

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 reaches out to the analysts for help.

Best type of analysis: Diagnostic analysis. This scenario is about something that is happening this year, in which historical data is needed to answer the question why did this happen? Why did the sales drop?

Most suitable form of variate analysis and type of statistics: To answer the question of "why did this happen", it's important to look at multiple variables, so multivariate analysis, to be able to see a pattern and answer the question. Variables a marketing team looks at are: the price, the sales/popularity per game. On which platform are customers able to play the game, does specific platforms seem more popular for puzzle games? Can there be external causes such as economical conditions, successful launches of competitors. Launches of puzzle apps for smartphones that got more popular than regular games. For the puzzle games that dropped in sales, was there a different marketing approach when launching than for example other puzzle games or another genre of puzzle games. Did the target audience of puzzle games change?

In this case we talk about descriptive statistics. We don't have to worry about this concerning everyone and taking a sample from that group.

3 questions:

1: What has been the results in sales for puzzle games the last couple of years? This helps me to see how puzzle games are performing regularly and if there has been a decrease before.

2: How are other genres performing this year compared to others? Could it be that the answer lays somewhere else than in the type of genre?

3: How many new puzzle games have been released this year compared to other years? If less games have been released, this could be influential to the sales.

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.

Best type of analysis: Prescriptive analysis. Because next to the data having to be predictive, it should really contain advice on what the company should do based on these predictions.

Most suitable form of variate analysis and type of statistics: This example shows multivariate analysis as we are talking about multiple variables that need to be compared in this analysis. Which games sell best in which cities, but also the results in pricing because of different shipping rates. Because this concerns decisions based on what customers want in specific cities, inferential statistics are necessary.

3 questions:

1: Which are the possible games we are talking about? This clarifies if we have to look into all games, or if we are focusing on the top performing games.

2: Which cities are we talking about? Same reason as question one. It needs to be clear which cities we include in the analysis. How many cities have a substantial higher amount in sales than other?

3: Did the shipping rates change compared to other years? Having a look in historical shipping rates can show if current shipping rates will have a big influence or not.

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.

Best type of analysis: Descriptive analysis. This scenario is about describing results from the past.

Most suitable form of variate analysis and type of statistics: I did not realize the first time making this exercise, when I literally wrote down that we want to know the sales by month of the year, that I already wrote down the exact two variables. This scenario is bivariate. So, for the presentation the executive looks at the sales and the time, in the case each month.

We don't have to worry to whom this applies so this is about descriptive statistics.

3 questions:

1: Which type of sales do I need?

2: Is it only about the sales of the month of this year? It might be valuable to take the date from 2 or more years, to be able to compare for example sales from May 2022 with sales from May 2023.

3: What kind of gaming conference is it? If you discover that the gaming conference focuses on 2 or 3 genres in gaming, it's worth to adjust the presentation to it.

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.

Best type of analysis: Predictive analysis. Because it's about data in the future, but an important part of this analysis will be based on historical data.

Most suitable form of variate analysis and type of statistics: Reading back my answers for this scenario, I realize that my 3 questions here below already show that there are many variables to investigate. Such as sales of previous years during and around the Olympics. In this case we talk about sales per month as the operations team wants to know how many sport games it will sell in the months before, during and after the games. Next to this the availability and popularity of the games, type and demand of the customer and linked to that, the marketing approach.

I think this is an example of inferential statistics, because a sample of people that go to the Olympic games can be part of the analysis.

3 questions:

1: How were the sales of sport games previous years when the Olympic Games were held? The data of the same timeline for previous years can be valuable.

2: Linked to previous question: Where are the Olympic Games held? Can be important to know, to see if sales from and around the location of the Olympic Games could be influential, based on sales of those locations of previous Olympic Games years.

3: Which type of customer will likely buy sport games around the season of the Olympic Games? It might be worth to have a data set of different characteristics from people that bought sport games before, during Olympic Games season.