Gate Research

Decoding Meme Coin Fortunes

Lifecycle Identification and Investment Strategy

Abstract

- Platforms like Pump.fun have triggered an explosion in meme coin issuance, yet with a success rate of less than 1.3% and a survival rate of only 3%. Meme coins have undergone four generations of evolution, showing trends toward platformization, AI integration, and multi-chain distribution. The use of tools has accelerated lifecycle compression to mere days or even hours.
- The lifecycle of meme can be divided into five distinct stages, each exhibiting quantifiable on-chain characteristics: Sprouting (few initial holders) → Spreading (community activity and trading volume surge) → Expansion (peak in holders and transaction volume) → Peak (influx of imitators, core coin performance declines) → Decline (liquidity outflows, social engagement collapse).
- On-chain and social signals jointly forecast meme market trends. Social buzz and on-chain search attract investors, while DEX liquidity and Pump.fun rankings reflect capital inflows. KOLs, wallet tracking, and copy trading create social-on-chain feedback loops, driving sharp price spikes—but also accelerating drawdowns.
- Top Memes like DOGE, SHIB, PEPE, and TRUMP have experienced significantly shorter lifecycles, with market cap milestones reached in days rather than years. During early-stage booms, the number of holders grew exponentially: PEPE's holders increased 20x, TRUMP surged from thousands to over 1 million. DOGE and SHIB's price inflection points were mainly driven by on-chain transactions and holding patterns, while PEPE and TRUMP were more affected by Google Trends, news events, and Twitter sentiment.
- Using the **SIPLW** five-signal system (Social buzz, Interaction on-chain, Price performance, Liquidity changes, Whale behavior), one can identify a meme project's current lifecycle stage. Key indicators include tweet volume, wallet growth rate, TVL, and whale movements. Tools like Dexscreener, Dune, and Arkham can help quantify stage recognition and enable high-frequency tracking, enhancing response agility.
- Meme lifecycles have compressed from several months to 1–3 days. To adapt, strategies must become high-frequency and tool-driven: deploying automated signal detection systems, building Whale Watch dashboards, closely monitoring trending tokens on platforms like Pump.fun, and using multi-chain arbitrage and flash liquidity switching to keep pace with the rapidly evolving meme speculation meta.

Keywords: Gate Research, Meme, DOGE, Pepe, BOME

Gate Research: Decoding Meme Coin Fortunes — Lifecycle Identification and Investment Strategy

1. Introduction: The Urgency of Studying Meme Coin Lifecycles

In the crypto market, meme coins have become a focal point for investors due to their rapid rise and short-term high returns. From early DOGE to the 10,000x returns of SHIB, meme coins have consistently surged in market cap through community enthusiasm and social media virality, becoming an irrational but powerful force in bull markets. Some even made it into the top ten cryptocurrencies by market cap, surpassing traditional major projects.

Between 2024 and 2025, several meme coins again shattered growth records. TRUMP's market cap surpassed $12 billion in early 2025. According to CoinGecko, BRETT gained over 14,000% in 2024, POPCAT rose more than 10,000%, and VIRTUAL topped the year with over 23,000% gains. Seven of the top ten performing crypto assets in 2024 were meme coins, highlighting their explosive momentum. In contrast, major tokens underperformed, and many hyped airdrop projects failed to reignite market sentiment.

However, most meme coin investors face four major challenges: poor timing, inefficient filtering, blindly chasing social trends, and lacking exit strategies. Behind the hype lies a risky market. Most meme coins have ultra-short lifecycles, ultimately suffering from liquidity depletion and community inactivity—turning into "zombie projects." Only a rare few survive multiple market cycles. This "winner-takes-all" nature means that understanding lifecycle structure, identifying early signals, spotting bubble peaks, and timing liquidity reversals is crucial to surviving—and profiting—from extreme volatility.

This paper thus aims to build a **systematic, data-driven "Meme Coin Lifecycle Toolbox."** By integrating on-chain data, community activity, and sentiment indicators, this toolbox helps investors identify key signals at each stage, anticipate risks, capture rotation rhythms, and assist policymakers in understanding the evolution logic and systemic risks of these assets. In this attention-driven crypto speculation game, understanding the structure and mastering the timing is the only way to extract Alpha.

2. Meme Coin Evolution and the New Cycle Boom

2.1 The Evolution of Meme Coins: From DOGE to Platformized Token Launches like Pump.fun

The term "meme" originates from Richard Dawkins' concept of "cultural genes" in *The Selfish Gene*, representing cultural phenomena that spread through imitation. In 2013, DOGE was created as a satirical take on Bitcoin, marking the financialization of memes and the beginning of meme coins. Later projects like SHIB and PEPE gained traction through community-driven

momentum, transitioning memes from jokes into instruments of consensus and speculation. The rise of DeFi and platforms like Uniswap significantly lowered issuance barriers, making meme coins a vehicle for crypto-native experimentation and grassroots governance.

Meme coins can be analyzed across four dimensions (not exhaustive and may overlap):

- **Narrative Theme:** Based on the meme's character or topic, such as dog-themed (DOGE, SHIB, WIF), cat-themed (MEW, POPCAT), political (TRUMP, BIDEN). These often rely on current trends, have shorter lifespans, and face intense competition.
- **Economic Mechanism:** Including zero-tax, deflationary, burn models, or presale mechanisms. For example, BOME on Solana used a presale model where users send SOL to a wallet; PEPE implements a burn mechanism; Safemoon redistributes tokens per transaction.
- **On-Chain Ecosystem:** Based on the underlying chain, e.g., Ethereum (PEPE, TURBO), Solana (WIF, BOME), Base (DEGEN, TOSHI).
- **Functional Layering:** Some projects add modules like DAO governance, NFT binding, GameFi, or AI integration. PEOPLE includes DAO contracts; GOAT is an AI meme experiment; SHIB built ShibaSwap; SLERF launched an NFT collection.

Meme coin evolution spans four typical generations, reflecting shifts in tech infrastructure, trading environments, community organization, and capital dynamics:

- **First Generation: Genesis Phase (2013–2017)** — *DOGE and community entertainment experiments*
    - Example: DOGE. Forked from Bitcoin, featuring the iconic Shiba Inu meme. Created for satire and fun rather than serious finance. Lacked smart contracts or advanced functions. Traded mainly on CEXs and used for tipping and charity.
- **Second Generation: SHIB and the Animal Coin Boom (2018–2020)** — *Community ecosystems emerge*
    - Examples: SHIB, PEPE. Stronger community backing, with attempts to build ecosystems like ShibaSwap and NFTs. Still mostly on Ethereum (ERC-20), showing early signs of decentralized governance and DeFi integration.
- **Third Generation: New Chains & DEX-Driven Innovation (2021–2023)** — *On-chain native trading*
    - Examples: WIF, POPCAT. Driven by new chains like Solana offering lower fees and faster transactions. These tokens launched natively on DEXs like Jupiter or Raydium, avoiding CEX listing barriers and promoting fair launches.
- **Fourth Generation: Platformized Issuance and Meme Explosions (2024–Present)** — *One-click token launches*
    - Example platforms: Pump.fun. Lowered entry barriers drastically—new tokens can be launched with minimal funds, sparking a wave of meme issuance and speculation. Beyond Solana, Base, Tron, and Sui also saw similar platforms emerge. Meme coins now serve as tools for boosting TVL and user activity across emerging chains. This generation includes everything from presale

experiments (BOME), trade-hyped tokens (SLERF), to AI narratives and artistic performance memes (GOAT, BAN).

2.2 The New Meme Cycle: Exponential Booms and Rapid Death

Unlike past sporadic meme surges, the current cycle is unprecedented in scale and speed, driven heavily by issuance platforms like Pump.fun. Platformized tools reinforce DEX leaderboard dynamics, making meme projects central to driving TVL and user engagement. In 2024, Solana experienced multiple gas fee spikes due to meme mania, solidifying its status as the “meme battlefield.”

Key features of this self-reinforcing meme supercycle include:

- **Super Spreader Nodes:** KOLs, Memelords, and on-chain hunters drive localized viral waves on Twitter, Telegram, Farcaster, etc.
- **High Velocity & Breadth:** Projects like PEPE, BOME, and WIF set new records for CEX listings and spread exponentially, often triggering FOMO.
- **Compressed Lifecycles, Intense Clustering:**
    - BOME reached a $1.5B market cap in 3 days.
    - RIF and URO surged 20x in 2 days on pump.science.
    - GOAT (AI meme) surged 70x in 4 days.
    - TRUMP surged 15,000% within 12 hours, surpassing legacy tokens like TRON and Chainlink in FDV.
- **Enhanced Early Warning Mechanism via Social Platforms and On-Chain Data:**
    - Twitter discussion volume combined with Solscan trending searches signals retail investor entry.
    - DEX liquidity and Pump.fun leaderboard rankings drive momentum-chasing capital flows.
    - KOLs posting memes and trade screenshots shape aligned market expectations and FOMO behavior.
    - The rise of tool-based platforms is pushing meme token launches into a new era of productization.

Meme coins are currently experiencing a highly active boom cycle, with their development trajectory shifting from early centralized entertainment to a more decentralized, platform-driven narrative model. However, caution is warranted: over 97% of meme coins ultimately go to zero, with an overall survival rate that remains extremely low. As of March 2025, the total number of tokens launched on the Pump.fun platform has exceeded 8.7 million, yet the overall "graduation rate" is only around 1.3%, with the daily graduation rate falling below 1%. Furthermore, the lifecycle of new-theme meme coins is showing signs of extreme compression.

In this environment—marked by heightened market attention, rapid information flow, and increasingly shortened cycles—accurately identifying the current stage of a meme token’s lifecycle is critical. This directly affects optimal entry and exit points for investors, and also plays

a key role in shaping community operations, marketing strategies, and capital deployment decisions.

3. Meme Coins Lifecycle Assessment Methodology

3.1 Lifecycle Model: A Five-Stage Framework for Meme Coins

Although Meme coins do not follow a fixed lifecycle pattern, analysis of numerous cases and on-chain behaviors allows us to abstract a five-stage structure that resembles the lifecycle of startups, high-risk asset trading cycles, and the diffusion paths of social sentiments.

Lifecycle theory, originally developed for evaluating enterprise management, product marketing, and technological innovation, describes a natural process from birth and growth to maturity and decline. In the crypto market—especially for Meme coins, which heavily depend on user sentiment and community-driven dissemination—this theory is equally applicable. Each stage displays clear characteristics and some quantifiable trends.

Based on on-chain data and narrative studies of major Meme projects, this report constructs a five-stage cyclical model incorporating dimensions such as wallet address dynamics, token holder distribution, social media volume, and DEX activity. The five stages are: Emergence, Propagation, Expansion, Peak, and Decline.

Figure 1: Five-Stage Life Cycle Model of Meme Coins

Stage	Key Characteristics	On-Chain Data Performance	Social/Market Behavior
Seed Stage	Creativity, Community Initiation	Sparse transactions, concentrated wallet holdings, often 0–1 deployments	Project promotion begins on X (Twitter), a small group of early followers engages
Propagation Stage	Viral Spread, Get-Rich-Quick Hype	Rapid increase in transactions, fluctuating wallet addresses, first DEX liquidity pools created	Small influencers repost or community goes viral, price surges several times
Expansion Stage	FOMO, KOL Entry, Narrative Speculation	TVL peaks, trading volume spikes, retail inflows, gas consumption surges	Social index hits peak, search interest explodes, token listed on CoinMarketCap
Peak Stage	Forks, Copycats, Market Cap Breakthrough	Surge in imitation tokens, original token may launch game/NFT or new narrative, gas usage begins to decline again	Market attention fragments, hype fades, project attempts transformation
Decline Stage	Capital Outflow, Downtrend or Rebirth Chance	On-chain transactions drop sharply, LPs withdraw liquidity, liquidity in trading pairs decreases	KOLs shift to new projects, search interest collapses

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Note: These stages are not strictly linear or irreversible. Some Meme coins may undergo a "restart → new propagation → decline again" loop. Others may defy downtrends and rebuild their ecosystem after a pause—for example, PEPE extended its lifecycle through staking and NFT functionalities.

Despite variation in duration and intensity across different projects, the lifecycle generally follows a classic "explosion–mania–decline" trajectory. It is important to note that while the structural framework is similar, individual Meme coins display significant heterogeneity in on-chain metrics, participant behavior, market reactions, narrative intensity, and evolutionary paths.

3.2 Key Indicator Systems for Lifecycle Stage Assessment

Lifecycle stage identification should not rely solely on intuition or price fluctuations. Instead, it requires a structured decision-making system based on three major dimensions: on-chain data, behavioral/transactional structure, and community sentiment.

1. On-Chain Data Indicators

Figure 2: Lifecycle Identification Indicator System — On-Chain Data Category

Indicator	Explanation	Applicable Stage
Number of New Token Holders	Growth rate of wallet addresses reflects user expansion speed	Seed → Propagation
Token Transaction Frequency	High-frequency buys/sells indicate increasing on-chain activity	Propagation → Expansion
DEX/CEX Volume & Depth	Explosive volume growth shows token has entered mainstream attention	Distinct sign of Expansion Stage
TVL Change Curve	Rise indicates capital inflow; first interruption signals trend reversal	Expansion → Peak → Decline

2. Behavioral / Transactional Structure Indicators

Figure 3: Lifecycle Identification Indicator System — Behavioral/Transaction Structure Data Category

Indicator	Explanation	Applicable Stage
CEX Listing Timing	Major listings on top exchanges are critical moments	Expansion Start Signal
Abnormal Behaviors	Large transfers, LP removal, or investigative actions signal shifts	Prelude to Peak or Decline
Gas Fees	Propagation peaks often trigger spikes in gas fees	Propagation Stage Signal

3. Community & Sentiment Indicators

Figure 4: Lifecycle Identification Indicator System — Community & Sentiment Category

Indicator	Explanation	Applicable Stage
Social Platform Hype	X (Twitter) keyword trends, Telegram group activity	Propagation → Expansion
KOL Participation & Meme Generation	Whether influential meme creators widely reference the token	Key Driver in Propagation Stage
Intensity of Narrative Updates	Whether new memes, narratives, or storylines are continuously created	Indicator of Sustainable Growth or Attempted Transformation

3.3 Logic Behind Meme Lifecycle Assessment

Based on the lifecycle model presented above, this report outlines three core assessment principles to guide the identification of each stage and the development of analytical tools:

3.3.1 Multi-Dimensional Signal Synergy

The stage of a Meme token's lifecycle cannot be accurately determined using a single metric like price. Due to the diverse and dynamic nature of Meme growth and dissemination, a combination of factors must be considered, including on-chain activity (changes in active addresses, transaction frequency), social signals (online hype, KOL promotion), capital indicators (TVL, liquidity structure), and holder distribution (whale concentration). Only when multiple signals align can the lifecycle stage be assessed with sufficient confidence and stability.

3.3.2 Critical Points ≠ Turning Points

Transitions between lifecycle stages are not instantaneous—they often show delays and signal mismatches. For instance, social media hype typically lags behind on-chain transaction volume, while rapid changes in TVL often lead price movements. Major events such as CEX listings or project updates may cause short-term volatility and mislead assessments. Therefore, a dynamic approach is needed, combining leading indicators (like TVL and liquidity structure) with lagging indicators (such as social sentiment and search trends) to identify true inflection points.

3.3.3 Sentiment and Narrative Precede Data Changes

In the early stages (Emergence and Propagation), traditional quantitative data is often insufficient. At this point, shifts in market sentiment and the spread of narratives become crucial indicators for predicting an upcoming breakout. The social media dissemination engine is central to the Meme token's success—platforms like X/Twitter, Telegram, and Farcaster, as well as active KOLs, Meme creators, and their communities, create "early-stage emotional flashpoints." The remixing of images, memes, and viral content further enhances reach and user-led spread.

In later stages (Expansion and Peak), on-chain structural changes become the dominant signals. Under AMM mechanisms, liquidity injection, pool distribution, and price slippage directly affect the token's sustainability. Chains with low gas fees like Solana reduce issuance and transaction costs, boosting short-term speculative activity. MEV bots and on-chain arbitrageurs increase trading frequency and may create illusions of liquidity through frontrunning behaviors.

Additionally, project team actions are critical variables. Airdrops, presale mechanisms, new feature rollouts, CEX listings, and ecosystem collaborations often act as catalysts pushing Meme coins into the next lifecycle stage. The movements of whales and the resulting market sentiment shifts are also highly valuable signals.

4. Case Study: Revealing the Data Characteristics of Each Stage in the Meme Coins Lifecycle

By examining on-chain data, trading behavior, and community sentiment indicators, this section analyzes the duration, typical on-chain data peaks, and inflection points of Meme coins at various lifecycle stages. This approach unveils the underlying logic behind cyclical transitions and offers market insights. The author selects the top four Meme coins by market capitalization—DOGE, SHIB, PEPE, and TRUMP—as representative case studies to summarize specific signal maps for identifying Meme token cycles, along with key data features and threshold markers at each stage.

4.1 The Lifecycle Characteristics of Dogecoin: From Emergence to Explosion

4.1.1 Genesis Stage of Dogecoin (2013–2014: Emergence → Spread Phase)

At the end of 2013, engineers Jackson Palmer and Billy Markus created Dogecoin as a satirical response to the "over-seriousness" of cryptocurrencies. Inspired by the viral "Doge" meme featuring a Shiba Inu named Kabosu, Palmer's tweet gained traction. On December 6, 2013, Dogecoin officially launched. On its first day, its hash rate surpassed that of Bitcoin Cash, and two weeks later, daily trading volume exceeded that of Bitcoin, with website visits quickly surpassing one million.

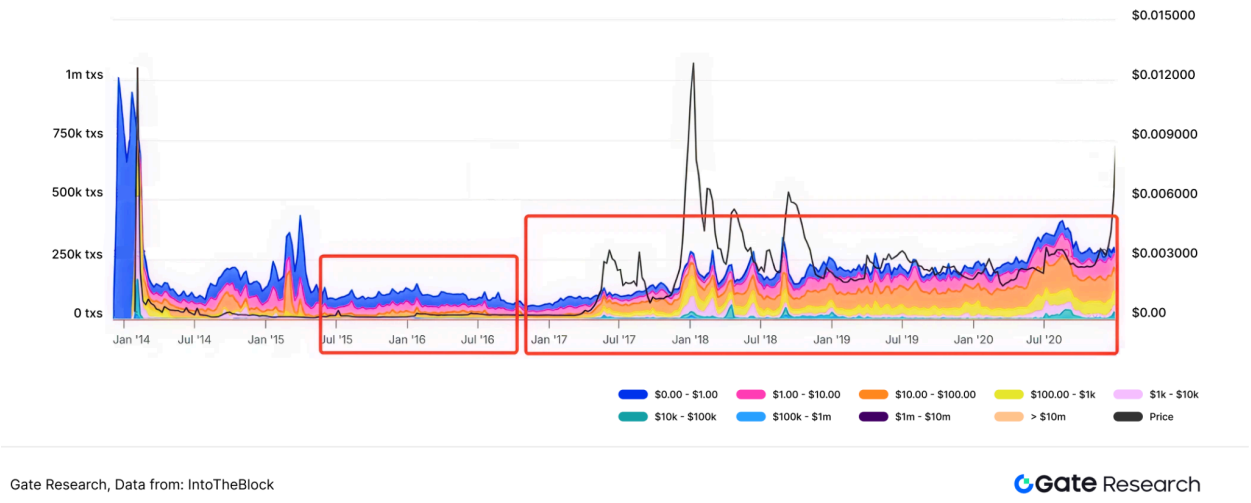
Key data and behavioral milestones:

- **Dec 20, 2013**: Daily trading volume exceeded that of Bitcoin.
- **Feb 2014**: The 100 billion token cap was removed, transitioning to an annual issuance of 5 billion DOGE.
- **Mar 2014**: Dogecoin culture solidified with the slogan "To the moon!"
- The community rapidly formed and became known for its charitable spirit, fundraising for Jamaica’s bobsled team, building water wells in Kenya, and compensating hacking victims during Christmas.
- By late 2014, both founders had stepped away, leaving an open-source project sustained by its community.

4.1.2 Dormancy and Resilience (2015–2020: Spread → Expansion Phase)

- **2015–2016 Dormancy:** After the founders' exit in late 2014, Dogecoin entered a quiet period due to extreme price volatility and unclear positioning. However, the number of DOGE-holding addresses continued to grow steadily, surpassing 1 million by March 2025.
- **2017–2018 Recovery and Volatility:** According to IntoTheBlock, Dogecoin's weekly transaction grew sharply—from ~60,000 in 2016 to over 100,000 by May 2017. By 2018, weekly transactions approached 350,000. Price experienced significant fluctuations aligned with broader crypto market cycles.

Figure 5: DOGE Transaction (2014–2020)



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  - **2017 Altcoin Boom:** In March, retail inflows pushed DOGE up 1,800% to nearly $0.004 in 70 days, with a market cap surpassing $400M—before a 70% correction.
  - **Late 2017 Rally:** In November, a strong Bitcoin rally uplifted altcoins. On Jan 7, 2018, DOGE hit $0.0175 (+380%), reaching a $1.5B market cap. A swift 70% drop followed within 8 days.
  - **Apr 2018 Rebound:** DOGE rose 103% in 3 days to $0.0041—outpacing BTC's 40% rise.
  - **Sep 2018 ETH-DOGE Bridge Test:** DOGE surged 173% in 48 hours due to excitement over an Ethereum bridge test. Lack of sustained funding led to development delays and price decline.
- **2020 TikTok Viral Trend:** A viral TikTok video launched the #DogecoinTikTok challenge, aiming to pump DOGE to $1. DOGE rose 2.5× within weeks before retreating.

4.1.3 Dormancy and Resilience (2015–2020: Spread → Expansion Phase)

In 2021, DOGE saw an unprecedented surge, primarily driven by Elon Musk's tweets, memes, and interviews. Musk's influence earned DOGE the nickname "Elon's coin."

Key Data & Events:

- **Jan 2021:** Musk's first DOGE tweet triggered an 80% price spike. By early February, daily trading volume surged 7× to over $32B.
- **Apr 1, 2021:** Musk tweeted about sending DOGE to the moon. According to Google Trends, DOGE search volume peaked in May.

Figure 6: DOGE Search Interest (2013–2024)

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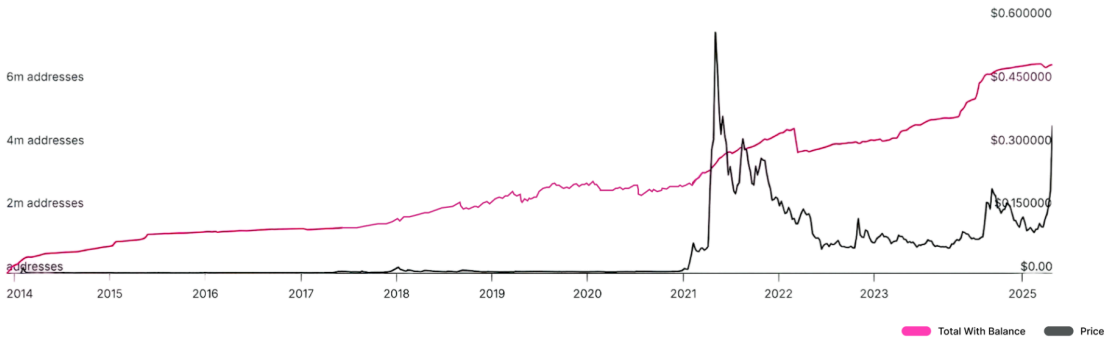
- **May 2021:**
  - Coinbase listed DOGE, expanding user access.
  - DOGE hit an all-time high near $0.70; market cap surpassed $90B—temporarily exceeding Ford Motor Company.
  - Weekly trading volume exceeded $370B, up 90× from early 2021.
  - Holding addresses surpassed 3.6 million.

Figure 7: Number of DOGE Holding Addresses (2014–2025)



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- **Dec 2021:** DOGE's Telegram group peaked at 10,600 members but later declined. However, holding addresses continued growing, reaching over 6.5 million by 2025.

4.1.4 Expansion and Current Status (2022–Present: Peak → Sustained Expansion Phase)

Despite major corrections post-2021 peak, DOGE continues expanding its use cases beyond being a Meme coin. With a current market cap of ~$27B, DOGE remains in the global top 10. Weekly transactions now exceed 12 million, showing higher activity than during the 2021 price peak.

Notable Developments:

- AMC, SpaceX, and Tesla accepted DOGE payments in 2022.
- X (formerly Twitter) is speculated to adopt DOGE for tipping or micropayments.
- The Doge-1 satellite, planned to be funded in DOGE, is still in progress.
- In May 2024, Kabosu, the iconic Shiba Inu of the Doge meme, passed away—prompting emotional tributes from the community.

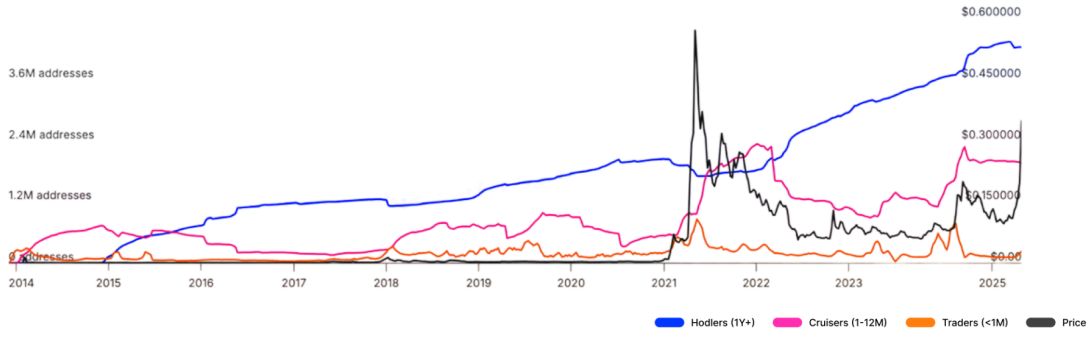
As of April 2025, DOGE trades around $0.17—well below its ATH, but still enjoys high community engagement and attention.

According to IntoTheBlock:

- Whales (holding >1% of supply): ~40%
- Investors (0.1–1%): ~20%
- Retail holders: ~40%

Long-term holders (>1 year) and mid-term holders (1–12 months) both continue to rise, with no clear signs of retreat.Overall, DOGE's holding structure remains solid, and its ecosystem shows ongoing potential—meriting close future attention.

Figure 8: DOGE Holding Addresses by Duration (2014–2025)



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4.2 Lifecycle Features of SHIB

4.2.1 Origins and Early Phase (Aug 2020 – Early 2021: Emergence Phase)

SHIB was created in August 2020 by the anonymous developer "Ryoshi" on Ethereum, inspired by the Shiba Inu dog. It launched with a supply of 1 quadrillion tokens, half of which were locked on Uniswap and the other half sent to Vitalik Buterin.

During its early months, SHIB received little attention, had minimal trading volume, and extremely low prices. Whale concentration was very high (Top 10 held >90%), and most on-chain activity consisted of microtransactions with high gas costs.

Key Early Data:

- Holding addresses: Fewer than 1,000 after launch
- Daily volume: Under $1,000 (avg weekly ~$20K–30K in Sep 2020)
- Whale concentration: Top 10 held over 90%
- On-chain behavior: Predominantly small trades, high gas fee ratio

4.2.2 Awareness Spread and First Breakout (May 2021: Spread → Expansion Phase)

As Musk continued tweeting about DOGE, a broader animal coin trend emerged. SHIB, dubbed the “Dogecoin killer,” began gaining traction.

In May 2021, the price of SHIB experienced its first major surge, with a monthly gain of over 20x. The community size expanded rapidly, and the market began to view SHIB as a potential “next Dogecoin,” triggering an initial wave of investment hype. Communities like the “SHIB Army” started to take shape on platforms such as Reddit and Twitter, driven primarily by speculation and a sense of community identity among investors. According to Google Trends, search interest in SHIB began rising in early May and reached a temporary peak in mid-May.

Figure 9: SHIB Search Interest (2020–2025)

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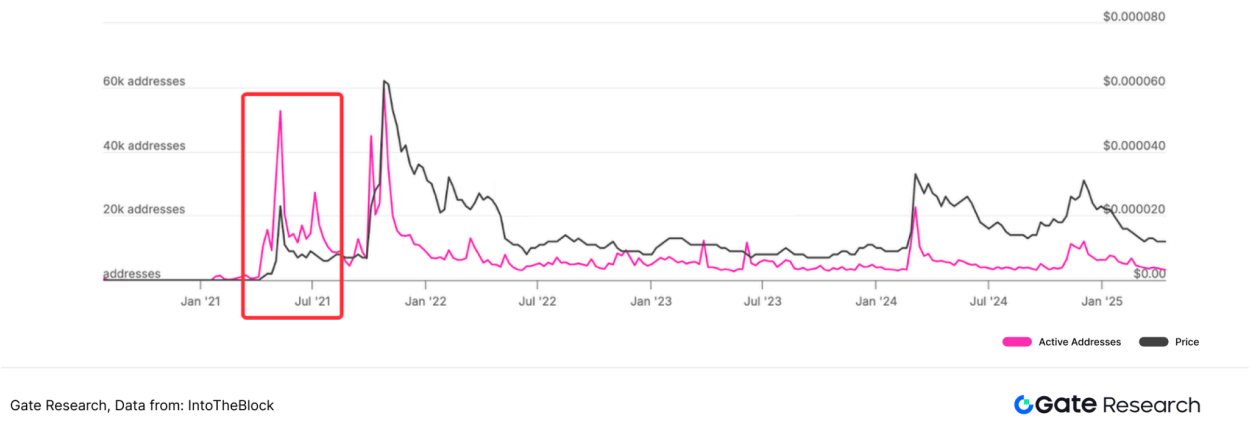
Key Data Points:

- Holding addresses exceeded 500,000
- Active addresses surpassed 50,000
- Weekly transaction volume hit ~$1B, peaking above $23B
- Market FOMO drove massive retail participation

Figure 10: SHIB Active Addresses (2021–2025)



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4.2.3 Peak Phase: Full-scale Explosion (October 2021, Expansion Phase → Disruption Phase)

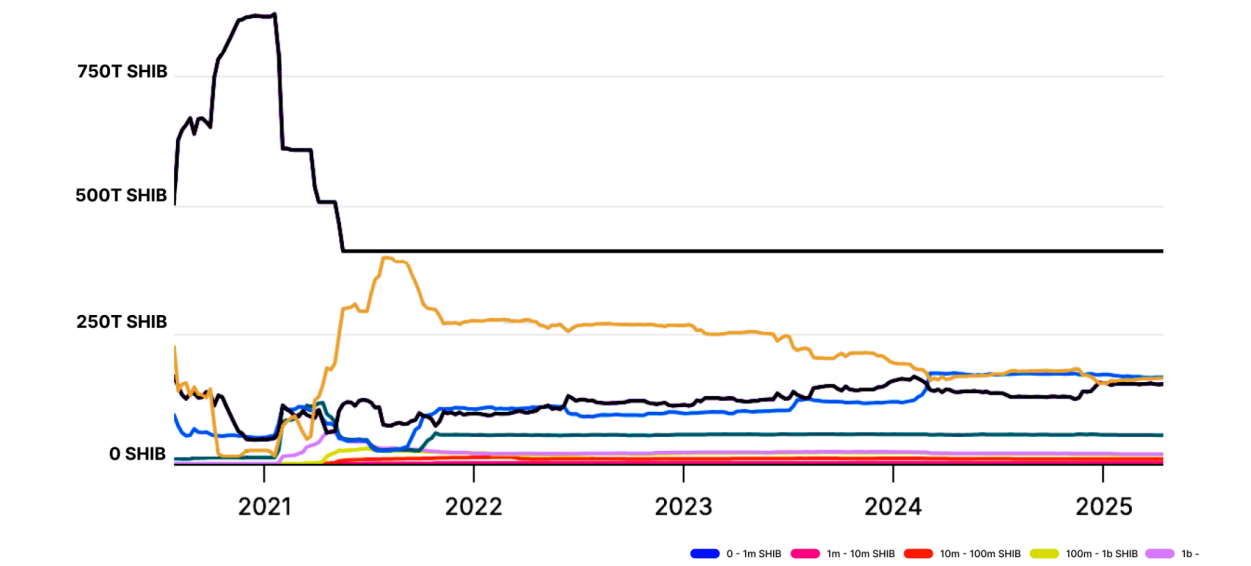
In October 2021, SHIB experienced a historic price surge, skyrocketing from around $0.000007 to over $0.00008—a nearly 10x increase—reaching its all-time high. During this phase, SHIB temporarily ranked among the world's top 10 cryptocurrencies by market capitalization, which exceeded tens of billions of dollars.

The explosive rise of SHIB in 2021 was driven by multiple factors: the launch of the ShibaSwap decentralized exchange, expansion into the NFT space, a powerful community movement, and the listing on top centralized exchanges (CEXs) that fueled market optimism. This phase was marked by high community engagement (e.g., #SHIBARMY trending on Twitter and SHIB reaching peak Google search interest), the formal rollout of ecosystem projects (e.g., ShibaSwap and NFT launches), and short-term entry by crypto whales and institutional capital.

Key data points:

- The number of holding addresses approached 1 million, and active addresses reached nearly 60,000, nearly doubling week-over-week.
- Weekly trading volume peaked at over $16 billion, nearly a 5x increase from the previous week.
- Whale activity surged, but the number of addresses holding more than 100 trillion SHIB and between 10 trillion to 100 trillion SHIB sharply declined, indicating that large holders were actively reducing their positions.

Figure 11: SHIB Whale vs. Retail Holding Addresses (2020–2025)



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4.2.4 Retraction and Stabilization Phase (November 2021 – 2022, Disruption Phase → Decline/Wait-for-Relaunch Phase)

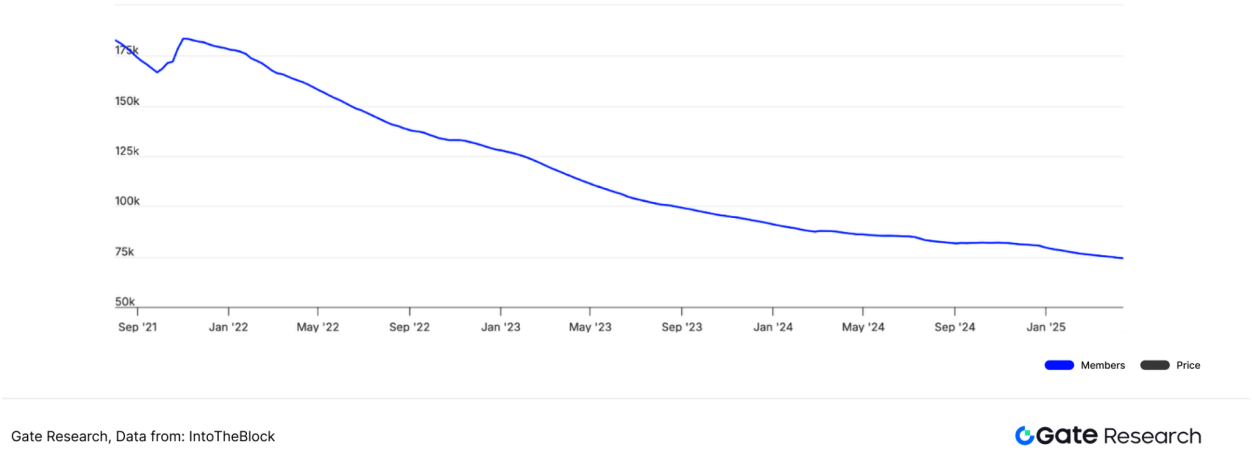
Following its peak, SHIB's price began a significant correction starting in November 2021, entering a period of volatility and consolidation. Amid a broader crypto market cooldown, SHIB's price gradually stabilized and moved into an adjustment phase.

By the end of 2021, SHIB's market cap had dropped by over 50% from its peak. Community activity cooled off accordingly, and some early holders exited. Google search interest declined, and the number of Telegram users began to fall from its peak of 180,000 in October 2021.

- The growth rate of SHIB holding addresses slowed but continued steadily, reaching 1.2 million.
- The number of on-chain active wallets dropped sharply, declining by over 90% from its peak.
- Trading volume also shrank dramatically, falling by more than 90% from the peak.

Despite the downtrend, the project team continued to develop the ecosystem—for example, pushing forward the metaverse project Shibaverse.

Figure 12: SHIB Telegram Users



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4.3 Key Development Stages of PEPE

4.3.1 Project Initiation and Pre-Launch Preparation (April 5 – April 13, 2023, Germination Phase)

PEPE draws its inspiration from the iconic internet meme character *Pepe the Frog*. Its goal was to challenge the dominance of dog-themed meme coins like DOGE and SHIB and to revive the original “entertainment spirit” of Meme coins.

PEPE was deployed on the Ethereum blockchain on April 14, 2023, with a total token supply of 420.69 trillion—a nod to the internet meme culture references “420” (Cannabis Day) and “69.” The project had no presale, no transaction tax, and 93.1% of the tokens were directly added to the Uniswap liquidity pool. The remaining 6.9% was reserved for future centralized exchange (CEX) listings.

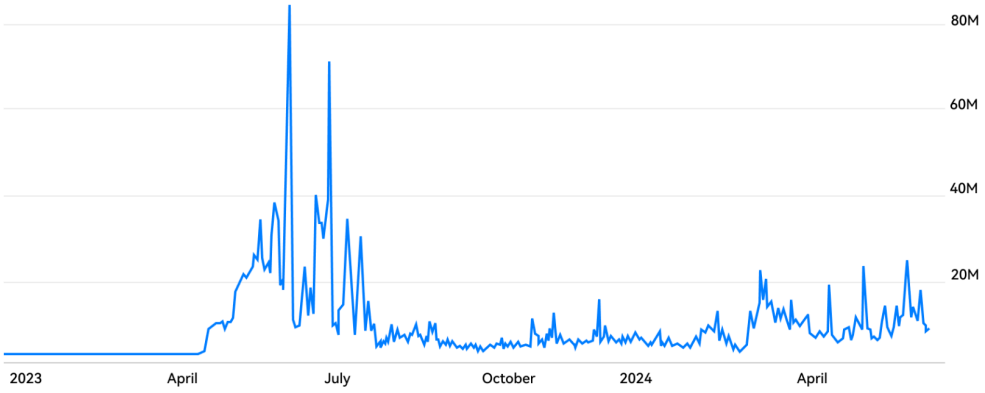
In its early phase, the official PEPE Twitter account was created on April 5, and the Telegram community was launched on April 6, laying the groundwork for community-driven momentum through a low-key initial setup.

4.3.2 Community Spread and DEX Launch (April 14 – April 20, 2023, Propagation Phase → Expansion Phase)

In the early hours of April 15, the PEPE-WETH trading pair was listed on Uniswap v2, initiating decentralized trading. Between April 15 and April 20, community hype escalated rapidly. Before April 16, discussion was minimal, but from April 17 onward, numerous mid- and small-sized KOLs (key opinion leaders) began promoting the project, leading to a viral surge in Twitter activity and spreading intense FOMO sentiment.

According to LunarCrush social engagement data (views, likes, comments, shares, and upvotes), total interactions on April 20 surpassed 6 million, representing a nearly 400x increase from April 14.

Figure 13: PEPE Social Media Engagement Data

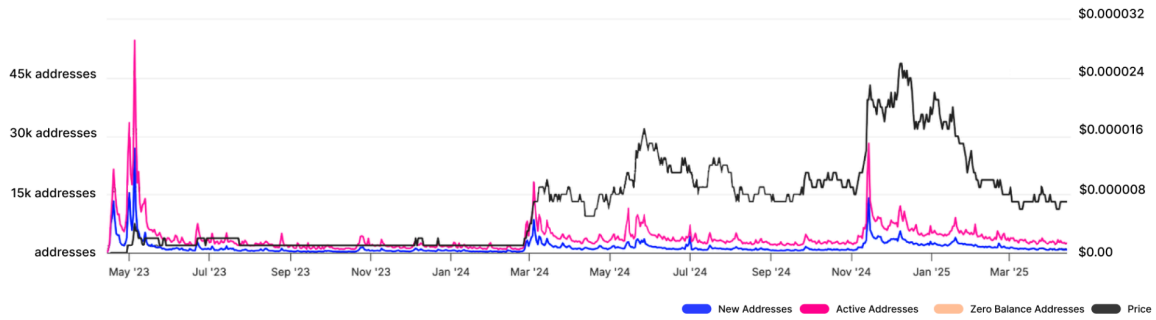


Gate Research, Data from: LunarCrush

Gate Research

April 19 and 20 are regarded as the “golden accumulation period,” with large amounts of early capital flowing in. The number of holding addresses exceeded 9,000 by April 17 and surged past 26,800 on April 19. On April 20, the number of active addresses exceeded 16,000, a nearly 20-fold increase from 789 on April 15.

Figure 14: Daily Active Addresses of PEPE



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4.3.3 Rapid CEX Listings and First Price Surge (April 19 – May 6, 2023, Expansion Phase → Initial Peak Phase)

Listings on centralized exchanges propelled PEPE into the broader public spotlight, attracting a wave of retail investors and reigniting market enthusiasm. On April 19, Gate.io announced it would list PEPE, followed by listings on several other CEXs in the following days.

Between April 28 and 29, the combination of CEX support and viral social media exposure sparked a massive global buzz. From April 22 to 29, the number of holding addresses entered a second growth phase—although the growth rate slowed, the base expanded significantly. Between April 30 and May 5, holding addresses exceeded 100,000, and PEPE's market cap surpassed $1 billion within just 23 days of launch.

Figure 15: PEPE Holding Addresses

Gate Research, Data from: IntoTheBlock

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On May 6, Binance officially listed PEPE, marking a critical turning point in its development. The price surged to a local peak of $0.00000372, representing an almost 120,000x increase. Weekly trading volume skyrocketed from $40 million at the end of April to $1.46 billion. The event was widely covered by crypto media. Meanwhile, speculation in the NFT sector further fueled momentum, with many Pepe-themed NFTs gaining traction.

4.3.4 Market Correction (May 7, 2023 – March 2024)

After May 7, PEPE's price declined sharply from its peak to around $0.0000008, a drawdown of nearly 365%. Active addresses fell dramatically—from over 50,000 on May 5 to 3,760 by the end of May. Early FOMO faded, and the market entered a profit-taking phase.

Initially, most trading occurred on Uniswap, but volume gradually shifted to centralized exchanges as listings expanded. Overall, PEPE entered a phase of consolidation and bottom formation.

4.3.5 Market Recovery and Price Surge (March – December 2024, Continued Expansion Phase)

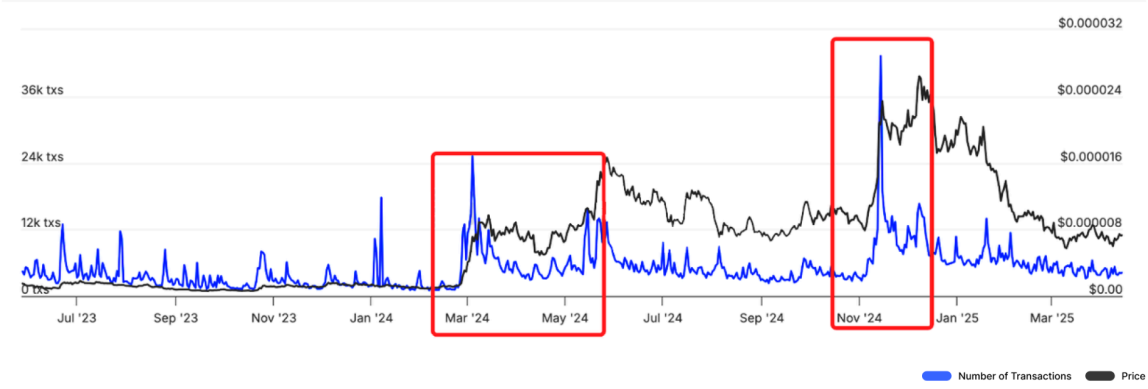
Starting in March 2024, PEPE's trading activity rebounded significantly. On March 5, it saw over 25,000 daily transactions—nearly triple the activity at the end of February. From May to September, PEPE entered a downward channel, which it eventually broke through.

In November, trading activity surged again. On November 14, transactions reached an all-time high of 43,000, a nearly 4x increase within four days. Active addresses also peaked at 28,000 on the same day—up more than 3x—sparking renewed market discussions and fueling another price rally.

By December 2024, PEPE reached a new all-time high of $0.000026, with a market cap surpassing $11 billion, placing it among the top 30 cryptocurrencies globally. The number of holding addresses exceeded 350,000 by the end of December.

After reaching its peak, PEPE's price experienced a correction. As of late April 2025, its market cap had pulled back to around $3.8 billion.

Figure 16: PEPE Transactions



Gate Research, Data from: IntoTheBlock

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4.4 Developmental Stages of TRUMP

4.4.1 Official Launch of TRUMP (January 17, 2025 – Germination Phase → Dissemination Phase)

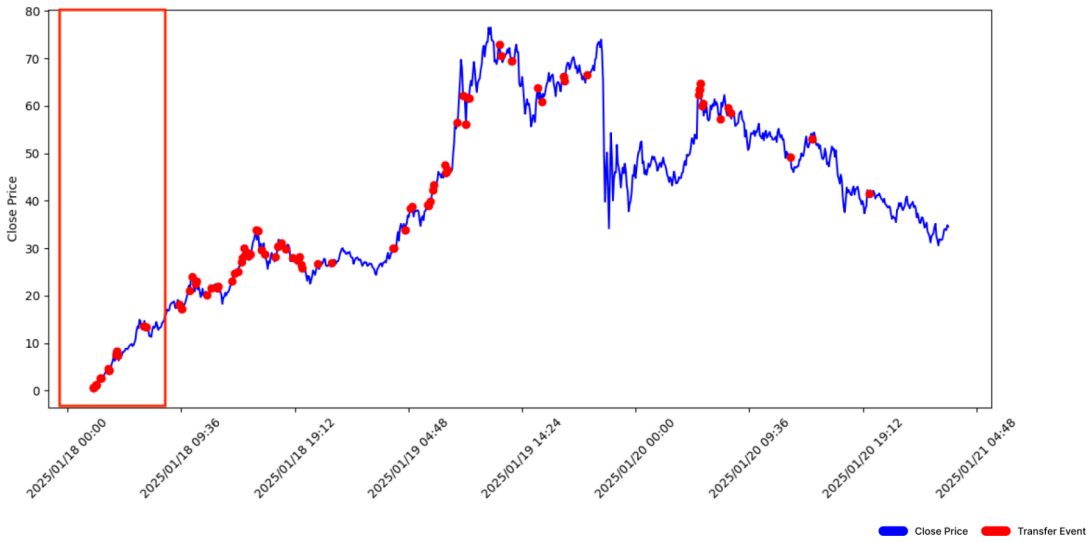
On January 17, 2025, Donald Trump announced the launch of his personal cryptocurrency, TRUMP, on the social platform Truth Social, sparking widespread market attention. The total supply of TRUMP is 1 billion tokens, with an initial issuance of 200 million tokens—80% of which is held by two entities affiliated with the Trump Organization: CIC Digital LLC and Fight Fight Fight LLC. These tokens are planned to be gradually released over three years.

According to data from the Solana explorer, after the token issuance, the Trump team transferred the tokens into four addresses, with 80% of the supply under team control. The remaining tokens were allocated to establish liquidity pools and listings on exchanges.

4.4.2 Liquidity Construction and Initial Dissemination (January 18, 2025 – Dissemination Phase → Expansion Phase)

Upon going live on January 18, the project team injected 55 million TRUMP tokens (worth approximately $300 million) into the TRUMP/USDC liquidity pool via Meteora within the first six hours, rapidly driving the TVL up to $577 million. Data shows that each injection significantly boosted TRUMP's price—by an average of 13%, with peaks up to 45%. At the same time, professional market makers such as Wintermute entered the market, using high-frequency trading to maintain liquidity and price stability.

Figure 17: TRUMP Token Price vs. Team Transfers to Liquidity Pools and Exchanges



Gate Research, Data from: Coingecko

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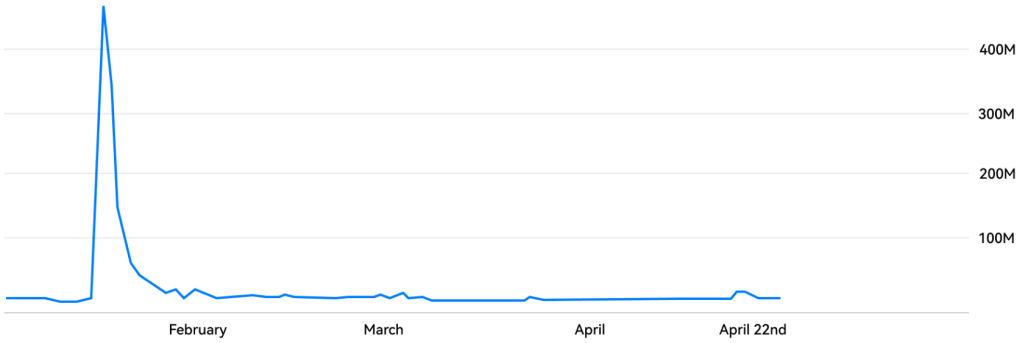
Within just 30 minutes of launch, TRUMP's market cap surpassed $700 million, with tokens highly concentrated among a few addresses—the top five controlling over 90%. After Trump retweeted the launch, the market cap surged to $2.8 billion and briefly hit a high of $30 billion that evening.

4.4.3 Trading Volume and Price Surge (January 19–20, 2025 – Expansion Phase → Peak Phase)

On January 19, major CEXs began listing the TRUMP token. The Trump team deposited about 11 million TRUMP tokens into exchanges, valued at up to $400 million. These listings rapidly

enhanced market liquidity and allowed broader access for retail and institutional investors. That same day, TRUMP's social media engagement reached a peak of 460 million interactions, reflecting maximum market hype. As of the afternoon of January 20, on-chain holding addresses surpassed 850,000, and when including CEX users, the total number of holders was estimated to exceed 1 million.

Figure 18: TRUMP Token Social Media Engagement

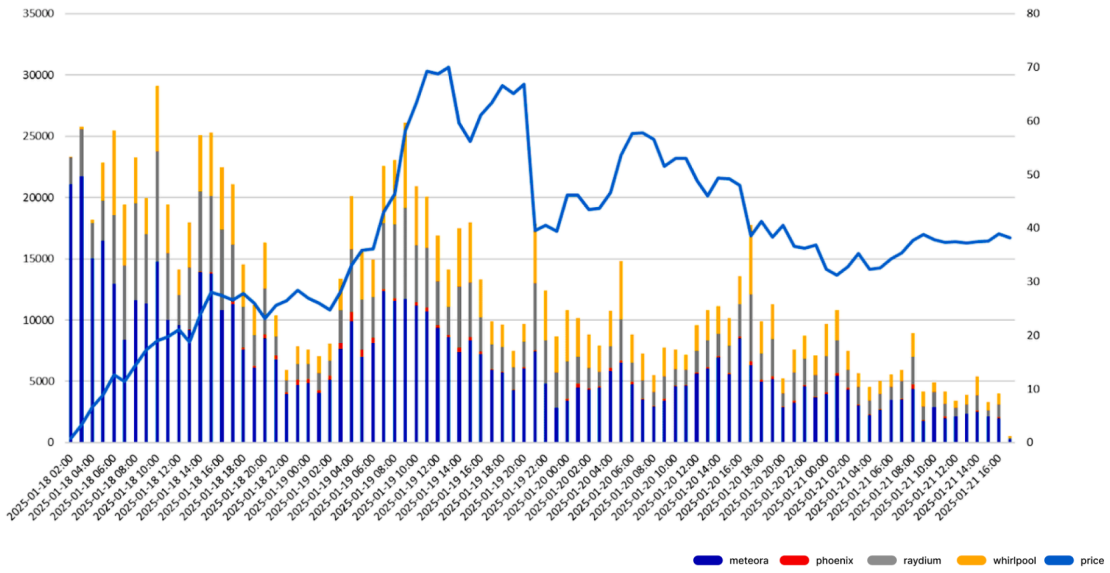


Gate Research, Data from: LunarCrush

Gate Research

On January 19, DEX trading volume hit a $6 billion peak. Between January 18 and 19, large-volume transactions (over $1,000) on major DEXs such as Meteora, Phoenix, Raydium, and Whirlpool increased sharply, driving TRUMP's price to its historical high of approximately $72. In just two days post-launch, total trading volume approached $13 billion, and TRUMP quickly ranked among the top 19 global cryptocurrencies by market cap.

Figure 19: Large-Value Transactions (> $1,000) Across Major DEXs



Gate Research, Data from: Dune

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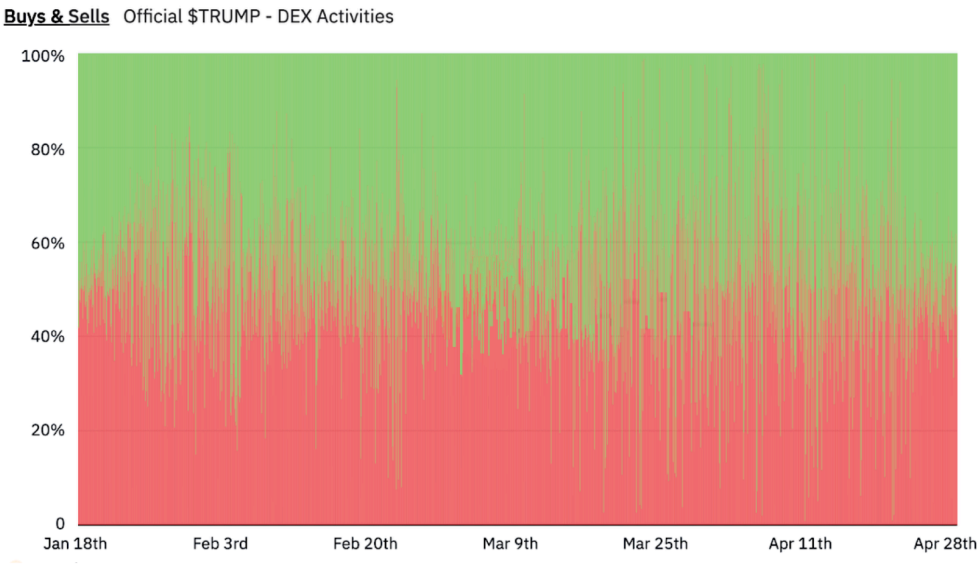
4.4.4 Capital Outflow and Profit-Taking (From January 21, 2025 – Peak Phase → Decline Phase)

Following the initial explosive phase, TRUMP's price began to stabilize after January 21, with decreasing trading volume and frequency. Social media attention also declined. Before January 21, buyers dominated the market, but from January 22 onward, sellers outnumbered buyers. Some early large investors began cashing out—for example, wallet address 4GQeEya6Z... exited with a profit of $82.81 million.

On January 23, Trump announced via social media that the top 220 investors by TRUMP token holdings would be invited to a dinner event on May 22. This temporarily revived interest in TRUMP, but trading volume and overall hype failed to return to previous highs.

Figure 20: TRUMP Token Buy/Sell Activity Distribution on DEXs



Gate Research, Data from: DUNE, @seoul

Gate Research

4.5 Summary

Although DOGE, SHIB, PEPE, and TRUMP differ in their launch timing, breakout patterns, and technological approaches, analysis of key dimensions such as on-chain trading data, community engagement, social media momentum, and price volatility reveals several commonalities:

- Social virality is a critical prerequisite for triggering trading surges.
- Token holder distribution and concentration serve as early indicators of expansion sustainability.
- Sentiment-driven price spikes often lack intrinsic support and tend to mark local tops.
- Listing on major CEXs typically signals the approach of a market cycle peak.
- Sustained community activity and ecosystem development are essential to extending the token's lifecycle.

Figure 21: Lifecycle Stage Comparison of DOGE, SHIB, PEPE, and TRUMP

Stage / Project	DOGE	SHIB	PEPE	TRUMP
Genesis (Seed) Stage Start	Dec 2013	Aug 2020	April 2023	Jan 17, 2025
First Explosive Surge	2017 (during BTC boom)	May 2021	Early May 2023	Jan 18, 2025
Cycle Peak	May 2021 (price $0.7, $90B market cap)	Oct 2021 ($0.000088, entered Top 10)	Dec 2024 ($0.000026, >$11B market cap)	Jan 19, 2025 ($72, Top 19 market cap)
Time to $100M Market Cap	Nearly 4 years	9 months	Less than 1 month	1 day
Time to Peak After Launch	7+ years	Over 1 year	Less than 1 month to first surge	2 days
Key CEX Listing Moment	2021 (Coinbase)	2021 (Gate, Binance, etc.)	April 2023 (Gate, Binance)	Jan 19, 2025 (Gate, Binance, etc.)
Peak Number of Holders	>6,500,000 (steady growth)	>1,200,000 (rapid surge during peak week)	350,000+ (nearly 20x surge at first peak)	Over 1M (dozens of times increase pre-peak)
Current Stage Judgment	Ongoing expansion, entering application integration phase	Sideways adjustment, community creating new narratives (e.g., L2)	Post-peak correction, strong community resilience	Expansion phase, heavily reliant on celebrity and media cycles
Application Ecosystem	Payment integrations (SpaceX/Tesla, etc.)	Launched DeFi platform, Layer2, NFT market	None; driven purely by sentiment	None; themed around political celebrity
Community Activity	Strong, steadily growing	Medium-strong, volatile	Hyper-reactive, driven by meme virality	High; highly sensitive to election cycles
Key Turning Point Indicator	Google Trends + Elon Musk tweet volume spikes	Hyperactive community, metrics doubling, Top 10 holder share drop + NFT platform launch	On-chain activity + peak DEX liquidity	Social media buzz + breaking news alignment

5. Meme Coins Lifecycle Practical Guidelines — Strategies for Investors

5.1 Lifecycle Identification Framework: Key Evaluation Criteria

Building on the Meme token lifecycle methodology and the stage-specific data characteristics derived from case studies, this section presents a comprehensive framework based on five key

signal categories to help investors identify the current lifecycle stage and prepare strategic responses in advance.

The SIPLW Framework – Five Key Signal Indicators:

- **Social Signals (S):**Metrics such as the number of tweets on X platform, keyword popularity, and growth in Telegram users.
- **On-chain Interaction Signals (I):**Includes the number of token-holding wallets, transaction frequency, and user activity rate.
- **Price Signals (P):**Short-term price performance, candlestick patterns, and price volatility.
- **Liquidity Signals (L):**TVL growth rate, liquidity pool depth, and the number of active trading pairs on DEXs.
- **Whale Activity Signals (W):**Large inflows/outflows, and changes in the concentration of top wallet holders.

Stage Identification Logic:

- When S + I + P indicators are all rapidly increasing → Initial breakout stage likely.
- When L reaches a peak and W shows large outflows → Peak stage warning is triggered.
- When S and I drop significantly and P shows continuous pullbacks → Consolidation or decline stage begins.
- When most of S / I / L signals approach zero and a new narrative emerges without capital inflow → Pre-launch stage of a new cycle.

Recommended Toolkits for Enhanced Operational Efficiency:

Figure 22: Mainstream Tool Suite for Meme Token Monitoring

Tool / Platform	Usage	Type
Dexscreener	Visualizing candlesticks and volume of new tokens	Charting Tool
Dune Analytics	Wallet activity, LP movement analysis	Data Dashboard
Twitter/X + Kaito AI + LunarCrush	Track trending topics, sentiment shifts	Social Analytics Tools
Arkham / Scopescan	Monitor whale entries and exits	Tracker Tools
Pump.fun Leaderboard	Early-stage trend and meme cycle tracking	Project Aggregator

Quantitative Benchmarks:

- **Address & Trading Volume:**< 1,000 addresses and 24H trading volume < $100,000 → Germination stage; Rapid doubling → Launch stage
- **Gas & MEV Activity:** Spiking gas fees and frequent frontrunning → Peak stage signal
- **Holder Concentration:**A sharp rise in top 10 holder concentration → Whale cash-out signal → Decline stage
- **Social Hype:**Slowing growth in tweet volume and community expansion → Diminishing hype stage
- **Team Actions:**Contract lockups, community bans, etc. → Late lifecycle stage

Figure 23: Meme Lifecycle Stage Diagnostic Table (Example)

Observation Dimension	Signal Strength	Current Stage Estimation
Trending Surge	>30,000 tweets	Early-Explosion Phase
Wallet Growth	Daily growth > 2x	Mid-Explosion Phase
DEX Pair Explosion	>5 new pairs	Approaching Peak
LP Bundling + Panic Swaps	TVL >2x with frequent reallocations	Peak Signal Emerging
Whale Exit Movements	>10% token transferred out	Peak → Decline Zone
Liquidity Drain	TVL drops -20% for 3 consecutive days	Capital-Level, Risk-Control Focus

5.2 Practical Investment Strategies from an Investor's Perspective

5.2.1 Germination and Propagation Stage: Small Bets + Probabilistic Thinking

Characteristics:

The project has not yet gone viral. Community building is in its early phase. Trading volume and social hype remain low.

Strategy:

- Track new projects on meme launch platforms such as Pump.fun or directly from meme originators.
- Participate with small positions (recommended <1% of total capital) for early-stage bets.

- Evaluate the project's "viral potential": symbolic strength, meme-ability, and ability to integrate with internet culture or trends.

5.2.2 Expansion Phase (Breakout Stage): High-Frequency Trading + Dynamic Profit-Taking

Characteristics:

Social hype surges, price explodes upward, and speculative liquidity rapidly concentrates.

Strategy:

- Implement dynamic take-profit mechanisms (e.g., after a 3x price surge, take partial profits if it retraces 15%).
- Split positions across multiple wallets, lock in profits progressively, and avoid exiting entirely too early.
- Closely monitor gas fees, tweet volume, and the number of DEX trades as key high-volatility indicators.

5.2.3 Peak Stage: Defensive Approach + Early Rotation Planning

Characteristics:

Severe price volatility, frequent whale exits, and sustained increases in liquidity.

Strategy:

- Distinguish between fake second pumps and genuine late-stage FOMO (frequent pullbacks are a warning).
- Exit major positions in advance and monitor rising narratives or new projects on Pump.fun.
- Track new DEX trading pairs and TVL migration trends to prepare for the next rotation opportunity.

5.2.4 Decline or Consolidation Stage: Stay Out + Wait for Restart Signals

Characteristics:

Hype fades, price oscillates without clear direction, capital and community energy wane.

Strategy:

- Analyze TVL patterns and liquidity migration across bridge protocols to scout the next battleground.
- Use tools like Arkham to track whale wallet inflows to new positions.
- Build custom dashboards to monitor early wallets from prior narrative participants (e.g., AI/Gaming meme smart contracts).

5.3 Strategy Evolution for Lifecycle Compression

As on-chain capital becomes more active, trading infrastructure matures, social amplification by KOLs and media accelerates, and traders develop more “patterned” mindsets, meme token lifecycles are showing a clear trend of acceleration and compression.

To adapt to this evolution, the following strategic adjustments are recommended:

- With lifecycles shortening to 1–3 days, investors should leverage automated signal-tracking tools, such as copy-trading bots and quantitative tweet analysis, to improve reaction speed.
- As whale behavior dominates tail-end dynamics, building a Whale Watch dashboard (via Arkham, Scopescan, etc.) for real-time monitoring is crucial.
- To prepare for narrative shifts, track early-stage project pipelines from meme incubators or Pump.fun.
- Given the rapid rotation and meme replication trend, deploy across multiple chains and use flash capital movement/arbitrage tools to quickly transfer funds and seize opportunities across ecosystems.

6. Future Outlook and Conclusion

Looking ahead, Meme coins are expected to enter a new phase of “high-frequency rotation + content fusion.” The hype cycle for a single meme may shrink from 7 days to rotating narratives every 36 hours, with emotional momentum shifting toward multi-content storytelling — e.g., combinations like “Dog + AI + Heart Monitor + Federal Reserve” — creating more contagious “multi-nutrient memes.”

Despite the inherent volatility, the core structure of meme lifecycles remains remarkably stable, grounded in three fundamental dynamics:

1. **Human nature is constant** — greed, fear, and FOMO never go out of style.
2. **The viral mechanism is sticky** — social virality, novelty, and memetic storytelling continue to be the backbone of explosive growth.
3. **Content is highly reusable** — trending topics, IPs, and social events are continuously meme-ified, fueling an endless narrative engine.

However, challenges are mounting.

- The explosive rise of AI-generated content is creating a meme oversupply, diluting user attention.
- Traffic manipulation, content throttling, and regulatory pressures from social platforms are disrupting natural meme distribution.

- If Meme coins are officially labeled as fraudulent assets or unregistered securities, regulatory suppression could curtail their openness and lifespan.

In summary, despite growing external pressures, Meme coins — as a form of digital storytelling monetization — still demonstrate lifecycle resilience. Going forward, memes will become shorter, sharper, and more integrated, where narrative power and distribution efficiency are key.

Understanding memes means more than understanding a speculative asset — it is about grasping the evolution of attention, cultural capital, and social-driven finance in the digital era.

Author: Ember

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