

# Field Guide — Board Game Developer Console (Human Edition)

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## What the tool is doing (at a glance)

- Loads a cleaned BGG dataset and clusters games into market segments (unsupervised K■means).
- Builds scores and projections (ratings, owners, risk) from models or nearest neighbors.
- Measures opportunity (demand vs recent supply), synergies (mechanic pairs that correlate with better outcomes), and unit economics (price, costs, ROI).
- Lets you test a concept (wizard presets + toggles) and see where it lands, with visual comparisons and recommendations.

## Core definitions you'll see everywhere

- AvgRating — BGG average user rating (0–10). “Good” starts ~7.0.
- GameWeight — BGG complexity (1–5). Higher = more rules/decisions.
- Owned Users — proxy for audience size / market reach.
- Success Rate — share of games with AvgRating  $\geq 7.5$  (in synergy tables) or  $\geq 7.0$  (in overview).
- Success Score (per game) — quick demand proxy used in tables:  $(\text{AvgRating} - 6) \times \text{Owned Users} / 1000$ .
- Opportunity Score (per segment) — composite (0–100) that rewards high quality and low recent saturation:
  - 30% recent growth in releases
  - 25% average rating (scaled 0–10)
  - 20% median owners (capped)
  - 15%  $(1 - \text{recent saturation})$
  - 10% success rate

Translation: where quality and demand exist but recent supply is thin.

- Confidence (for predictions) — tighter neighbor spread  $\Rightarrow$  higher confidence (scaled 40–95).
- Elasticity — how owners react to price:  $\text{owners} \approx (\text{price} / \text{anchor})^{\text{elasticity}}$  (elasticity is negative).

## Market Overview (top row cards)

### What you see

- Total Games — count after your current filters.
- Market Segments — number of clusters in the filtered view.
- Median Rating — center of quality right now.
- Median Owners — median audience size.
- Avg Complexity — median weight.
- Success Rate ( $\geq 7.0$ ) — % of titles that clear the basic quality bar.

How to use

- If Total Games is tiny, your filters are too tight (or your niche is very narrow).
- Market Segments  $> \sim 10$  means the view mixes multiple buyer logics; expect mixed signals.
- Rising Median Rating with steady Owners = quality improving without shrinking audience — good place to design.
- Success Rate under  $\sim 25\%$   $\Rightarrow$  crowded and unforgiving; be sharper or pivot.

# Market Intelligence — Top Market Opportunities

## What it shows

- Grouped bars per segment: Opportunity (%) beside Avg Rating (0–10, scaled). Auto labels summarize complexity, rating, themes, mechanics.

### How to read

- Tall green bar + solid rating = underserved AND well-liked.
- Tall green bar + so-so rating = demand exists but quality is inconsistent; a cleaner design can win.
- Short green bar + high rating = beloved but saturated; avoid copycat entries.

### What to do

- Pick top 1–2 segments, open Segment Explorer, and verify: (a) median play time, (b) core mechanics >30%, (c) recent release slope.
- If your concept is near a top segment, tune to the segment's time/weight lane.

## Market Evolution Timeline (3 stacked charts)

### What it shows

- Releases per year; average rating vs complexity; median owners vs play time.

### How to read

- Complexity drifting up while play time is flat = better craft (depth without bloat).
- Owners dipping while releases spike = oversupply; differentiate or avoid.

### What to do

- Sit near last 3–5 years' norms unless you have a strong reason not to (and make that reason obvious on the box).

## Insights panels (Growth Sectors & Sweet Spots)

### How computed

- Growth  $\approx$  recent 3-year releases/year vs an earlier 3-year baseline.
- Sweet Spots: medians of top games ( $\geq 7.5$ ) for GameWeight, Play Time, and typical Max Players.
- Kickstarter advantage: average rating difference for Kickstarted vs not (descriptive, not causal).

### How to use

- Treat these as design targets: weight, minutes, player counts where the best games cluster.
- If you're off-lane, you need a stronger hook (synergy, runtime tension, or component promise).

## Success Factor Analysis (scatter + zones)

### What it shows

- Complexity vs Rating and Play Time vs Rating with three color zones (<6.5, 6.5–7.5, >7.5) and a dotted quadratic trend.

### How to read

- Short & complex that still rate high are rare — that's a moat.
- Long & simple with low ratings signals padding; cut turns or add tension.

# Design Wizard — Presets & Predictions

## Presets (archetypes)

- Nine starting profiles with market-aligned defaults (players, time, weight) and a “why” insight.
- Toggle Solo/Co-op; select mechanics/themes via grids (Any vs All match).

Under the hood

- We locate your spec's nearest market segment (standardized features → K-means), pull nearest neighbors, and estimate:

- Predicted Rating (models or neighbor mean)
- Expected Owners (models or neighbor median)
- Confidence (neighbor tightness; 40–95)
- Percentile (vs filtered market)

How to read the prediction cards

- Predicted Rating: don't chase 0.1 deltas;  $\pm 0.3$  is noise.
- Expected Owners: order-of-magnitude cue (niche <5k, mid 5k–50k, mass >50k).
- Success Probability: risk temperature for iteration size (small changes for high conf; bigger swings for low conf).

## Pricing & Unit Economics

### Anchor price (estimator)

- Base =  $35 + 6 \times (\text{Complexity} - 2.5)$
- +\$15 Premium components (or +\$5 Good)
- +\$10 Premium/Deluxe production
- +\$5 if Max Players  $\geq 5$
- +\$5 if Play Time  $\geq 90$
- Clamped to \$15–\$150

**Meaning: sanity check for MSRP based on felt scope (depth, runtime, build).**

Owners vs Price (elasticity)

- Owners\_adjusted = Owners\_base  $\times (\text{MSRP} / \text{Anchor})^{\text{Elasticity}}$ , clipped to  $\pm 40\%$  (Elasticity is negative; -1.1 retail, -0.8 crowdfunding typical).

Unit math

- Net/unit =  $\text{MSRP} \times (1 - \text{ChannelFee})$
- GrossProfit/unit = Net - (COGS + Fulfillment)
- Effective units = Owners\_adjusted  $\times (1 - \text{Returns}\%)$
- Total Gross Profit = GrossProfit/unit  $\times$  Effective units
- Net Profit = Total GP - (Marketing + Misc fixed)
- ROI multiple = Net Profit  $\div$  Fixed costs
- Break-even units = Fixed costs  $\div$  GrossProfit/unit
- Payback months  $\approx$  Break-even  $\div$  (Effective units / Sales window)

How to use

- If Gross Profit/unit < ~\$10 at retail, fix COGS, fee, or MSRP.
- If Break-even > expected print run, revisit price/format/scope.
- Use the Profit vs Price curve; sanity-check against the value felt in the first 15 minutes.

## Visuals that matter (in results)

- Rating vs Complexity / Rating vs Owners / Year vs Rating
- Your star marker shows where you sit vs the cluster.
- Right of cluster on complexity? Smooth early turns (frontload clarity).
- Below cluster on owners for a given rating? Value proposition or distribution issue.
- Radar — Your design vs Segment average (0–1 scales)
- If you overshoot time/price vs segment, justify with component promise or replay loop.

## Segment Explorer — Deep Dive

### What it shows

- Size, avg rating, median owners, median complexity, opportunity score.
- Core Mechanics (>30%), Dominant Themes (>30%).
- Rating distribution; releases & quality over time; recommendations.

### How to use

- Design to median time & weight unless your hook is genuinely strong.
- Releases ↑ and Rating flat/up = healthy. Releases ↑ and Rating ↓ = noisy — be surgical.
- Study the Top10: onboarding, tension, endgame.

## Trend Analysis — Rising/Falling Mechanics, Theme Evolution, Complexity

### Rising/Falling Mechanics

- Recent 2–3y usage vs early 3y baseline. Rising if >1.5x and >5% usage; falling if <0.7x and previously >5%.
- Rising + good recent ratings = explore. Falling + poor ratings = avoid unless you fix the known pain (usually upkeep/downtime).

### Theme Evolution

- Annual usage % for major categories. Use for art direction & positioning, not to chase fads.

### Complexity Creep

- Mean/median complexity over time, plus complexity vs rating with bubble size ~ releases.
- If complexity rises and ratings don't, prune rules.

### Shortrange Forecast (directional)

- Extrapolates last 3y for release count and complexity drift. Directional only.

## Mechanic Synergies — Pairs that sing

### How it's built

- For each mechanic pair, look at games where both = 1. Keep pairs with  $n \geq 20$ . Report Games, Avg Rating, Success Rate ( $\geq 7.5$ ), Median Owners.

### How to read

- High success + decent n = reliable pairing.
- High success + low n = underexplored opportunity — prototype fast.

### Network (relationships)

- Edge width & color ~ success rate (thicker/darker = better). Node size = total success strength for that mechanic.
- Start with the thickest edges; ask what tension makes them work.
- Pick a duet, not a chorus.

## Similar Games (neighbors)

- After segmenting, we compute standardized distance inside that segment and take top N closest.
- Use to study first 5 minutes and endgame patterns. Strong prediction + low owners neighbors = niche; adjust price/box/teach before scope.

## Recommendations engine (what drives the bullets)

- Target complexity = median weight among top rated ( $\geq 7.5$ ) within the selected segment.
- Optimal play time = median among  $\geq 7.0$  in segment.
- Underused but successful mechanics = 10–30% usage with with/without rating delta  $\geq +0.3$ .
- Market gap = few recent releases vs historical average.

## Data & clustering (why segments shift)

- Numeric features standardized; K-means on the filtered dataset.
- Fewer games  $\Rightarrow$  fewer clusters; labels are generated from percentiles (weight/time) + overrepresented mechanics/themes.
- Don't memorize IDs — read labels and metrics.

## Common failure modes

- Small sample: predictions swing; loosen filters or widen neighbor count.
- Rating inflation: use Median Owners and Success Rate to stabilize.
- Overfitting to charts: when metrics disagree, write two hypotheses and prototype.
- Price wishcasting: if profit peaks below your target MSRP, increase felt value or reduce scope.

## Quick checklist (how to drive it)

- Pick a preset close to your concept.
- Tune players, time, weight, age, funding, production.
- Select 1–3 mechanics and 1–2 themes that match your vision.
- Analyze; read rating, owners, risk.
- Check Segment Explorer for norms and core mechanics ( $>30\%$ ).
- Scan Synergies for a duet that fits your lane.
- Run Pricing; move MSRP to the profit peak; sanity check against felt value.
- Export neighbors; play/research 3–5; adjust and rerun.

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