

Between Caution and Speculation Investor Personality Mapping among Muslim Millennial Crypto Traders

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Abstract - Volatility, digital information flows, and ethical debate make cryptocurrency decisions difficult to explain through the rational-investor assumption alone. The Bailard, Biehl, and Kaiser (BB&K) model was selected because its two dimensions, confidence and method of action from careful to impetuous, are directly observable in decision narratives. This study maps the psychographic profiles of Muslim millennial cryptocurrency investors in East Java and explains how market context shapes the visibility of investor types. It adopts an interpretive qualitative design with a phenomenological orientation. Thirteen active investors were recruited through purposive and snowball sampling. Anonymized interview summaries were thematically organized in NVivo and compared across cases before being mapped onto the five BB&K profiles. The results identify 2 Adventurers, 2 Celebrities, 3 Individualists, 6 Guardians, and no Straight Arrow. The distribution reveals polarization among speculative action, social dependence, independent analysis, and capital protection. The missing Straight Arrow suggests that investment personality is not expressed as a fixed trait. Volatility, continuous trading tempo, digital social pressure, and ethical reflection can intensify positions away from the moderate center. The study extends BB&K profiling to digital assets and supports personality-sensitive Islamic financial literacy that addresses the distinct behavioral vulnerability of each investor type.

Keywords: behavioral finance; digital herding; risk tolerance; Islamic financial ethics; phenomenological inquiry

1. INTRODUCTION

Indonesia has moved from treating cryptocurrency as a peripheral digital commodity to supervising it as part of a broader digital financial-asset ecosystem. Bappebti reported transactions of Rp475.13 trillion during January to October 2024, while the transfer of regulatory authority to the Financial Services Authority strengthened the emphasis on market conduct, consumer protection, and responsible innovation [1], [2]. This institutional development does not remove the central problem faced by retail investors. Cryptocurrency prices can change sharply within minutes, markets operate continuously, and valuation frequently depends on technological narratives, scarcity claims, network attention, and community sentiment. Research on cryptocurrency returns confirms that the asset class has distinct risk structures and common factors that differ from conventional securities [3] [4].

These conditions make investor behavior central to cryptocurrency research. A systematic review found that social influence, sentiment, herding, and uncertainty repeatedly shape cryptocurrency participation [5]. Comparative evidence also shows that limited information and rapidly changing market conditions encourage impulsive decisions, heuristics, and trend following [6]. Empirical studies identify anchoring and fear responses [7], regime-dependent herding under uncertainty [8], cross-market transmission of herd behavior [9], mood-related herding [10], and time-varying herding across conventional cryptocurrency and decentralized-finance assets [11]. Prospect-theory applications further indicate that investors evaluate cryptocurrency gains and losses through behavioral value functions rather than objective return alone [12]. These findings establish that volatility is not merely a price characteristic. It changes how investors process information and define acceptable risk.

However, three limitations remain in the existing literature. First, most studies estimate aggregate relationships through market data or surveys. They can identify whether herding, sentiment, literacy, or risk perception matters, but they rarely show how investors combine these forces in a personal decision narrative. Second, investor personality is often treated as a stable antecedent, even though market tempo, asset ambiguity, and social-media pressure may alter how that personality appears in action. Third, studies of Muslim investors often emphasize legal status or general religiosity. They provide less explanation of how ethical reflection interacts with confidence, fear of loss, peer influence, and analytical discipline during actual cryptocurrency decisions.

The BB&K five-way model offers a focused response to these limitations. It classifies investors through confidence, which ranges from anxious to confident, and method of action, which ranges from careful to

impetuous. The combination produces Adventurer, Celebrity, Individualist, Guardian, and Straight Arrow profiles. The model has been used to connect psychological tendencies with advisory needs and has remained visible in research on professional investor sentiment [13][14][15]. Yet its application to highly volatile digital assets remains limited. In particular, the model assumes that a moderate Straight Arrow position can occupy the center. Cryptocurrency raises a different possibility: an unstable market may weaken the center and push investors toward more pronounced profiles.

The Muslim millennial context adds a substantive ethical dimension. Islamic investment does not reject profit seeking or legitimate risk. It requires economic actors to consider knowledge, fairness, accountability, and avoidance of harmful or excessive uncertainty. The concept of Homo Islamicus places material choice within moral responsibility [16], while Islamic investment management links return objectives to risk transparency and ethical discipline [17]. Religious awareness should therefore not be treated as an automatic source of risk aversion. It can restrain speculative action, justify cautious participation, or remain weak when social pressure and expected gain dominate the decision.

This study addresses the gap by mapping 13 Muslim millennial cryptocurrency investors in East Java with the BB&K model and by examining whether the profiles operate as fixed traits or context-dependent expressions. Its novelty lies in treating the absent Straight Arrow as an empirical finding rather than an empty category. The study argues that the combination of extreme volatility, rapid digital influence, and Islamic ethical reflection produces market-induced psychographic polarization. It therefore asks: which BB&K profiles appear among the informants, how are those profiles supported by their decision narratives, and what does the distribution imply for behavioral finance and Islamic financial literacy?

2. RESEARCH METHODOLOGY

2.1 Research Design and Analytical Scope

This study used an interpretive qualitative design with a phenomenological orientation. The design was appropriate because the research question concerns how investors understand volatility, confidence, social influence, loss, and ethical responsibility within their lived investment experience. The study does not claim a full transcendental phenomenology because the retained analytic archive consists of anonymized interview summaries and coded narratives rather than complete verified transcript files. The revised design therefore prioritizes transparent cross-case interpretation and avoids claims that cannot be supported by the available archive. This position follows qualitative principles that connect the level of methodological claim to the form and completeness of the evidence [18].

The unit of analysis was the individual Muslim millennial investor who actively traded or held cryptocurrency assets in East Java. The study examined decision processes rather than investment performance. It did not evaluate whether a particular token was lawful, profitable, or technically superior. The analytical focus was the interaction among confidence, method of action, information dependence, risk control, and ethical reflection.

2.2 Participants and Recruitment

Thirteen informants were recruited through purposive sampling and then extended through snowball referral. Inclusion required membership in the millennial cohort, Muslim self-identification, residence or active investment activity in East Java, and current experience in cryptocurrency trading or holding. The anonymized archive retained participant codes and decision-related experience markers, but it did not retain exact age, interview duration, or a uniform numerical measure of investment tenure for every participant. These characteristics are therefore not reconstructed or estimated. Table 1 presents the empirical markers that remain traceable in the analytic file.

The sample was designed for information richness rather than statistical representation. Referral recruitment was useful because cryptocurrency investors often participate in peer networks and may be reluctant to disclose investment behavior publicly. Sampling continued until the available cases covered contrasting combinations of confidence, social dependence, analytical autonomy, and capital-protection orientation.

Table 1 is presented before the analytical procedures because it clarifies the evidence retained for each coded informant and prevents the later personality mapping from appearing detached from the empirical archive.

Table 1. Traceable participant characteristics in the anonymized analytic archive

Code	Retained experience marker	Observed decision orientation	BB&K profile
BD	Preference for small and highly volatile tokens	Opportunity seeking and tolerance of severe downside	Adventurer

Code	Retained experience marker	Observed decision orientation	BB&K profile
RD	Exposure to hype-driven tokens and momentum narratives	Aggressive entry under strong public enthusiasm	Adventurer
IQ	Asset choice influenced by peer recommendations	Trend following and fear of missing out	Celebrity
KD	Peer-assisted participation while learning the market	Social dependence with limited independent verification	Celebrity
DI	Information-technology background	Independent evaluation of blockchain and asset structure	Individualist
ED	Prior capital-market experience	Technical and strategic comparison before action	Individualist
MK	Use of fundamentals, liquidity, and money management	Analytical confidence with risk controls	Individualist
BU	Cautious profile retained in coded summary	Capital preservation and limited exposure	Guardian
FR	Cautious profile retained in coded summary	Longer holding horizon and avoidance of rumor	Guardian
KQ	Defensive profile retained in coded summary	Risk restriction and careful entry	Guardian
KK	Defensive profile retained in coded summary	Preference for established assets and controlled exposure	Guardian
MG	Capital-protection profile retained in coded summary	Low response to short-term price excitement	Guardian
NH	Cautious profile retained in coded summary	Preservation-oriented participation	Guardian

2.3 Data Collection and Interview Domains

Data were generated through in-depth interviews conducted face to face or online. The semi-structured guide covered six domains: entry into cryptocurrency, asset-selection reasoning, response to sudden gains and losses, information sources and peer influence, position control and holding or exit strategy, and the perceived relationship between investment conduct and Islamic responsibility. Questions were initially open so that informants could explain decisions in their own sequence. BB&K categories were not used as labels during the opening stage of the interview.

The revised manuscript does not place reconstructed sentences inside quotation marks. The retained archive supports paraphrased narrative evidence and coded summaries, but it does not support verification of word-for-word transcript excerpts. This restriction protects research integrity. It also means that the findings should be read as an interpretive mapping of documented decision patterns, not as a discourse analysis of linguistic form.

2.4 NVivo Coding and BB&K Mapping

NVivo functioned as a data-management environment rather than as an automated decision maker. The analysis followed five operational stages. First, open coding identified recurring units such as high-risk opportunity, fear of loss, peer recommendation, FOMO, independent verification, technical analysis, project fundamentals, long-term holding, loss control, and moral concern. Second, related codes were grouped into broader categories of confidence, information dependence, method of action, risk tolerance, and ethical reflection. Third, a codebook linked each category to explicit indicators and contrary indicators. Fourth, cases were compared across the two BB&K dimensions. Fifth, a negative-case search examined whether any informant consistently occupied the moderate center associated with Straight Arrow.

The analysis drew on reflexive thematic procedures while maintaining a documented coding path from narrative summary to code, category, BB&K dimension, and final profile [19]. Trustworthiness was strengthened through cross-case comparison, consistency checking between coded summaries and theoretical criteria, theory triangulation with behavioral-finance concepts, and an audit trail consisting of code definitions, profile rules, and case matrices. These procedures align with qualitative trustworthiness criteria that emphasize credibility, dependability, confirmability, and a transparent record of analytical decisions [20]. Member checking is not claimed because the retained archive did not document a uniform return of interpretations to all informants.

Table 2 operationalizes the coding path used to prevent personality labels from being assigned only through impressionistic reading.

Table 2. Operational coding framework for the BB&K mapping

Coding theme	Empirical indicator	Contrary indicator	BB&K dimension	Interpretive use
Risk seeking	Accepts sharp downside for exceptional return	Uses strict exposure limits and avoids extreme tokens	Impetuous + confident	Adventurer tendency
Peer following	Acts on friends, groups, influencers, or trending assets	Requires independent evidence before purchase	Impetuous + anxious/dependent	Celebrity tendency
Independent analysis	Checks project structure, liquidity, technical signals, and scenarios	Relies mainly on social recommendation	Careful + confident	Individualist tendency
Capital preservation	Limits exposure, favors longer horizon, and avoids rumor	Treats volatility mainly as opportunity	Careful + anxious	Guardian tendency
Moderate balance	Accepts bounded risk without aggressive or defensive dominance	Consistent movement to an outer quadrant	Intermediate position	Straight Arrow search
Ethical reflection	Connects action with knowledge, fairness, and responsibility	Separates market action from moral evaluation	Contextual filter	Explains profile expression among Muslim investors

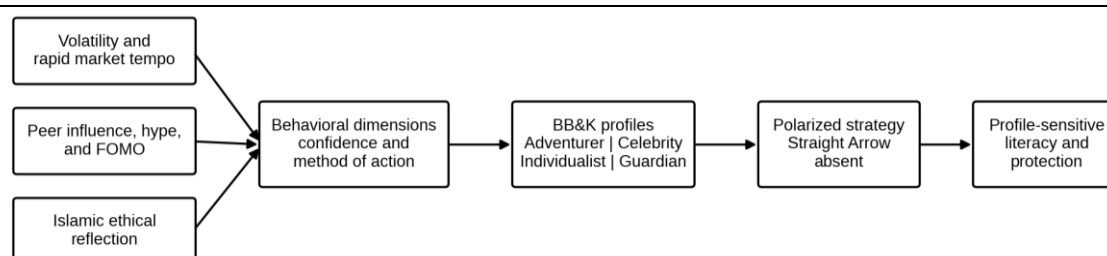


Figure 1. Conceptual framework linking market context, ethical reflection, and BB&K profiles

3. RESULTS AND DISCUSSION

3.1 Distribution and Empirical Traceability

The 13 cases were distributed across four BB&K profiles. Guardian was the largest group with six informants, followed by Individualist with three, Adventurer with two, and Celebrity with two. No informant met the interpretive rule for Straight Arrow. This pattern does not mean that every participant was permanently extreme. It means that the retained decisions consistently showed a dominant response outside the moderate center when the informants confronted cryptocurrency volatility.

The distribution is important for two reasons. First, it challenges the common assumption that young cryptocurrency investors are uniformly aggressive. Nine of the thirteen cases were Individualists or Guardians, which indicates that analysis, caution, and capital protection were more common than unrestricted speculation. Second, the simultaneous presence of Adventurer and Celebrity profiles shows that caution did not eliminate speculative or socially induced action. The sample therefore formed a polarized field in which defensive, analytical, aggressive, and trend-dependent strategies coexisted.

Table 3 summarizes the final mapping and the specific behavioral risk attached to each profile.

Table 3. Psychographic mapping of Muslim millennial cryptocurrency investors

BB&K type	Informants	Dominant traits	Decision basis	Main vulnerability
Adventurer	BD, RD	Confident, aggressive, opportunity seeking	Momentum, highly volatile tokens, speculative narratives	Overconfidence and severe downside exposure
Celebrity	IQ, KD	Trend following, socially dependent	Peer recommendation, online hype, FOMO	Herding and weak independent verification
Individualist	DI, ED, MK	Analytical, independent, careful confidence	Technology knowledge, technical analysis, fundamentals, liquidity	Confirmation bias and overtrust in personal models
Guardian	BU, FR, KQ, KK, MG, NH	Defensive, cautious, preservation oriented	Controlled exposure, longer horizon, avoidance of rumor	Loss aversion, inertia, and delayed reassessment
Straight Arrow	Not found	Moderate and balanced	No consistent evidence in the sample	Absence indicates an unstable moderate center

3.2 Adventurer and Celebrity: Two Routes toward Impetuous Action

BD and RD were mapped as Adventurers because they combined personal confidence with willingness to accept sharp price movement. BD preferred small and highly volatile tokens. RD responded strongly to hype-driven assets and momentum. Their narratives treated volatility as the source of opportunity rather than primarily as a threat. This pattern is consistent with overconfidence, in which recent success or perceived skill leads investors to underestimate downside risk [21], [22]. Cryptocurrency intensifies this mechanism because frequent price feedback can transform a short-term gain caused by market noise into apparent proof of forecasting ability.

The Adventurer result also qualifies a purely individual explanation. Research on cryptocurrency markets shows that mood, uncertainty, and market regimes alter the visibility of herding and speculative behavior [7]-[11]. BD and RD did not merely possess a stable appetite for risk. Their confidence was activated by an environment that made rapid gains visible and severe risk appear manageable. The scientific implication is that psychographic type should be interpreted as a person-context configuration. An investor can display Adventurer behavior in a cryptocurrency market while acting more moderately in an asset class with slower information and clearer valuation anchors.

IQ and KD reached impetuous action through a different route. Their confidence depended more heavily on social confirmation. IQ selected assets through peer recommendations and entered during a period of mainstream visibility. KD relied on peer suggestions while still developing independent knowledge. These cases fit the Celebrity profile because participation was urgent, but personal conviction remained externally supported. The mechanism is consistent with FOMO and herd behavior. Social signals reduce the perceived cost of incomplete analysis because the investor assumes that collective attention contains information.

This finding supports the review evidence that social influence and public sentiment are central drivers of cryptocurrency participation [5], but it adds a qualitative distinction. Herding was not simply copying. It performed an emotional function. It provided temporary confidence and transferred uncertainty from the individual to the group. The effect is fragile. When prices fall, the same investor may lose confidence quickly because the initial decision did not rest on a personal thesis. Recent research similarly links self-confidence, greed, and FOMO to crypto-asset behavior [25]. Related evidence identifies herding in specialized cryptocurrency segments [26], while Indonesian studies show that overconfidence, herding, demographic conditions, and financial literacy can shape investment choice even when financial information is available [27]-[29].

3.3 Individualist and Guardian: Analytical Filters and Defensive Adaptation

DI, ED, and MK were mapped as Individualists. DI used an information-technology background to understand blockchain and asset structure. ED transferred prior capital-market experience into technical and strategic comparison. MK combined project fundamentals, liquidity assessment, and money management. These cases show that cryptocurrency participation is not inherently irrational. Knowledge creates filters that slow the movement from attention to purchase and reduces dependence on rumor.

The Individualist profile also contains a specific vulnerability. Independent investors can become attached to their own model. Confirmation bias may lead them to select evidence that supports a prior thesis, while self-attribution can transform a favorable outcome into excessive belief in personal skill [22]. The distinction from Adventurer is therefore not the absence of confidence, but the presence of a more methodical action process. The result is consistent with BB&K evidence showing that education and experience can strengthen analytical profiles [13]. It also supports the behavioral-finance shift from purely efficient-market explanations toward psychologically informed interpretation [23]. Yet analytical confidence requires a continuing bias audit because cryptocurrency fundamentals, regulation, custody risk, and liquidity can change quickly.

Guardian was the largest profile. BU, FR, KQ, KK, MG, and NH consistently emphasized capital preservation, controlled exposure, a longer horizon, or resistance to short-term rumor. This result contradicts the stereotype that millennial cryptocurrency participation is dominated by aggressive speculation. It also extends prospect theory. Loss aversion can protect an investor from impulsive concentration, but it can produce inertia when selling or rebalancing would confirm a loss [21]. Guardian behavior is therefore neither automatically rational nor automatically ethical. Caution is beneficial only when it remains connected to updated information.

The dominance of Guardian profiles may reflect adaptive learning. Cryptocurrency research has documented extreme volatility, bubbles, and rapidly changing market microstructure [3], [4], [24]. Investors who remain in the market after exposure to such conditions may develop defensive routines. This interpretation differs from studies that read high risk aversion as a fixed demographic characteristic. Here, the pattern suggests that market experience can move the expression of personality toward capital protection. The same mechanism explains why a cautious investor may still hold cryptocurrency: participation and defensiveness are not mutually exclusive.

3.4 The Missing Straight Arrow and Market-Induced Polarization

The absence of Straight Arrow is the study's central contribution. In the BB&K model, Straight Arrow represents a moderate position that is neither highly confident nor highly anxious and neither strongly careful nor strongly impetuous. None of the thirteen cases displayed that balance consistently. The center was not empty because the researchers failed to create a label. It remained empty after a negative-case search across risk response, information source, decision tempo, and loss-control narratives.

Figure 2 shows the empirical distribution. The upper half contains the careful profiles, while the lower half contains impetuous profiles. The right half contains confident investors, while the left half contains investors whose decisions show greater anxiety or dependence. Bubble size represents the number of informants. The dashed central marker records the absent Straight Arrow rather than hiding it.

Theoretically, the empty center suggests that investment personality is expressed conditionally. Continuous trading, rapidly amplified rumors, unstable valuation, and strong gain-loss asymmetry reduce the time and information stability needed for moderation. An investor faces a repeated choice between accepting pronounced uncertainty and constructing a strong defense against it. Research on cryptocurrency and financial markets has long shown that herd behavior varies across information structures and market states [30], [31]. Sentiment models also explain why beliefs and emotional interpretation can amplify movement away from fundamental value [32], [33]. More specific cryptocurrency evidence documents herding across market segments and periods [34], while Indonesian research confirms that herding and overconfidence can jointly influence investment decisions [35]. The present study transfers this context sensitivity from aggregate returns to individual psychographic expression.

The result does not prove that cryptocurrency inevitably creates polarized personalities. The sample is small, and the design cannot establish causality. It offers an analytically grounded proposition: asset-class characteristics can move the observed expression of personality away from the middle. Future longitudinal studies can test whether the same individual shifts from Straight Arrow in conventional investments to Guardian or Adventurer in cryptocurrency and whether that position changes between bull and bear markets.

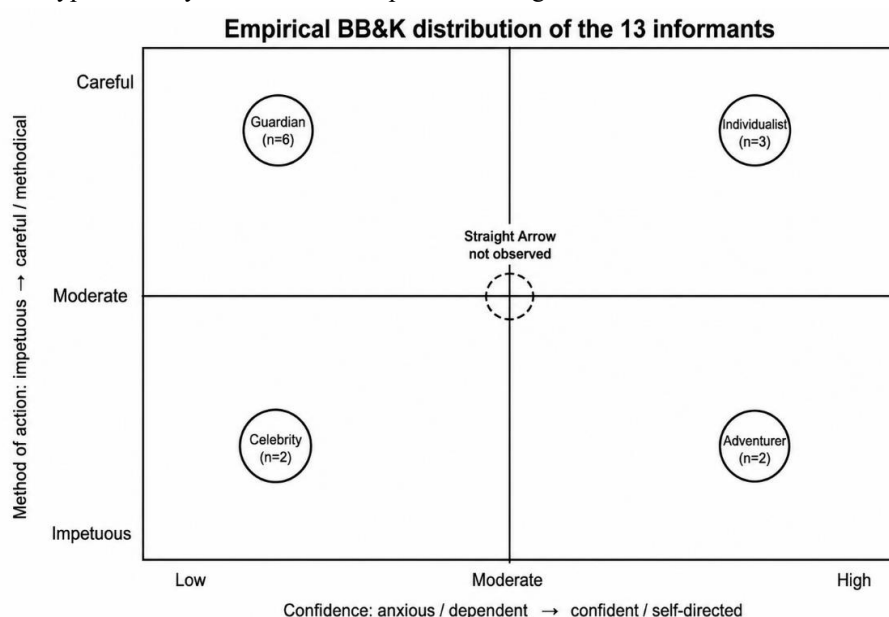


Figure 2. Psychographic distribution of the 13 informants

3.5 Islamic Ethical Reflection as a Contextual Filter

Islamic ethical reflection appeared across profiles rather than belonging to one category. Adventurers could distinguish technological innovation from pure speculation but remained vulnerable when expected profit depended mainly on hype or resale to a later buyer. Celebrities sometimes used social acceptance as indirect reassurance, although moral responsibility cannot be delegated to a crowd. Individualists connected knowledge with responsibility, but analytical skill did not remove confirmation bias. Guardians associated caution with avoidance of excessive uncertainty, yet long holding was not automatically responsible when asset quality weakened.

This spectrum supports the Homo Islamicus perspective without treating Muslim identity as a deterministic behavioral variable [16]. Ethical awareness interacted with literacy, previous experience, social environment,

and loss history. It became most visible when informants faced doubt about token utility, fairness, borrowed funds, or the distinction between informed risk and reckless speculation. The contribution to Islamic finance is therefore behavioral. Legal classification remains important, but practical guidance must also ask how an asset is selected, how much capital is exposed, which information is verified, and whether the decision process preserves accountability.

The empirical mapping supports a limited and traceable practical implication. Financial literacy should not deliver the same message to every investor. Adventurers need position limits and explicit downside scenarios. Celebrities need independent verification and a cooling-off period. Individualists need scenario testing and bias auditing. Guardians need structured reassessment so that prudence does not become inertia. Table 4 presents these priorities without extending the findings into unsupported claims about platform design or national policy.

Table 4. Personality-sensitive literacy implications grounded in the findings

Investor type	Behavioral vulnerability	Literacy priority	Islamic ethical emphasis
Adventurer	Overconfidence, concentration, underestimated downside	Position limits, leverage avoidance, written loss scenarios	Distinguish informed risk from excessive speculation
Celebrity	Herding, FOMO, weak source verification	Independent checklist, cooling-off period, promotion disclosure	Personal accountability cannot be transferred to the crowd
Individualist	Confirmation bias and overtrust in personal analysis	Scenario testing, bias audit, portfolio discipline	Knowledge requires humility and continuing responsibility
Guardian	Loss aversion, inertia, delayed reassessment	Scheduled review, asset-quality checks, bounded exposure	Prudence must remain informed rather than passive

4. CONCLUSION

This study mapped Muslim millennial cryptocurrency investors in East Java through the BB&K model and found four visible profiles: Adventurer, Celebrity, Individualist, and Guardian. The absent Straight Arrow is the key result. It indicates that confidence and method of action were expressed through pronounced speculative, socially dependent, analytical, or defensive positions rather than a stable moderate center. The finding supports a contextual interpretation of investor personality. Volatility, continuous market tempo, digital social pressure, and ethical reflection do not simply reveal a pre-existing type. They can intensify how that type appears in financial action.

The study is limited by its small regional sample, reliance on anonymized interview summaries rather than complete verified transcripts, and the absence of uniform exact-age and investment-tenure records in the retained archive. It cannot support statistical generalization or causal claims about market volatility. Future research should retain full consented transcripts, conduct documented member checking, compare the same investors across conventional and digital assets, and trace profile movement across bull and bear markets. A larger mixed-method study can then test whether market-induced psychographic polarization predicts concentration, trading frequency, loss control, and ethical decision quality.

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