BEHAVIORAL RELATIONSHIP INTELLIGENCE

CASE STUDY V9

THE RISK YOUR ACCOUNT-LEVEL CONTROLS MAY NOT SEE

Real trading evidence. Reproducible behavioural analysis.

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For Heads of Risk, Heads of Dealing, brokerage COOs and infrastructure partners.

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1. THE QUESTION THAT CHANGES THE INVESTIGATION

Your surveillance system monitors accounts individually.

It calculates exposure, profitability, trading performance and rule violations.

But an individual-account review may not reveal that multiple accounts repeatedly follow the same trading decisions.

Which apparently independent accounts are actually behaving together?

That is the question Behavioral Relationship Intelligence (BRI) is designed to answer.

BRI does not start with a predefined list of suspected accounts.

It examines trading behaviour across accounts and identifies relationships supported by actual trading evidence.

The purpose is not to replace existing surveillance systems.

It is to reveal which accounts may need to be investigated together.

2. CASE ONE - 457 MATCHING EXECUTIONS

A focused investigation population from 240 accounts

In a controlled demonstration trading book, BRI identified:

Measurement	Result
Accounts examined	240
Behavioural groups identified	17
Pairwise relationships	28
Accounts surfaced	40
Strongest relationship	457 matching executions
Median execution-time difference	0 seconds
Matches within five seconds	98%

The strongest identified relationship showed repeated, closely synchronised executions with consistent relationships between traded volumes.

This was recurring behaviour, not a single isolated trade.

Only 40 of the 240 accounts were surfaced for investigation.

BRI narrowed the review population instead of indiscriminately flagging the entire book.

A historical replay showed that all 28 relationships remained detectable after their first identification.

Two controlled executions produced identical results.

What this demonstrates: BRI can identify selective, persistent and reproducible trading relationships in this demonstration dataset.

It does not establish common ownership, wrongdoing or production detection accuracy.

3. CASE TWO - DOES BEHAVIOURAL DETECTION CORRESPOND TO REAL OWNERSHIP?

841 public trading strategies. Ownership checked after detection.

BRI analysed public Collective2 trading strategies without using ownership information as an input.

After detection, the identified relationships were compared with public registered-owner information.

Evidence	Result
Strategies examined	841
Behavioural groups detected	24
Strategies surfaced	59
Relationships detected	43
Relationships linking the same registered owner	42 of 43
Groups entirely associated with one owner	23 of 24

The current V9 engine reproduces exactly the same detection result on this dataset.

A relationship visible in the actual trades

Two separately presented trading strategies exhibited:

103 matching trades | 72 trading days | ~35 s typical time gap

The reported matches involved the same instruments and trading directions.

Five documented examples also showed identical volumes.

The specified time-shift controls produced no corresponding matches after the timing relationship was disrupted.

The relationship was detected before the ownership information was checked. Public records subsequently confirmed that both strategies belonged to the same registered manager.

The trading behaviour exposed a relationship that could subsequently be checked against independent ownership records.

What the ownership comparison does not prove

This was an in-sample evaluation, not a fully blind production test.

Ownership labels were collected selectively, starting with the accounts in detected pairs.

The 43 links are not 43 independent experiments, because multiple links can belong to one group.

The result does not establish general production precision or how many genuine relationships were missed.

Recorded common ownership is not evidence of misconduct.

4. INDEPENDENT TECHNICAL REVIEW - OB GROUP

A commercially relevant question is whether another technical party can reproduce BRI's results.

Yevhen Mykuliak, Founder of OB Group, reviewed an earlier BRI implementation in his own environment using his own tooling.

In his signed statement dated 7 September 2026, Yevhen Mykuliak confirmed:

- Independent verification on a real production trading book, using his own environment and tooling.
- Exact reproduction of the published results, including intermediate values, without fitting to the results.
- Verified determinism, including input/output hashes, run manifests and fail-closed behaviour.
- Successful independent falsification tests and negative controls.
- Confirmation that the engine identifies the behavioural account relationships it claims to identify, consistently and reproducibly.

His explicit conclusion regarding the behavioural analytics was:

"On that question the answer is yes."

This constitutes independent technical verification of the behavioural detection methodology examined.

Financial utility against a baseline selection was outside the scope of this review and remains a separate measurement.

A possible financial-utility pilot has been discussed, but no agreement has been signed.

5. WHAT CHANGES WITH BRI V9?

BRI's established core methodology identifies recurring relationships from historical trading activity.

V9 expands the research capability to examine a broader range of account behaviours, including:

- Delayed copying behaviour.
- Inverse or mirrored trading.
- Shared closing activity.
- Related execution prices.
- Order-related behaviour.
- Simultaneous stop-outs.
- Additional recurring trading patterns.

The research capabilities are not all at the same independent validation stage. They remain distinct from the approved core detection methodology.

Every result must be reproducible and supported by evidence

In BRI V9, every analysis step is run twice under the same registered configuration and accepted only when both runs are identical. Every reported relationship is delivered with trade-level evidence generated by the same rule the detector uses.

For Risk, that means a relationship is not presented merely as an unexplained score.

The supporting evidence is intended to show which trading observations produced the finding, how often the relationship recurred and how persistent it was.

A relationship observed on a single trading day is distinguished from one repeatedly observed over a longer period.

Detection remains deterministic. Interpretation remains with Risk.

Confidential broker-book detection results are excluded unless the relevant data owner explicitly authorises their disclosure.

6. WHAT DOES THIS CHANGE FOR A HEAD OF RISK?

The main benefit is a different unit of investigation.

Your existing account-level view	The additional BRI relationship view
Is this account profitable?	What does the connected account group look like?
Has this account breached a rule?	Are multiple accounts executing related decisions?
Is this account's exposure acceptable?	Is exposure distributed across behaviourally linked accounts?
Which accounts are already flagged?	Which related accounts were not previously investigated together?
Which individual account needs review?	Which relationships warrant joint investigation?

Consider accounts that all pass routine individual checks.

If they repeatedly make related trading decisions, the Risk team may need to examine whether those accounts should be treated independently for concentration analysis, monitoring or further investigation.

The relationships may have legitimate explanations: common strategies, copying arrangements, shared operators or authorised trading activity.

BRI does not determine which explanation is correct.

It gives Risk the evidence needed to ask the right questions.

The financial question

The financial value of relationship intelligence is not established by counting detected pairs.

It must be evaluated against actual operational questions:

Does detecting these relationships change how Risk understands exposure?

Does it identify accounts that would otherwise remain outside an investigation?

Does it alter the firm's assessment of relevant account groups?

Can any financial impact be measured against a predefined baseline?

No monetary savings or superior financial outcomes are claimed without such measurement.

7. WHAT DOES THE FIRM NEED TO PROVIDE?

For the core analysis, BRI requires only five historical trade fields:

Account ID | Timestamp | Instrument | Direction | Volume

Pseudonymous account identifiers can be used.

BRI does not require customer names, IP addresses, device identifiers, KYC records or payment information for core behavioural detection.

Richer research analyses may require additional order, position or trade-lifecycle data, depending on the agreed scope.

The software and proprietary detector methodology are not publicly distributed.

What the Risk team receives

Subject to the agreed evaluation:

1. Relationship inventory
Identified account pairs and behavioural groups.

2. Supporting trading evidence
The actual matching trades or relevant trading events behind each reported relationship.

3. Evidence-strength information
Recurring observations, trading-day persistence and relevant limitations.

4. Reproducible results
Controlled analytical outputs that can be technically checked.

5. Risk review population
A bounded set of relationships for the firm's analysts to confirm, explain, reject or leave unresolved.

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8. HOW WOULD A CONTROLLED EVALUATION WORK?

1. **Agree scope and safeguards.** Define the historical dataset, confidentiality, access restrictions, execution environment, schedule and commercial terms.

2. **Run BRI without known-case information.** Analyse the agreed trade records without receiving the firm's existing list of account relationships.

3. **Lock the findings.** Preserve the outputs before comparing them with independent Risk information.

4. **Let Risk evaluate the evidence.** Determine which relationships were previously known, which are new, which can be verified and which are unsupported.

5. **Measure actual value.** If financial utility is part of the evaluation, agree the metric and comparison baseline in advance. No accuracy or financial claims are made without supporting results.

The objective is straightforward:

Can BRI reveal useful relationships your present systems have not already identified?

The evaluation does not require disclosure of customer identities.

Timing, deliverables and commercial terms are agreed before execution.

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9. WHAT IS ESTABLISHED - AND WHAT REMAINS OPEN?

Established within the presented evidence

- Recurring and highly synchronised relationships were detected in a controlled demonstration book.

- Public Collective2 relationships corresponded predominantly to subsequently checked recorded ownership.

- The V9 engine reproduced the reported public-dataset detection counts.

- An earlier BRI implementation underwent independent technical verification on real production trading data. The reviewer confirmed the claimed behavioural relationship detection, exact reproducibility, determinism and successful falsification controls.

- V9 extends behavioural research and emphasises duplicate execution and trade-level evidence.

Still requiring independent evaluation

- Precision and recall against comprehensive broker ground truth.

- Detection effectiveness across different brokers, asset classes and trading populations.

- Which identified relationships are operationally meaningful.
- Financial value compared with an agreed alternative.
- Whether additional research capabilities should be formally accepted into the approved core methodology.

BRI does not identify fraud or common beneficial ownership conclusively from trading behaviour alone.

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10. THE QUESTION FOR YOUR HEAD OF RISK

Your systems may already calculate every individual account's profitability, exposure and trading performance correctly.

But they may not answer the question that connects those accounts.

Which accounts are repeatedly making related trading decisions, and are those relationships already visible to your Risk team?

BRI provides an evidence-based way to investigate that question.

A historical evaluation can establish whether it adds useful information to your existing controls.

The next step is not to replace your surveillance system.

It is to test whether your surveillance system already sees the relationships BRI can identify.

BRI identifies relationships. Risk decides.