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Task 1.6: Introduction to Analytical Methods

Scenario 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 reach out to the analysts for help.

1. This scenario calls for a diagnostic analysis, because the director wants to know why puzzle game sales are down this year. Its not descriptive because he already knows that sales are down.

2. This is a bivariate analysis because there are 2 variables, puzzle game sales and a secondary variable that needs to be identified.

3. The 3 questions I have would be

   a. Can I only use this years data, or may I use previous years sales for puzzle games as reference? Perhaps puzzle games in general have been in a steady regression due to decline in popularity.

   b. How many different puzzle games are there? Has the quantity of puzzle games declined? This data will answer whether the decline of quantity of puzzle games has a direct correlation with sales.

   c. Are other games hype/popularity affecting the market share for puzzle games? This answer could explain how certain game trends could be stealing away market share from other genres.

Scenario 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.

1. This scenario calls for prescriptive analysis, because we would build a predictive model of how many units to stock based on past historical data of games sold in each city and offer an answer of how many units to allocate.

2. This is a multivariate analysis because we have multiple variables such as units sold, city location, and games sold.

3. The three questions I have are

    a. What is the time frame for this project? Is it continual inventory, or just for a season? This information is useful because games have trends depending on the season and publishers. Holiday season and summer season requires much more stock of a certain game/genre, as compared to the spring.

    b. Are we filtering by top 10 games or top 10 locations? Because if we have such a wide range it will be difficult to maximize sales depending on inventory restrictions.

    c. Should I use historical data for the past year, 5 years, 10 years, how many years is actually relevant to market research? Gaming and sales trends are always changing so its important to know how many years of data is actually relevant to the local customer demand.

Scenario 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.

1. This scenario requires a descriptive analysis since the executive wants to know historic sales data.

2. This is a univariate analysis since they are only concerned with sales data.

3. The 3 questions I have

    a. What year would they like the sales data from? This narrows down the data to the most relevant time frame they are interested in.

b. Are they interested in global sales? Genre sales? Certain markets or demographics? This would reduce the field of sales and would allow a more accurate representation of what they want to know.

c. Do they want just a summary of sales, or is there a deeper inference they are trying to make with the sales data? This will allow me to understand their intention behind asking for this analysis.

Scenario 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.*

1. This scenario calls for predictive analysis, since it is calling for a forecast of units sold.
2. This is a bivariate analysis since it compares sports games sold with the Olympic Games timeline.
3. The questions I have are
    a. How many months before and after is relevant to the Olympics? This will allow me to shrink the timeframe to aggregate more relevant data.
    b. How many Olympic events should I consider? This will affect the size of the sample.
    c. Should I look at only global sales since the Olympics is a global event, or is the operations team only interested in a certain market? This question is important to narrow the scope of the analysis.