	
Go!	Account adjustments	

Member Analysis - Transaction Activity (Tool #775)

For example, the graphic below shows the highest number of debit card transactions for any member was 519 during the month of December. That breaks down to about 16.7 debit card transactions per day.

Member Analysis	- Transaction Activity		
Export	Month/year Dec 2024	# Records 34,161	Filter All
Member Connect	Branch ID 00 All Branches		
Summary Compare	Account Orig	Name	# of Transactions
			519 ±
Common Bonds			508
			481
		;	446
			405
			390
			362
			362
			362
			355

Member Analysis – Transaction Activity (Tool #775 > Debit card (sig) processing)

You will need to dig a little deeper to learn more about average transaction amounts. Note the account number of the member with the highest number of transactions. Search this account in member inquiry, select the Participation/Products tab, and select **Transaction Activity**. The dashboard shows the member's activity over the past three months. Select **Compare to All Members**. The All Mbrs Average Totals column displays each origin's average amount/number of transactions for all memberships.

Current Month Activity Compare (Inquiry > Participation/Products > Transaction Activity)

aily Averages	Member										
ompare to All Members	Member branch 5	Activity bran	nch 5	0.0%	Most us	ed branch	5 0.0%				
onthly Totals		Cu	rrent Totals		3 Months Average Totals				All Mbrs Average Totals		
	Origin	Debits	Credits	# Tran	Debits	Credits	# Tran	Debits	Credits	# Tran	
	TELLER PROCESSI	0	0	0	0	2812	0	1723	4616	1	
	LOAN DEPARTMENT	0	0	0	420	0	0	3806	4160	1	
	ACH NETWORK PRO	100	4420	6	198	5872	7	5127	5632	8	
	ATM/DEBIT (PIN)	941	0	19	1386	0	25	710	347	14	
	PHONE OPERATOR	0	0	0	333	0	0	2857	0	1	
	DEBIT CARD (SIG	5566	2630	384	7040	3988	442	1152	433	26	
	CREDIT CARD PRO	257	0	12	895	0	11	731	66	12	
	ONLINE BANKING/	6290	6290	72	15766	15766	124	3689	3675	12	
	AUTOMATIC SYSTE	0	0	2	0	5	2	33	59	4	

Use these statistics to determine how to set the number of transactions to watch for in the configuration settings. Below, we show an example of a velocity trigger pattern, setting the threshold for the number of transactions slightly higher than the average we calculated for the member with the most transactions.

Configure Abnormal Activity Monitoring Settings – Transaction Patterns (Tool #101)

Configure Abnoi	mal Activity Monitoring Settings								
Save/Update	Set Up Transaction Patterns to Monitor								
	Pattern name V5 DBT DLY Last maintained 10/19/2021 by /0								
	Description Uncover nigh velocity debit card activity Velocity Triggers								
	For individual memberships								
	Watch for10or more transactions during a period of1day(s)								
	Watch for a total daily transaction amount of 2,000 or more (whole dollars) during a period of 1 day(s)								
	For organizational memberships								
	Watch for8or more transactions during a period of1day(s)								
	Watch for a total daily transaction amount of 3,000 or more (whole dollars) during a period of 1 day(s)								

Pattern Configuration Test Run

Use the Run a test option in **Tool #101** *Abnormal Activity Monitoring Config* to test how the changes you made affect the accounts that populate the dashboard.

Configure Abnormal Activity Monitoring Settings (Tool #101)

16 CC #	Idle	Idle activity credit card	07/26/2021
17 ACH #	Idle	Idle activity for ACH	07/26/2021
18 Draft #	Idle	Idle activity for share drafts	07/29/2021
19 HB #	Idle	Idle activity home banking	07/29/2021
01 Debit \$	Out-of-Ordinary	Out of the ordinary debit card activity	12/05/2023
010 HB \$	Out-of-Ordinary	Out of the ordinary home banking transfers	10/19/2021
011 SB	Out-of-Ordinary	Out-of-the ordinary shared branch activity	08/11/2021
02 ACH \$	Out-of-Ordinary	Out of the ordinary ACH activity	07/28/2021
03 ATM #	Out-of-Ordinary	Out of the ordinary ATM deposit activity	10/19/2021
04 ATMPOS\$	Out-of-Ordinary	Out of the ordinary all ATM/POS activity	10/19/2021
Edit	Out-of-Ordinary	Out of the ordinary credit card activity	10/19/2021
Сору	Out-of-Ordinary	Out of the ordinary RDC activity	12/05/2023
Delete	Out-of-Ordinary	Out of the ordinary HELOC activity	10/19/2021
View Run a test	Out-of-Ordinary	Out of the ordinary teller line transactions	10/19/2021
Options	-		

After running a test, you may select to Edit a pattern to change the configured parameters to better represent abnormal activity for your credit union.

Repeat this process until you are comfortable that you have a reasonable review population for each pattern.

Configuration Tracking Template

For each applicable pattern, document the existing configuration prior to making adjustments. Maintaining a record of changes provides written support for when and why a pattern configuration was changed. It also enables the credit union to revert back to a prior configuration if necessary.

> **IMPORTANT NOTE:** It is not necessary to document the default configuration; in many instances, they are wide open casting a broad net. This process is intended to record the initial and subsequent manual adjustments to the configuration.

The **Configuration Tracking Template** is used to document the existing configuration and any subsequent changes made to the configuration.

Configuration Tracking Template

ABC Credit Union		Union									
	Changed by	Pattern	Origin Code(s)	Description		Initial Configuration Date					Date of Change
	1	11 SB #	n/a	Idle account activity for shared branching	60 days	Enter the number of accounts returned		1	or more transactions following a period of inactivity	120 days	
					60 days		Ş	1,000.00	or more following a period of inactivity of	120 days	
					60 days			1	or more transactions following a period of inactivity	120 days	
					60 days		Ş	1,000.00	or more following a period of inactivity of	120 days	
	2	12 RDC #	4	Idle account activity for RDC transactions	60 days			2	or more transactions following a period of inactivity	60 days	
					60 days		\$	250.00	or more following a period of inactivity of	60 days	
_											
_					60 days			2	or more transactions following a period of inactivity	60 days	
					60 days			\$750	or more following a period of inactivity of	60 days	
	3	13 ATMPOS#	13	Idle account activity ATM/POS	90 days			2	or more transactions following a period of inactivity	90 days	
_					90 days		Ş	500.00	or more following a period of inactivity of	90 days	
					90 days			2	or more transactions following a period of inactivity	90 days	
-					90 days		Ş	500.00	or more following a period of inactivity of	90 days	
-					60.1					00.1	
-	4	14 P2P #	11	Idle activity on P2P transactions	60 days			2	or more transactions following a period of inactivity	90 days	
-					60 days		ş	500.00	or more following a period of inactivity of	90 days	
-					60 days			2	or more transactions following a period of inactivity	00 days	
					60 days			2	or more transactions following a period of mactivity	90 days	
					60 days		Ş	500.00	or more following a period of mactivity of	90 0895	
-	5	IS Dabit #	16	Idle activity on debit card	30 days			2	or more transactions following a period of inactivity	60 dave	
-	-	15 Debiew	10	The activity of debit card	30 days		c	500.00	or more following a period of inactivity of	60 days	
					00 00 43		¥	505.00	or more remembing a period of multimity of	00 0045	
					30 days			2	or more transactions following a period of inactivity	60 davs	
					30 days		s	500.00	or more following a neriod of inactivity of	60 days	

(To access the templates mentioned in this booklet, place a FREE store order.)

Transaction Pattern Monitoring

Cam

After setting up your transaction patterns, you can monitor flagged accounts via **Tool #537** *Monitor Abnormal Transaction Activity*. Review the resulting accounts daily.

Monitor Abnorm					
Export	Date to monitor Jan 27, 2	.025 🛗	Show only member	s with due diligence flag	
Member Connect	Account base to monitor		Show results only for	or pattern(s) Select @	
Show Tracker Info	Flag if member age is below o	r above	Show most recent r	notes for the Select Q	
Refresh	DD Account Member Name	Age	* Pattern	Trigger	ź
	0	55	00 Dfta #	# trans totaling \$130,778 over a period of 1 days	
Common Bonds	0	60	02 ACU 6		- 1
Print Report	0	02	UZ ACH S	# trans up 700%, \$ amit up 999% (over 7 days comp to 60-day avg)	
	0	40	v-Crypto	2 trans totaling \$2,500 over a period of 1 days	
Data Source	0	67	02 ACH \$	# trans up 325%, \$ amt up 328% (over 7 days comp to 60-day avg)	
	0	59	V4 P2P DLY	3 trans totaling \$3,010 over a period of 1 days	
	0	59	14 P2P #	3 trans totaling \$3,010 after 90 days of no activity	
	0	56	V6 CC DLY	8 trans totaling \$1,125 over a period of 1 days	
	0	83	19 HB #	4 trans totaling \$32,000 after 90 days of no activity	
	0	55	02 ACH \$	# trans up 281%, \$ amt up 554% (over 7 days comp to 60-day avg)	
	Inquiry	35	V6 CC DLY	11 trans totaling \$4,015 over a period of 1 days	
	Tracker Review	38	06 RDC #	# trans up 999%, \$ amt up 999% (over 1 days comp to 45-day avg)	
	Current Month Activity	124	02 ACH \$	# trans up 320%, \$ amt up 999% (over 14 days comp to 60-day avg)	
	View Pattern Config	80	08 TLR #	# trans up 999%, \$ amt up 999% (over 1 days comp to 90-day avq)	Ŧ
	Options 🝷				(↑ [↓
				Total # of accounts	92
←→↑ & ③ ?	@				

Monitor Abnormal Activity - Transaction Patterns (Tool #537)

There may be instances where less time is needed to assess whether a pattern needs to be adjusted. For example, you may want to adjust your pattern if your test run yields a large number of accounts with normal activity (false positives).

While you are monitoring abnormal transaction activity, we recommend you document the accounts you've reviewed and track the false positive ratio for the pattern. You may do so by using the <u>Review</u> <u>Tracking Template</u> and using the <u>Hit Tracking Template</u>.

Review of Flagged Accounts

The dashboard for **Tool #537** displays the flagged accounts, patterns triggered, and transaction activity that triggered the pattern. Remember: just because an account surpasses the trigger threshold does not mean the activity is abnormal for the member. To take a deeper look at the account's transaction activity, select the flagged account and the Inquiry option to jump into member inquiry. Viewing the transaction history allows you to ascertain whether or not the activity is actually abnormal for that member.

There are several things you should be looking for when reviewing the accounts within the dashboard.

- What is the nature and purpose of the account? (Do they have a regular ACH payroll deposit? Does the member have a loan with the credit union? How long have they been a member? Etc.)
- If transactions are incoming, does it look like potential layering activity? Are the funds still in the account? Were payment applications used to move funds out of the account? Did the member purchase cryptocurrency?
- If transactions were outgoing, what were they funded by (wire transfers, payment applications, etc.)?
- How old is the member? Were they the individual who conducted the transaction, or was it a joint owner?

Review Tracking Template

An actual review of account transactions is the best way to distinguish false positives from those that have potentially fraudulent activity.

Use the Review Tracking Template to document the results of your review of accounts that appear in **Tool #537** *Monitor Abnormal Transaction Activity*.

ABC Credit Union									
	Activity	Review						Worthy of	False
#	Date	Date	Pattern	Account	Trigger	Configuration	Review Notes	Review	Positive
						10 or more trans during a period of 1 day and \$7500 or more			
1	4/22/2021	4/23/2021	V7 ACH DLY	XXXXX	10 trans totaling \$8279 over 1 day	during 1 day			X
						1 or more trans after 90 days of inactivty and \$5000 or more			
2	4/22/2021	4/23/2021	17 ACH #	XXXXX	2 trans totaling \$5531 after 90 days inactivity	after 90 days			X
						8 or more trans during a period of 3 days and \$10000 or			
3	4/22/2021	4/23/2021	V5 DBT DLY	XXXXX	14 trans totaling \$68911 over 3 days	more during 3 days		Х	
						5 or more trans during a period of 1 day and \$10000 or more			
4	4/22/2021	4/23/2021	V9 HB DLY	XXXXX	5 trans totaling \$150000 over 1 day	during 1 day		Х	
						8 or more trans during a period of 3 days and \$10000 or			
5	4/22/2021	4/23/2021	V5 DBT DLY	XXXXX	11 trans totaling \$10196 over 3 days	more during 3 days			Х
						5 or more trans during a period of 1 day and \$10000 or more			
6	4/22/2021	4/23/2021	V9 HB DLY	XXXXX	6 trans totaling \$80000 over 1 day	during 1 day		Х	
						1 or more trans after 90 days of inactivty and \$5000 or more			
7	4/22/2021	4/23/2021	17 ACH #	XXXXX	1 trans totaling \$6583 after 90 days inactivity	after 90 days			X
8									
9									
10									
11									
12									
									-
							Worthy of Review	3	43%
							False Positive	4	57%
							Total	7	

Review Tracking Template

(To access the templates mentioned in this booklet, place a FREE store order.)

Hit Tracking Template

To determine the false positive rate, it is important to review an adequate sample of accounts within the origin under consideration and over an ample amount of time.

Use the **Hit Tracking Template** to determine the ratio of false positives vs. accounts with potentially fraudulent activity (i.e., accounts worthy of review).

ABC Credit Union		nion											
				Activity Date			5/1	7 - 5/21					
	Pattern	Туре	Description	5/17/2021	5/18/2021	5/19/2021	5/20/2021	5/21/2021	Total	WOR	FP	FP Ratio	Raise / Lower / Remain
1	I1 SB#	Idle	Idle activity for shared branching	NH	NH	1	1	NH	2	1	1	50%	Remain
2	I2 RDC#	Idle	Idle activity for RDC	NH	NH	NH	NH	NH	0	0		0%	Lower
3	13 ATMPOS#	Idle	Idle activity for ATM/POS	1	1	2	2	1	7	2	5	71%	Raise
4	14 P2P#	Idle	Idle activity for P2P	NH	NH	NH	NH	NH	0	0		0%	Lower
5	I5 Debit#	Idle	Idle activity for debit card	NH	NH	NH	1	1	2	1	1	50%	Remain
6	16 CC#	Idle	Idle activity for credit card	NH	NH	NH	NH	NH	0	0		0%	Lower
7	I7 ACH#	Idle	Idle activity for ACH	2	NH	NH	NH	NH	2	1	1	50%	Remain
8	18 Draft#	Idle	Idle activity for share drafts	NH	NH	NH	NH	NH	0	0		0%	Lower
9	19 HB#	Idle	Idle activity for home banking transfers	NH	NH	NH	NH	1	1	0	1	100%	Remain
10	I10 Wire#	Idle	Idle activity for wire transfers	NH	NH	NH	NH	NH	0	0		0%	Lower
11	01 Debit\$	Out-of Ord	Out of the ordinary debit card activity	2	1	1	2	3	9	4	5	56%	Remain
12	02 ACH\$	Out-of Ord	Out of the ordinary ACH activity	1	NH	NH	NH	1	2	0	2	100%	Remain
13	03 ATM#	Out-of Ord	Out of the ordinary ATM activity	NH	2	3	4	5	14	4	10	71%	Raise
14	04 ATMPOS\$	Out-of Ord	Out of the ordinary ATMPOS activity	2	5	4	4	9	24	6	18	75%	Raise
15	05 CC#	Out-of Ord	Out of the ordinary credit card activity	NH	NH	NH	NH	NH	0	0		0%	Lower
16	06 RDC#	Out-of Ord	Out of the ordinary RDC activity	NH	NH	NH	NH	NH	0	0		0%	Lower
17	07 HELOC#	Out-of Ord	Out of the ordinary HELOC activity	NH	NH	NH	NH	NH	0	0		0%	Lower
18	08 TLR#	Out-of Ord	Out of the ordinary teller line activity	NH	NH	NH	NH	NH	0	0		0%	Lower
19	09 Dfts#	Out-of Ord	Out of the ordinary draft clearings	1	3	7	8	9	28	5	23	82%	Raise
20	010 HB\$	Out-of Ord	Out of the ordinary home banking transfers	NH	1	1	1	1	4	1	3	75%	Remain
21	V1 SB DLY	Velocity	Excessive shared branch activity	NH	1	2	2	3	8	2	6	75%	Raise
22	V2 RDC 2DY	Velocity	Excessive RDC activity	NH	NH	NH	NH	NH	0	0		0%	Lower
23	V3 ATM DLY	Velocity	Excessive ATM or POS activity	2	1	NH	2	2	7	3	4	57%	Remain
24	V4 P2P DLY	Velocity	Excessive P2P activity	1	2	2	2	2	9	5	4	44%	Remain
25	V5 DBT DLY	Velocity	Excessive DBT activity	NH	NH	2	NH	NH	2	1	1	50%	Remain
26	VECCDIV	Valasity	Expose in a CC activity	NU	NU	NU	NU	NU	<u> </u>	0		0%/	Lower

Hit Tracking Template

For each applicable pattern, record the number of accounts reviewed and the date of the review. Enter "NH" (i.e., "no hits") if the pattern returned no results.

(To access the templates mentioned in this booklet, place a FREE store order.)

Pattern Adjustments for False Positives

Adjust the applicable pattern configurations based on the resulting ratios. The pattern criteria (days and/or dollar amounts) should be raised, lowered, or remain the same depending on the composition of false positives vs. accounts worthy of review. Conduct this analysis periodically—at least annually—in order to determine false positive rates and make necessary configuration adjustments.

IMPORTANT NOTE: The configuration change should not impact the accounts that were worthy of review. Those accounts should still appear in results just as they did prior to the configuration change.

An Example

As an example, over the course of 5-days (5/17 – 5/21), 24 accounts were reviewed for out-of-theordinary ATM/POS activity. Of the accounts, 75% (18) were false positives. This is an indication that the number of transactions and/or dollar threshold is set too low. Consequently, the number of transactions and/or dollar threshold be raised to capture fewer false positives.

False Positive Ratios on the Hit Tracking Template

			5/17 - 5/21					
Pattern	Туре	Description	Total	WOR	FP	FP Ratio	Raise / Lower / Remain	
I10 Wire#	Idle	Idle activity for wire transfers	0	0		0%	Lower	
01 Debit\$	Out-of Ord	Out of the ordinary debit card activity	9	4	5	56%	Remain	
02 ACH\$	Out-of Ord	Out of the ordinary ACH activity	2	0	2	100%	Remain	
03 ATM#	Out-of Ord	Out of the ordinary ATM activity	14	4	10	71%	Raise	
04 ATMPOS\$	Out-of Ord	Out of the ordinary ATMPOS activity	24	6	18	75%	Raise	
05 CC#	Out-of Ord	Out of the ordinary credit card activity	0	0		0%	Lower	
06 RDC#	Out-of Ord	Out of the ordinary RDC activity	0	0		0%	Lower	
07 HELOC#	Out-of Ord	Out of the ordinary HELOC activity	0	0		0%	Lower	
08 TLR#	Out-of Ord	Out of the ordinary teller line activity	0	0		0%	Lower	
09 Dfts#	Out-of Ord	Out of the ordinary draft clearings	28	5	23	82%	Raise	

IMPORTANT NOTE: Sometimes changing patterns impacts previously flagged accounts deemed worthy of review. If this is unavoidable, use due diligence codes and follow-up trackers to mitigate the risk of a previously identified account slipping through the cracks after a configuration change.

Average Calculation Method

With out-of-the-ordinary patterns, you have the option to calculate the average daily transaction amount by dividing by the number of days or the number of transactions within the period. The calculation method you choose may affect the false positive rate.

If you choose to calculate by dividing by the number of days, you may experience a higher false positive rate. For example, some members may perform only a few, high-value transactions during the period, which would calculate a low average daily transaction amount when dividing by the number of days. Since the transaction amount would be a large percentage higher than the calculated average, those members' usual high-value transactions could trigger the pattern to flag their account for abnormal activity, despite the behavior being consistent for the member.

As an attempt to reduce the false positive rate, you may switch the calculation method from # of days to # of transactions in the period. When switching calculation methods, be sure to Run a test on the pattern to view how the change affects the accounts that populate the dashboard. You will likely have to edit the pattern's thresholds to populate the dashboard with the expected results.

Due Diligence Codes/Trackers

Applying due diligence codes to accounts that have been reviewed for abnormal activity is highly recommended. This enables you to flag accounts with the appropriate risk rating to easily review accounts. Apply a DD code to accounts you consider abnormal for enhanced due diligence. Also, apply an audit tracker to these accounts and utilize the "AB" memo type. If you do not have memo type "AB" configured for your credit union, please contact AuditLink.

You should also apply an audit tracker with memo type "AB" to accounts that are deemed unsuspicious to explain that the activity was normal for that member and clarify no further enhanced due diligence is necessary. The tracker proves you reviewed the account and made your determination.

Utilizing **Tool #664** *Print Member Trackers*, you can pull this information out of CBX to "show your work" and provide proof the accounts are being reviewed.