MoneyMind – Step 2: Behavioral Bias Matrix

This matrix maps key cognitive biases to financial behavior signals, data inputs, and example GenAI prompt nudges. It forms the basis for bias detection and personalized insight generation in MoneyMind.

# Behavioral Bias Matrix

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| --- | --- | --- | --- |
| Bias Name | Behavior Signal (Trigger) | Input Data Needed | Example Nudge Prompt |
| Loss Aversion | Selling soon after a dip | Trade history, asset price movement | You sold during a dip—are you reacting to fear or a planned strategy? |
| Overconfidence | Frequent, high-risk trades | Trade volume and frequency | You're trading often. Is each move backed by real conviction or emotion? |
| Anchoring | Holding based on entry price, not fundamentals | Entry/exit prices, asset history | You seem anchored to your buy price. Has the outlook changed since then? |
| Present Bias | Overspending on short-term wants | Transaction timing, budget history | This splurge broke your usual pattern. What long-term goal does it impact? |
| Recency Bias | Following short-term trends emotionally | Recent vs long-term price behavior | This move reflects recent volatility—are you zoomed out enough? |
| Mental Accounting | Spending windfalls differently | Income spikes vs regular budget | You treated this bonus differently. Would you do the same with your salary? |
| Confirmation Bias | Trading to confirm existing beliefs | Search history, repeated trades | You're reinforcing a single thesis—are you testing other views? |

# Sample Rule Logic (for MVP Python Implementation)

- Loss Aversion: If user sells an asset within 3 days of a price drop > 3%, tag as dip selling.  
- Overconfidence: If trade frequency > 5/week or > 2x normal volume, tag as high trading activity.  
- Present Bias: If spending spikes by >50% on weekdays vs baseline, tag as impulse behavior.  
- Mental Accounting: If spending from irregular income (bonus/gift) exceeds 70% of that amount, tag as biased.

# Prompt Template for GenAI Insight Generation

You are a behavioral finance expert. Based on the following user behavior:  
  
- Pattern: {behavior\_signal}  
- Bias detected: {bias\_name}  
- Context: {user\_financial\_context}  
  
Write a helpful, reflective nudge that encourages the user to pause and reconsider their action.  
  
Example:  
“You sold during a dip—are you reacting to fear or a planned strategy?”