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| Scenario | | Main question or focus from the GameCo team | Type of Analysis + Reasoning | Type of Variate Analysis + Reasoning | Type of Statistical Analysis + Reasoning | Questions from Analyst |
| 1 | GameCo’s marketing team has noticed that puzzle game sales are down this year. The finance director wants a report on what’s causing this drop in sales, so the marketing team reaches out to the analysts for help. | What is causing the drop in puzzle game sales this year? | **Diagnostic** – need to look at the “why.” This would offer insight into why sales dropped | **Univariate** – only looking at one variable – puzzle game sales | **Descriptive** – looking at data to extract reason(s) why sales have dropped. | * Time frame needs to be defined (12 months back or YTD?) * Were puzzle games promoted at all? When was the last time? * Are there any issues with manufacturing producing games? |
| 2 | The sales team wants to know which games it should stock in each city in order to most effectively meet local customer demand. Shipping rates vary by location and this difference will need to be reflected in which games are recommended for which locations. | Which games should be stocked in each city to meet customer demand? | **Predictive** - would provide a forecast or estimate of which games to stock in which city to meet demand. | **Multivariate** – shipping rates differ from city to city.  Games & location & freight cost | **Descriptive + Inferential** – will need to understand sales fluctuations overall, but will also need to understand if freight cost impact sales | * Is there a threshold for number of sales to stock in each city? (i.e. must have 10,000 sales in a one-year period) * Is there a limit on stock in each city from retailer? * What is the min/max for shipping rates? * Is the sales data available from all cities in which stocking would be needed? |
| 3 | A GameCo executive is due to give a presentation at an upcoming gaming conference and they want to know how sales vary by month of the year. | How do sales vary by month of the year? | **Descriptive** - would offer an understanding into how sales vary by month | **Univariate** – looking at one variable : sales by month for the year | **Descriptive** – will need to look at how sales vary by month | * What is the date of the conference? How many days prior to conference will executive need slide? * What are the parameters for sales by month? (i.e.sales by month for top 3 selling games?) * What is the time frame for sales by month? (i.e. only pull sales for calendar year 2013 or sales YTD from 2020) |
| 4 | The Olympic Games will take place in six months. GameCo’s operations team wants to forecast how many sports games it will sell in the months before, during, and after the games so it can order the correct amount from the production facility. | How many sports games will sell before, during and after the Olympic games in six months | **Predictive** - would provide forecasting estimates on stocking 6 months from now | **Multivariate** –looking at sales of sports games before, during and after Olympics | **Inferential** – looking at sales before, during and after the Olympics so inferences about sales for games will need to be forecasted | * How long of a lead time does production need to fill orders? * Is there a minimum production run? * What date will Ops want sports games available prior to the Olympic Games starting in six months? |