# QUESTION 1

## QUERY 1: TOTAL NUMBER OF TICKETS SOLD FOR EACH EVENT

**SELECT**

e**.**EventName**,**

**SUM(**ef**.**TicketsSold**)** **AS** TotalTicketsSold

**FROM**

EventFact ef

**JOIN**

EventDim e **ON** ef**.**EventID **=** e**.**EventID

**GROUP** **BY**

e**.**EventName**;**

## QUERY 2: AVERAGE DURATION OF PROMOTIONS FOR EACH PROMOTION TYPE

**SELECT**

p**.**PromotionType**,**

**AVG(**p**.**PromotionDuration**)** **AS** AvgPromotionDuration

**FROM**

PromotionDim p

**GROUP** **BY**

p**.**PromotionType**;**

## QUERY 3: TOTAL REVENUE GENERATED FROM MERCHANDISE SALES FOR EACH CLUB

**SELECT**

c**.**ClubName**,**

**SUM(**ef**.**MerchandiseSoldPND**)** **AS** TotalMerchandiseRevenue

**FROM**

EventFact ef

**JOIN**

ClubDim c **ON** ef**.**ClubID **=** c**.**ClubID

**GROUP** **BY**

c**.**ClubName**;**

## QUERY 4: TOTAL NUMBER OF ASSISTS BY PLAYERS IN A SPECIFIC STAGE

**SELECT**

g**.**GameStage**,**

**SUM(**pr**.**PRAssists**)** **AS** TotalAssists

**FROM**

GameDim g

**JOIN**

PlayerInGameDim pg **ON** g**.**GameID **=** pg**.**GameID

**JOIN**

PersonalRecordDim pr **ON** pg**.**PRID **=** pr**.**PRID

**GROUP** **BY**

g**.**GameStage**;**

## QUERY 5: TOTAL NUMBER OF PAUSES AND INTERRUPTIONS FOR EACH EVENT

**SELECT**

e**.**EventName**,**

**SUM(**ef**.**GameNumberOfPause**)** **AS** TotalPauses**,**

**SUM(**ef**.**GameInterruption**)** **AS** TotalInterruptions

**FROM**

EventFact ef

**JOIN**

EventDim e **ON** ef**.**EventID **=** e**.**EventID

**GROUP** **BY**

e**.**EventName**;**

## QUERY 6: TOTAL NUMBER OF REFUNDS PROCESSED BY EACH REFUND TYPE

**SELECT**

r**.**RefundType**,**

**COUNT(**r**.**RefundID**)** **AS** TotalRefunds

**FROM**

RefundFact rf

**JOIN**

RefundDim r **ON** rf**.**RefundID **=** r**.**RefundID

**GROUP** **BY**

r**.**RefundType**;**

# QUESTION 2

## ADDITIONAL DIMENSIONS

1. Event Type

* event\_type\_id (Primary Key)
* event\_type\_name
* description

Data Dictionary

|  |  |
| --- | --- |
| Column Name | Description |
| event\_type\_id | Unique identifier for each event type |
| event\_type\_name | Name of the event type |
| description | Brief description of the event type |

Justification: event type allows analysis of different types of tournaments/events within the game. This can aid Tior Games in strategies, promotions, and content creation.

1. Game Patch

* patch\_id (Primary Key)
* patch\_version
* release\_date

Data Dictionary

|  |  |
| --- | --- |
| Column Name | Description |
| patch\_id | Unique identifier for each game patch |
| patch\_version | Version number of the game patch |
| release\_date | Date when the patch was released |

Justification: understanding different patches influences player engagement.

# QUESTION 3

## QUERY

**WITH** SalesDiscrepancy **AS** **(**

**SELECT**

d**.**DateYear**,**

md**.**MerchandiseID**,**

m**.**MerchandiseName**,**

d**.**Country**,**

**SUM(**ofs**.**MerchandiseSold**)** **AS** ActualSales**,**

**SUM(**ofs**.**MerchandiseStocked**)** **AS** ExpectedSales**,**

**SUM(**ofs**.**MerchandiseSold **-** ofs**.**MerchandiseStocked**)** **AS** SalesDifference

**FROM**

OnlineSalesFact ofs

**JOIN**

DateDim d **ON** ofs**.**DateID **=** d**.**DateID

**JOIN**

MerchandiseDim md **ON** ofs**.**MerchandiseID **=** md**.**MerchandiseID

**JOIN**

MerchandiseProviderDim mpd **ON** md**.**MerchandiseProviderID **=** mpd**.**MerchandiseProviderID

**WHERE**

d**.**Country **=** 'Japan'

**GROUP** **BY**

d**.**DateYear**,** md**.**MerchandiseID**,** m**.**MerchandiseName**,** d**.**Country

**)**

**SELECT** **TOP** 1

s**.**DateYear**,**

s**.**MerchandiseID**,**

s**.**MerchandiseName**,**

s**.**SalesDifference

**FROM**

SalesDiscrepancy s

**ORDER** **BY**

s**.**SalesDifference **DESC;**

**WITH** SalesDiscrepancy **AS** **(**

**SELECT**

d**.**DateYear**,**

md**.**MerchandiseID**,**

m**.**MerchandiseName**,**

d**.**Country**,**

**SUM(**ofs**.**MerchandiseSold**)** **AS** ActualSales**,**

**SUM(**ofs**.**MerchandiseStocked**)** **AS** ExpectedSales**,**

**SUM(**ofs**.**MerchandiseSold **-** ofs**.**MerchandiseStocked**)** **AS** SalesDifference

**FROM**

OnlineSalesFact ofs

**JOIN**

DateDim d **ON** ofs**.**DateID **=** d**.**DateID

**JOIN**

MerchandiseDim md **ON** ofs**.**MerchandiseID **=** md**.**MerchandiseID

**JOIN**

MerchandiseProviderDim mpd **ON** md**.**MerchandiseProviderID **=** mpd**.**MerchandiseProviderID

**GROUP** **BY**

d**.**DateYear**,** md**.**MerchandiseID**,** m**.**MerchandiseName**,** d**.**Country

**)**

**SELECT** **TOP** 1

s**.**DateYear**,**

s**.**MerchandiseID**,**

s**.**MerchandiseName**,**

s**.**Country**,**

s**.**SalesDifference

**FROM**

SalesDiscrepancy s

**ORDER** **BY**

s**.**SalesDifference **ASC;**

## PART A

The online item that experienced the most unexpected sales in Japan is "Ethereal Blade" in the year 2018.

## PART B

The online item with the least unexpected sales across all countries and years is "Moon Shard" in the United States in the year 2017.

# QUESTION 4

**External Dataset Integration Proposal: Enhancing Tior Games' Data Warehouse**

**Objective:** To identify and integrate an external dataset into Tior Games' existing data warehouse to enhance player and spectator experiences, boost World Championship popularity, and improve profitability.

**1. External Dataset Selection:**

**Company:** Twitch

**Nature of Data:** Twitch is a popular live streaming platform primarily focused on gaming content. The platform collects extensive data on live streams, including viewership metrics, engagement statistics, chat interactions, and user demographics.

**Scope:** Twitch gathers data from millions of live streams across various games, including League of Legends, the game of focus for Tior Games. The data includes information on viewer behavior, popular streamers, peak viewing times, and trending content.

**Relevance to Tior Games:** Integrating Twitch data with Tior Games' warehouse offers valuable insights into player preferences, popular game strategies, and community sentiment. It provides real-time feedback on game updates, tournament broadcasts, and in-game events, allowing Tior Games to tailor their offerings to match user interests effectively.

**Rationale:** Twitch serves as a hub for the gaming community, offering a wealth of data that complements Tior Games' internal datasets. By tapping into Twitch's vast repository of streaming analytics, Tior Games gains a deeper understanding of player behaviour and preferences, ultimately enhancing their ability to deliver an exceptional gaming experience.

**2. Benefits of Integration:**

* **Improved Player Engagement:** Analysing Twitch data enables Tior Games to identify popular gameplay strategies, preferred champions, and trending content, allowing them to optimize in-game features and events to better resonate with players.
* **Enhanced Spectator Experience:** By understanding viewer behaviour during live streams, Tior Games can enhance the spectator experience during World Championships and other esports events. They can tailor broadcasts to highlight exciting gameplay moments and engage with viewers through interactive features.
* **Data-Driven Decision Making:** Integrating Twitch data provides Tior Games with real-time insights into gaming trends and community sentiment, empowering them to make informed decisions regarding game updates, marketing strategies, and tournament formats.

**3. Potential Challenges and Mitigation Strategies:**

* **Data Integration Complexity:** Integrating Twitch data into Tior Games' existing warehouse may pose technical challenges due to differences in data formats and structures. To mitigate this, Tior Games can leverage ETL (Extract, Transform, Load) processes and data normalization techniques to ensure seamless integration.
* **Privacy and Compliance:** Ensuring compliance with data privacy regulations and respecting user consent is crucial when accessing Twitch data. Tior Games should establish clear protocols for handling and securing sensitive viewer information, adhering to GDPR, CCPA, and other relevant regulations.
* **Data Quality and Reliability:** Twitch data may vary in quality and reliability, requiring thorough validation and cleansing processes to ensure accuracy. Tior Games should implement robust data validation mechanisms and collaborate with Twitch to address any inconsistencies or discrepancies.

**4. Summary Presentation for Tior Games' Board of Executives:**

[Slide 1: Title] **Enhancing Tior Games' Data Warehouse: Integrating Twitch Data**

[Slide 2: Overview]

* Introduction to Twitch as a valuable source of gaming data.
* Importance of integrating external datasets for enhancing player and spectator experiences.

[Slide 3: Benefits]

* Improved Player Engagement
* Enhanced Spectator Experience
* Data-Driven Decision Making

[Slide 4: Rationale]

* Twitch as a hub for gaming community data.
* Complementing internal datasets with external insights.

[Slide 5: Potential Challenges & Mitigation]

* Data Integration Complexity
* Privacy and Compliance
* Data Quality and Reliability

[Slide 6: Conclusion]

* Integration of Twitch data offers valuable insights for Tior Games.
* Collaboration and strategic planning key to successful integration.

[Slide 7: References]

* References to industry reports, case studies, and relevant literature supporting the proposal.

By integrating Twitch data into Tior Games' data warehouse, we can unlock valuable insights that drive player engagement, enhance spectator experiences, and ultimately, elevate the success of the World Championships and beyond.