

Global Market Insights Through Data-Driven Strategies: A Tableau-Based Analysis of the Video Game Industry

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Introduction

This was an independent, academic exploration into the world of data analytics to complement my academic background in international trade. The main goal of this project is to bridge the knowledge I have gained in international trade and data analytics, applying it to a versatile and globally relevant dataset that could uncover meaningful insights.

Why This Project?

The global video game market is one of the most dynamic and adaptable industries, making it a very good subject for data analysis. In contrast to other markets that are confined to one country, the gaming sector involves multiple regions, thus offering broad opportunities for analysis of trends across different geographical areas. This international scope allows for in-depth exploration of global markets, which goes well with my educational objectives.

Besides, the dataset that would be selected for this analysis is well-matched with the metrics and techniques emphasized during the training. The flexibility of the gaming industry data allows for in-depth exploration of regional trends, customer behavior, and revenue segmentation, making it an ideal case study to understand the dynamics of international trade.

Where Data is Coming From

The dataset used for this work was provided by an GOIT training institution that focused on data. This training program included structured datasets that were put together in such a way as to be useful in teaching how to perform practical data analytics and visualization.

Why Video Game Data?

The decision to use video game data was quite deliberate for a number of reasons:

1. **Focus on Global Market:** The gaming industry is a compelling case study for exploring international trade strategies due to its vast, large-scale market that spans multiple regions rather than being confined to a single country.
2. **Data Compatibility:** The dataset includes universally accepted metrics and standard measures currently used by organizations worldwide. These metrics provide a solid foundation for conducting analyses that align closely with real-world business decision-making processes.
3. **Learning Value:** The structure and scope of the dataset align with the methods and tools taught during the training, enabling the practical application of theoretical knowledge in real-world scenarios.

Standard Metrics Applied

This report employs internationally recognized metrics to ensure that findings align with global analytical standards. Metrics such as Total Revenue, Conversion Rate (CR to Paid), Retention Rate, and Average Revenue Per Paid User were applied to generate actionable insights. This project serves as a key step in developing skills as a future professional in international trade, demonstrating how data-driven strategies can inform decision-making across global markets.

Portfolio Overview

This portfolio showcases data visualization projects developed using Tableau, focusing on a game company's revenue, customer behaviors, and regional performance. It provides insights into customer payment patterns, geographic segmentation, and product preferences. The project's objective is to deliver actionable recommendations aligned with international trade strategies, including regional revenue growth, export opportunities, and market-specific product optimizations.

1. Metrics and Definitions

The following key metrics and definitions were used in the analyses:

- **Total Revenue:** Total earnings across all regions and products.
- **Paid Users Count:** Total number of users making in-game purchases.
- **Average Revenue Per Paid User (ARPPU):** Average revenue generated per paying user.
- **Regional Segmentation:** Revenue and user activity broken down by regions (APAC, EMEA, USA).
- **Retention Rate:** Percentage of users retained over specific timeframes.
- **Monthly Recurring Revenue (MRR):** Total monthly revenue, essential for tracking financial growth.

This report describes different techniques of data analysis, emphasizing segmentation and time series approaches to extract insights from diverse perspectives.

Segmentation Analyses

1. Regional Segmentation:

- Data is categorized into regions like APAC, EMEA, and the USA.
- This type of segmentation considers aspects such as revenue, user behavior, and product performance.
- For instance, recommendations for tailored product packages and pricing strategies were provided for APAC and EMEA.

2. User Segmentation:

- **Age Group Segmentation** involves analyzing users across different age brackets, such as “10-14” and “15-19.”
- This analysis explores the time spent in the game and distinctive behaviors of each age group.

- Insights from these analyses inform targeted marketing efforts.

3. **Product Segmentation:**

- Revenue contributions from different products are assessed by region.
- Evaluations highlight top-performing products by analyzing revenue and user counts.

4. **Cohort Analyses:**

- User groups are examined based on payment habits and their long-term contribution values.
- Cohort tables track patterns over time to provide deeper insights.

Time Series Analyses

1. **Monthly Revenue Analysis:**

- Monthly Recurring Revenue (MRR) trends are analyzed.
- Changes in monthly revenue are visualized using time series charts for better clarity.

2. **Revenue Growth Trends:**

- Monthly fluctuations in revenue, including increases and decreases, are explored via line and bar charts.
- Monthly growth rates and changing trends are evaluated to understand financial dynamics.

3. **User Behavior Analyses:**

- Time-based user behaviors, such as conversion rates from registration to payment, are examined.
- User retention rates over time are visualized using cohort tables, offering a clear view of engagement levels.

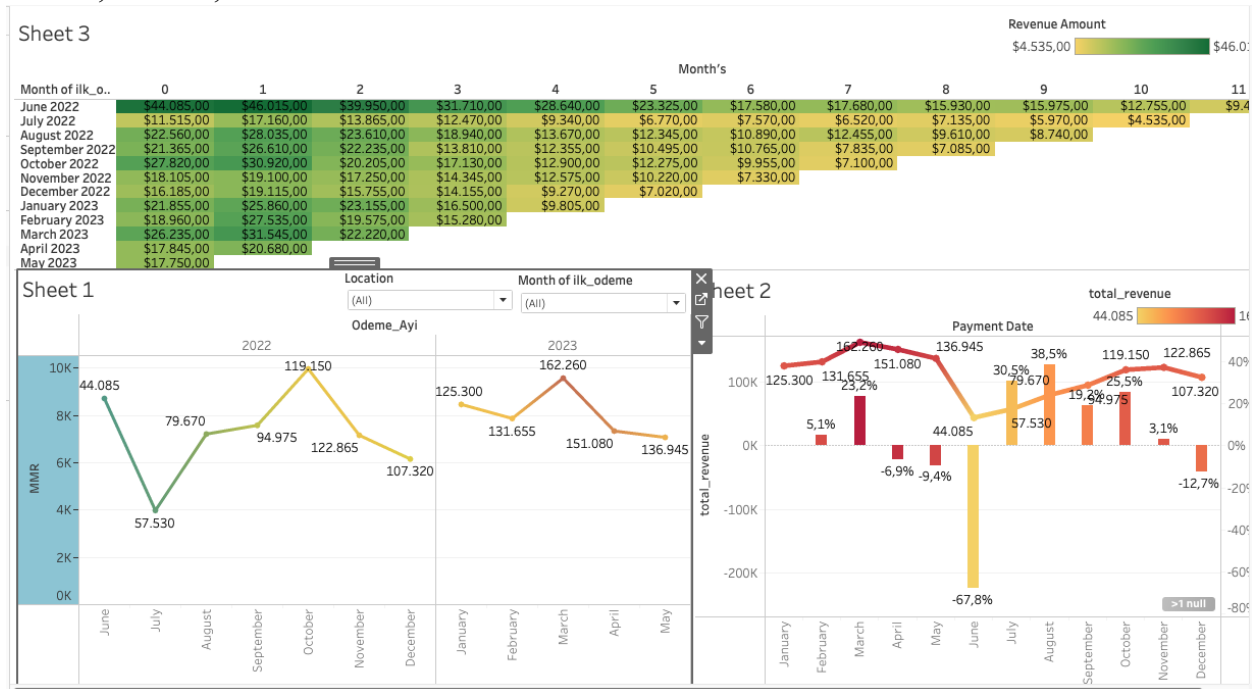
2. Analytical Techniques and Visualizations

1: Revenue Breakdown and Trend Analysis

- Objective: Analyze revenue trends by month, region, and product performance.
- Visualized monthly recurring revenue (MRR).
- Compared total revenue across locations and products.

- Visualizations Used:•Funnel Chart: Monthly Total Revenue – A line chart showing monthly revenue trends (MRR).

- Dashboard: Location-Based Revenue – Pie and bar charts illustrating revenue across APAC, EMEA, and USA.



- International Trade Perspective:

- High-performing regions like USA can be targeted for export-focused strategies.

- Regions such as APAC and EMEA can benefit from localized product packages and pricing optimizations.

2: User and Product Revenue Analysis

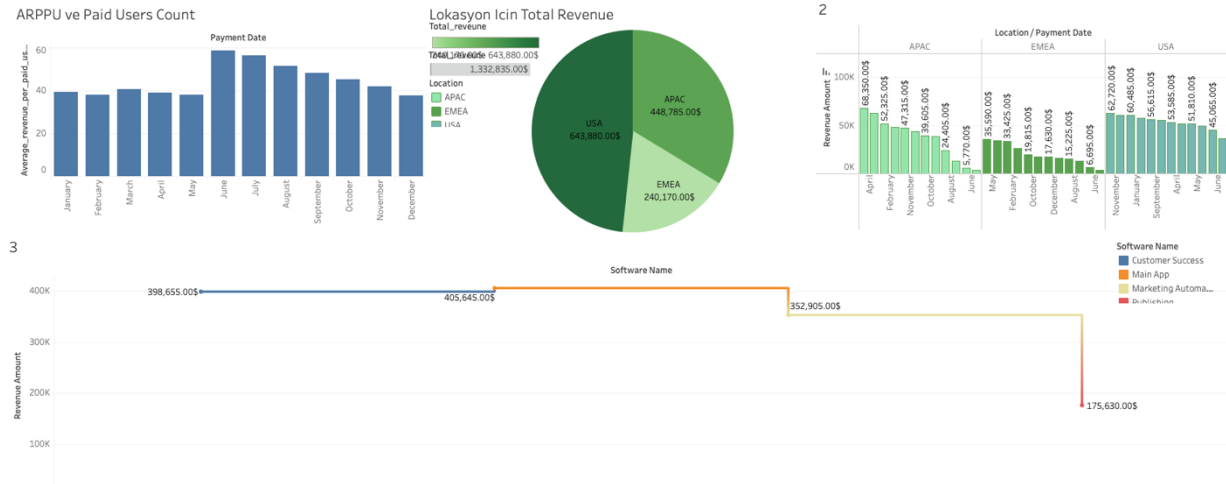
- Objective: Measure ARPPU, paid user counts, and product-level revenues across regions.

- Visualized ARPPU and monthly paid user counts.

- Analyzed regional revenue distributions by products.

- Visualizations Used:

- Image: ARPPU and Paid User Counts – A bar chart highlighting ARPPU trends by month.



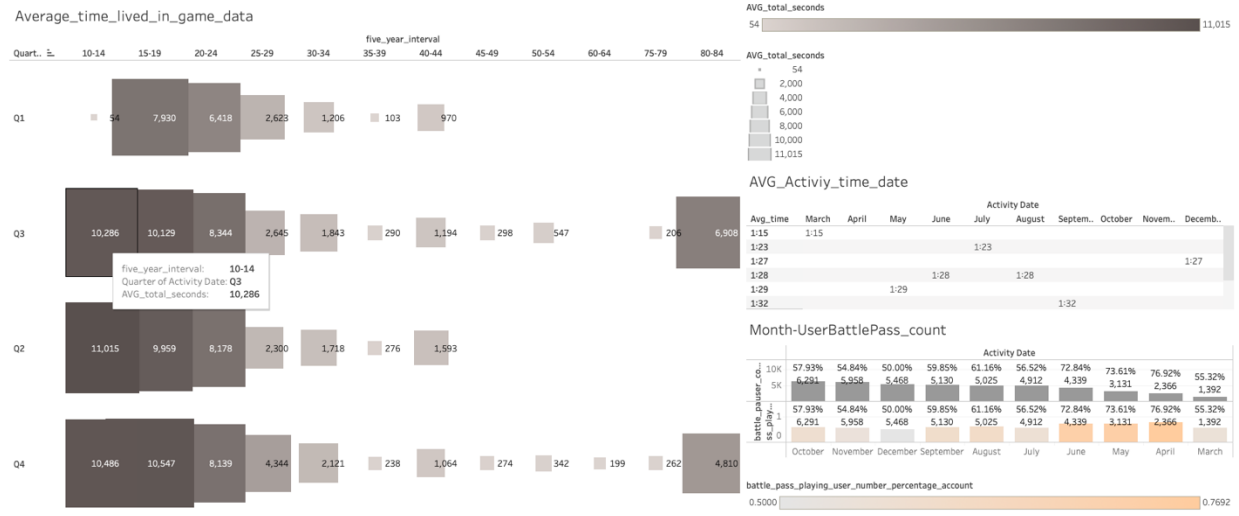
- IDASHBOARD: Product and Regional Revenue Breakdown – Bar charts comparing product revenue across regions.

- High ARPPU regions indicate strong potential for premium game package exports.
- Underperforming regions can benefit from tailored pricing models and localized campaigns.

3: User Behavior and Retention Analysis

- Objective: Analyze user retention, activity durations, and age-based segmentation.
- Segmented users by age group and analyzed average time spent in-game.
- Created cohort tables to measure user retention rates.
- Visualizations Used:

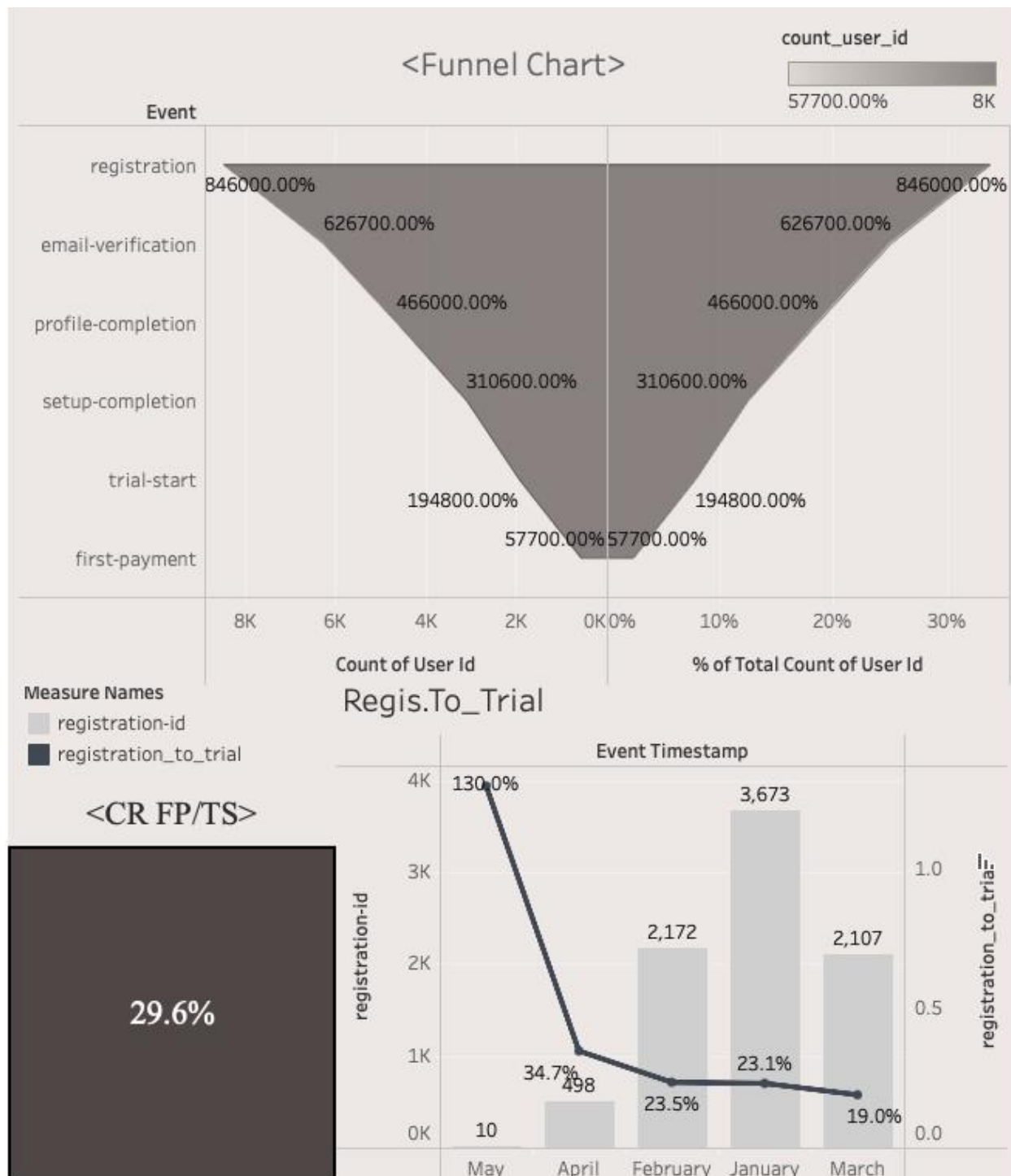
- Image: Average Time Spent by Age Group – A heatmap showing the average time spent in-game across age groups (e.g., “10-14”, “15-19”).



- Cohort Retention Table – A gradient-colored table visualizing user retention rates over time.
- Age-based segmentation helps optimize marketing strategies for specific demographics.
- Retention analysis ensures regional strategies maximize customer lifetime value (CLV).

4: Funnel Analysis and Conversion Rates

- Objective: Measure the user journey and conversion rates from registration to payment.
- Built funnel charts to illustrate user drop-offs and conversion rates between stages.
- Compared registration-to-trial rates over different months.
- Visualizations Used:
 - 1st Image: Funnel Chart – A visual representation of conversion rates from registration → trial → payment.

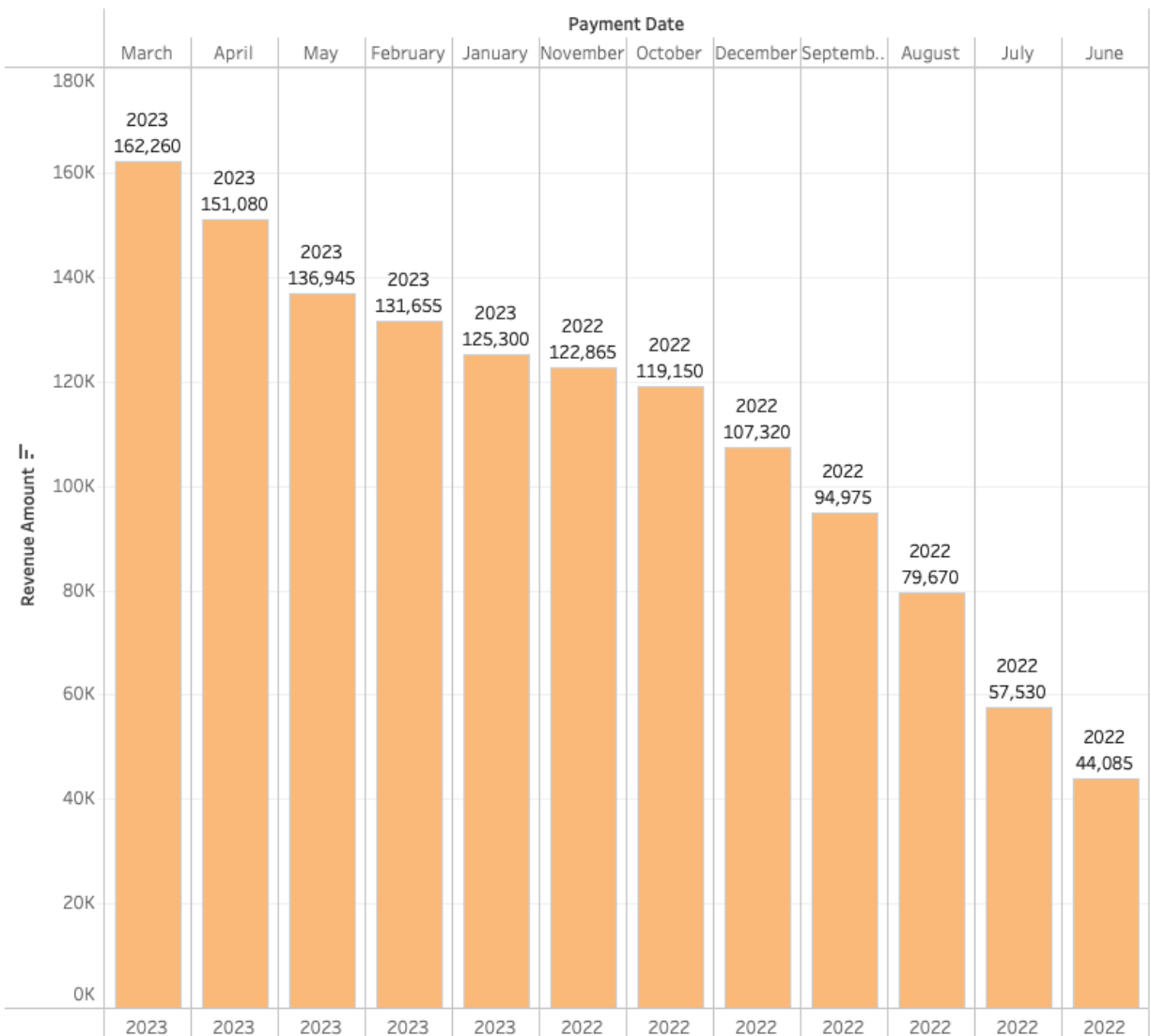


•Conversion Rate Analysis – A bar and line chart tracking registration-to-trial conversion rates.

5: Revenue Growth and Cohort Analysis

- Objective: Analyze revenue growth trends and cohort-based payment contributions.
- Visualized revenue growth trends and month-over-month changes.
- Built cohort tables to analyze revenue contributions over time.
- Visualizations Used:
 - Monthly Revenue Changes – A combination of line and bar charts showcasing revenue trends and monthly changes.

Sheet 1



- Cohort Revenue Analysis Table – Gradient-colored tables illustrating cohort-based revenue retention.

3. Integrated Dashboard Design

To consolidate the visualizations, dashboards were created with the following features:

1.Interactive Filters: Filters for location, product, and date allow flexible, real-time analysis.

2.KPI Blocks: Highlighted key performance metrics such as:

- Registered Users Count

- Trial Users Count

- Paying Users Count

3.Customer Journey Analysis: Combined funnel charts, conversion rates, and retention metrics to analyze the user lifecycle.

4. International Trade Recommendations

4. Recommendations on International Trade

The following recommendations, derived from the analysis in the document, are organized by strategic focus areas: Export Growth, Product Strategy, Customer Retention, and Revenue Optimization.

Export Growth

1. High-Performing Regions

- The USA stands out as a leading market with significant revenue contributions and high ARPPU, suggesting strong demand for premium product exports.
- APAC demonstrates impressive growth potential, making it a promising target for premium export offerings tailored to regional preferences.

2. Region-Specific Strategies

- In EMEA, moderate performance indicates room for improvement through localized campaigns and adjusted pricing strategies. Offering regionally optimized product bundles that cater to local preferences could improve conversions.

3. Market Penetration

- Consistent user engagement in APAC highlights the opportunity to deepen market penetration through enhanced localization and culturally tailored product packaging.

Product Strategy

1. Top-Performing Products

- Focus export efforts on products generating the highest revenue in the USA and APAC. High ARPPU in these regions suggests a willingness to pay for premium offerings.

2. Underperforming Regions

- EMEA and smaller APAC markets, where ARPPU is lower, are better suited for low-cost alternatives or discounted entry-level packages to encourage adoption.

3. Product Diversification

- Leverage demographic data:
 - APAC's 15-19 age group prefers long-engagement games.
 - The USA's 25+ age group demonstrates higher spending, creating opportunities for deluxe packages.

4. Seasonal Insights

- Monthly revenue data reveals seasonal peaks (e.g., holiday months). Special edition products or region-specific campaigns launched during these periods could capitalize on consumer spending behavior.

Customer Retention

1. Retention Analysis

- Retention is strong in the USA and APAC, particularly among 20-30-year-olds. Target this demographic with loyalty programs and premium product offerings.

2. Funnel Optimization

- Drop-off points during onboarding in EMEA suggest challenges that could be mitigated with localized tutorials, multilingual support, and targeted ad campaigns to reduce churn.

3. Maximizing Customer Lifetime Value (CLV)

- Retention campaigns offering rewards or in-game perks for loyal users can boost lifetime contributions from high-retention markets like the USA and APAC.

Revenue Optimization

1. Monthly Revenue Trends

- APAC's consistent revenue growth can be enhanced by implementing tiered pricing models for different customer segments.
- In EMEA, aligning pricing strategies with local economic conditions could stimulate revenue growth.

2. Cohort Revenue Contributions

- Retarget recent cohorts (0-3 months) in high-revenue regions like APAC and the USA with personalized offers to amplify short-term gains.

3. Strategic Investment

- Invest in high-performing cohorts, particularly users acquired during peak seasons, to ensure predictable and sustainable revenue growth.

General Recommendations

1. Location-Based Strategies

- USA: Focus on premium exports and deluxe packages.
- APAC: Strengthen cultural localization while maintaining premium pricing strategies.
- EMEA: Adjust pricing to local markets and offer regionally optimized product bundles.

2. Time Series Utilization

- Leverage monthly trends to identify revenue peaks and time campaigns around holidays or peak purchasing months.
- Continuously monitor ARPPU and retention trends to refine product offerings.

3. Integrated Dashboards

- Use interactive dashboards with real-time filtering for location, product, and customer data to enable agile decision-making.

By integrating segmentation insights with time series analysis, these recommendations aim to enhance export growth, optimize product strategies, boost customer retention, and maximize revenue, driving success in international trade.

5. Conclusion

This portfolio demonstrates how Tableau was used to analyze game company data and integrate it into international trade strategies. The visualizations provide actionable insights to optimize revenue streams, target export opportunities, and improve customer retention across global markets. The interactive dashboards and key metrics enable decision-makers to access critical data efficiently for strategic planning.