

Research on PVP competition mechanism design in Taobao interactive games

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Abstract

Amid the context of eroding e-commerce traffic dividends and escalating challenges in user retention and conversion, PVP (Player vs. Player) competition mechanisms have surfaced as a pivotal component of Taobao's interactive gamification strategy and a crucial instrument for stimulating user engagement and enhancing commercial value. This research analyzes exemplary implementations such as the "Taobao Life" PK mode, the "Taobao Life" achievement system, "Taobao Baba Farm", and the Taobao New Year "Taobao Wish for Good Fortune" campaign. Anchored in Self-Determination Theory, Social Comparison Theory, and the Theory of Planned Behavior, this investigation examines the core design dimensions of Taobao's PVP mechanisms and constructs a transmission framework linking design elements to user motivation and, ultimately, business objectives. The study presents a design framework integrating motivation, action, feedback, and rewards, while delineating three core design principles: lightweight implementation, fairness, and scenario adaptability.

Methods/Results

Methods

- **Case Analysis:** Examined representative Taobao PVP implementations including "Taobao Life," "Baba Farm," and Double 11 campaigns (2019-2025).
- **Theoretical Framework:** Applied Self-Determination Theory, Social Comparison Theory, and Theory of Planned Behavior to analyze four core design dimensions: competition objectives, participant structures, feedback mechanisms, and reward systems.
- **Data-Driven Evaluation:** Monitored multidimensional metrics including user participation rates, GMV growth, and retention indicators to validate mechanism effectiveness and guide iterative optimization.

Results

- **Design Framework Established:** Developed a systematic PVP design framework integrating strategic orientation, mechanism integration (motivation-action-feedback-reward), and data-driven iteration.
- **Evolution Trajectory Identified:** Documented Taobao's PVP evolution from mandatory viral sharing (2019-2020) to content-driven engagement (2021-2024) and emotion-centered participation (2025).
- **Commercial Impact:** Validated effectiveness through GMV growth from 268.4 billion yuan (2019) to 1.695 trillion yuan (2025) and user engagement metrics (260 million monthly active users).
- **Optimization Strategies:** Proposed three critical enhancement approaches—fairness optimization, motivation balancing, and strategic alignment—to address design homogenization and user resistance.

Figures



Figure 1: "Taobao Wish for Good Fortune" Screen.



Figure 2: "Taobao Wish for Good Fortune" Screen.



Figure 3: "Taobao Wish for Good Fortune" Screen.



Figure 4: "Taobao Baba Farm" Screen.



Figure 5: Taobao Live 'King's Challenge' ranking competition.



Figure 6: "Taobao Life" Screen.

Conclusions

This study establishes a systematic design framework for PVP mechanisms in e-commerce through analysis of Taobao's implementations (2019-2025). The research identifies four core design dimensions—competition objectives, participant structures, feedback mechanisms, and reward systems—and documents evolutionary trajectories from mandatory viral sharing to content-driven engagement and from unitary material incentives to integrated material-affective rewards. Findings reveal that effective PVP design requires balancing commercial objectives with user experience through fairness optimization, motivation calibration, and strategic alignment, achieving the transition from short-term GMV growth to sustainable user engagement and fostering enduring harmony between business goals and user motivations.