

GAME-ZONE ORDER ANALYSIS REPORT

Sales Performance Analysis (2019-2022)

1. EXECUTIVE SUMMARY

This analysis examines sales performance across Game-Zone's order data spanning 2019 through 2022. Using a comprehensive dataset of 22,000 orders, the analysis identifies key revenue drivers, seasonal trends, marketing channel effectiveness, and regional performance patterns. The primary finding reveals a significant company-wide sales spike from 2020 onwards, correlating with the global **COVID-19** pandemic, with December 2020 marking the peak sales period.

Total Revenue: \$6.1M

Average Monthly Sales: \$127.5K (range: \$80K - \$500K)

Key Insight: Direct marketing channel drives 94.7% of sales; PlayStation, Nintendo Switch, and Gaming Monitor are the primary revenue generators

2. DATASET OVERVIEW

DATA SPECIFICATIONS

- Total Records: 22,000 orders
- Time Period: January 2019 - December 2021
- Key Metrics: Purchase timestamp, product name, category, USD price, region, marketing channel, account creation method

DATA QUALITY AND CLEANING

Issues Identified and Resolved:

1. Inconsistent date formats (purchase_ts)

Row Count: 11

Magnitude: 0.05%

Resolution: Reformatted using DATE functions

2. Blank purchase timestamps

Row Count: 1

Magnitude: 0.00%

Resolution: Left as-is (minimal impact)

3. Inconsistent product names (27in vs 27inches)

Row Count: 4,723

Magnitude: 21.60% (**CRITICAL**)

Resolution: Recategorized to standardized spelling

4. Blank marketing_channel values

Row Count: 7

Magnitude: 0.03%

Resolution: Recategorized to "unknown"

5. Blank account_creation_method

Row Count: 7

Magnitude: 0.03%

Resolution: Recategorized to "unknown"

6. Blank country_code

Row Count: 37

Magnitude: 0.17%

Resolution: Left as-is (insufficient context to infer)

7. Invalid region codes (X.x format)

Row Count: 4

Magnitude: 0.02%

Resolution: Researched and corrected

8. Zero USD price orders

Row Count: 29

Magnitude: 0.13%

Resolution: Left as-is (requires stakeholder verification)

9. Duplicate records

Row Count: 145

Magnitude: 0.66%

Resolution: Documented (low volume, low priority)

10. Ship timestamps before purchase timestamps

Row Count: 2,006

Magnitude: 9.17% (**IMPORTANT**)

Resolution: Left as-is (flag for deeper investigation)

11. Blank USD price

Row Count: 4

Magnitude: 0.02%

Resolution: Replaced with \$0 value (flagged)

Data Quality Assessment: Overall data quality is strong with 95.2% of records requiring no intervention. Critical issue resolved: Product name standardization (21.60% of data).

3. ANALYSIS FRAMEWORK

SCAN METHODOLOGY APPLIED

Stakeholder Context:

- Primary Question: How did total revenue dollars across all products perform during 2019-2022?
- Decision Type: High-level trend identification (no immediate decisions)
- Intended Audience: Product, Marketing, and Finance teams
- Key Performance Indicator: USD price (usd_price)

Analysis Dimensions:

1. Aggregates and Anomalies

- Total sales across months and products
- Identification of minimum, maximum, and outlier values
- Trend pattern recognition

2. Notable Segments

- Time-based segmentation (monthly, yearly)
- Product category analysis
- Regional performance comparison
- Marketing channel effectiveness
- Account creation method impact

4. INITIAL INSIGHTS (EXCEL ANALYSIS)

Excel-Based Findings Using Conditional Formatting and Sparklines:

METRIC: Monthly Revenue (usd_price/month)

FINDING: Total sales \$6.1M over 2019-2022; Monthly range: \$80K-\$500K

RELEVANT TEAM: Finance

METRIC: Product Performance (usd_price/product)

FINDING: Gaming Monitor: ~\$2M (top performer); Gaming Mouse: ~\$800 (lowest - possible data gap)

RELEVANT TEAM: Finance, Product

METRIC: Category Performance (usd_price/product category)

FINDING: Headset category: worst performer at only 2% of total sales

RELEVANT TEAM: Finance, Product

METRIC: Seasonal Patterns (usd_price/month)

FINDING: December 2020 sales spike; Fall and Winter months show elevated sales (likely holiday/promotional activity)

RELEVANT TEAM: Marketing

METRIC: Company-Wide Trend (usd_price/product)

FINDING: All products experienced significant revenue spike from 2020 onwards (strong indicator of COVID-related demand surge)

RELEVANT TEAM: Finance

METRIC: December 2020 Anomaly (usd_price/product)

FINDING: Nearly all products peaked in December 2020; requires investigation into concurrent promotions or campaigns

RELEVANT TEAM: Marketing

5. DEEP DIVE ANALYSIS (POWER BI DASHBOARD)

OVERALL REVENUE TRENDS

- Peak Performance: September 2020 and December 2020 (all-time highs)
- Lowest Performance: January 2020 and January–February 2021
- Trend Pattern: Significant upward trajectory from January 2020 through September 2020, followed by seasonal fluctuations

Interpretation: The dramatic 2020 revenue increase correlates strongly with the onset of the **COVID-19** pandemic, suggesting increased consumer demand for gaming hardware during lockdown periods.

PRODUCT-LEVEL ANALYSIS

Top Revenue Contributors:

1. Nintendo Switch - Major revenue driver with consistent high performance
2. Sony PlayStation 5 Bundle - Strong contributor with notable volatility
3. Gaming Monitor - Third-largest revenue generator with steady growth

Key Finding: All three primary products demonstrate significant revenue acceleration beginning January 2020, strongly indicating company-wide impact (COVID-19 pandemic effect).

Secondary Observation: Gaming Mouse shows unusually low revenue (~\$800), suggesting possible missing data or limited sales volume in historical records.

MARKETING CHANNEL PERFORMANCE

Critical Finding: Direct marketing channel is the dominant sales driver, accounting for 94.7% of total sales.

Implication: Other marketing mediums (email, affiliate, social media) demonstrate minimal impact on current sales performance. This warrants investigation with the Marketing team regarding:

- Channel effectiveness evaluation
- Resource allocation optimization
- Potential underutilization of alternative channels

REGIONAL PERFORMANCE

Pattern Identified: All regions show unified global trends - no significant regional deviation from overall sales trajectory.

Insight: Sales drivers appear to be universal rather than region-specific, suggesting company-wide factors (COVID demand, product availability, pricing) rather than regional influences dominate performance.

PRODUCT PERFORMANCE BY MARKETING CHANNEL

PlayStation 5 Bundle Anomaly Detected:

- Significant decline in direct traffic during early 2021 compared to other products and channels
- Decline pattern differs from Nintendo Switch and Gaming Monitor
- Requires targeted investigation

PRODUCT PERFORMANCE BY REGION

PlayStation 5 Bundle Regional Pattern:

- Performance decline concentrated in NA (North America) region
- Drop isolated to direct traffic channel in NA
- May indicate regional competitive pressure, inventory constraints, or consumer preference shift
- Requires investigation into NA market conditions and direct channel performance

6. KEY FINDINGS SUMMARY

PRIMARY DISCOVERIES

1. COVID-19 Demand Correlation

Revenue increased 400%+ from early 2020 onwards, aligning with pandemic lockdown periods and increased home entertainment demand

2. Channel Concentration Risk

Dependency on direct marketing channel (94.7% of sales) creates vulnerability; other channels severely underperforming

3. Product Portfolio Imbalance

Three products (PS5 Bundle, Nintendo Switch, Gaming Monitor) drive majority of revenue; headset category minimal contributor (2%)

4. Seasonal Peaks

December 2020 represents all-time high; winter months consistently outperform other seasons

5. PlayStation Early 2021 Decline

Specific to NA region and direct channel; isolated from overall market trends

6. Data Integrity

Product name standardization was critical issue (21.60% of records); resolved through recategorization

7.DASHBOARD IN POWER BI





8. RECOMMENDATIONS

FOR FINANCE TEAM

Action: Conduct sanity check on key sales dimensions to confirm **COVID-19** as primary 2020+ growth driver

Priority: Investigate zero-price orders (29 records) with stakeholder verification

Monitoring: Track year-over-year performance patterns to identify new baseline post-pandemic

FOR PRODUCT TEAM

Action: Analyze why Gaming Mouse revenue is significantly lower (~\$800) than other products; verify data completeness

Action: Develop growth strategy for Headset category (currently 2% of sales)

Priority: Investigate PlayStation 5 performance decline in early 2021, particularly in NA region

Opportunity: Leverage high-performing products (Gaming Monitor, PlayStation 5, Nintendo Switch) as portfolio anchors

FOR MARKETING TEAM

Action: Conduct immediate evaluation of marketing channel effectiveness (email, affiliate, social media underperforming at less than 6% of sales)

Priority: Investigate PlayStation 5 direct traffic decline in NA region during early 2021

Strategic Review: Determine if current channel allocation matches business objectives or if resource reallocation is needed

Campaign Analysis: Research promotions or campaigns coinciding with December 2020 peak to identify replicable success factors