Practical Exam - Product Sales

From:	Head of Analytics
Received:	Today
Subject:	New task from the sales team

Hey!

I have an analysis task for you from the sales team. I think you will find it interesting, there is lots of flexibility for you to try different methods. You can see the request in the email below.

I would like you to perform the analysis and write a short report for me. I don't need to see any code, but I do want to read your thinking and how you got to your conclusions.

I also want you to prepare and deliver the presentation for the sales rep - you are ready for the challenge!

You can find more details about what I expect you to do here. And information on the data here.

I will be on vacation for the next couple of weeks, but I know you can do this without my support. If you need to make any decisions, include them in your work and I will review them when I am back.

Good Luck!

From:	Sales Rep
To:	Head of Analytics
Received:	Yesterday
Subject:	Sales strategy?

Hi,

Really hoping you could help me out with some analysis. This is quite short notice but I have a meeting with the executive team to update them on sales approaches for the new product line so I need this information as soon as possible.

We need to know:

- How many customers were there for each approach?
- What does the spread of the revenue look like overall? And for each method?
- Was there any difference in revenue over time for each of the methods?
- Based on the data, which method would you recommend we continue to use? Some of these methods take more time from the team so they may not be the best for us to use if the results are similar.

We don't really know if there are other differences between the customers in each group, so anything you can tell us would be really helpful to give some context to what went well.

I need to report to the executive team in 4 weeks. You need to present to me before then so I understand what is going on and what we do next.

Look forward to seeing your presentation.

About Pens and Printers

Pens and Printers was founded in 1984 and provides high quality office products to large organizations. We are a trusted provider of everything from pens and notebooks to desk chairs and monitors. We don’t produce our own products but sell those made by other companies.

We have built long lasting relationships with our customers and they trust us to provide them with the best products for them. As the way in which consumers buy products is changing, our sales tactics have to change too. Launching a new product line is expensive and we need to make sure we are using the best techniques to sell the new product effectively. The best approach may vary for each new product so we need to learn quickly what works and what doesn’t.

New Product Sales Methods

Six weeks ago we launched a new line of office stationery. Despite the world becoming increasingly digital, there is still demand for notebooks, pens and sticky notes.

Our focus has been on selling products to enable our customers to be more creative, focused on tools for brainstorming. We have tested three different sales strategies for this, targeted email and phone calls, as well as combining the two.

Email: Customers in this group received an email when the product line was launched, and a further email three weeks later. This required very little work for the team.

Call: Customers in this group were called by a member of the sales team. On average members of the team were on the phone for around thirty minutes per customer.

Email and call: Customers in this group were first sent the product information email, then called a week later by the sales team to talk about their needs and how this new product may support their work. The email required little work from the team, the call was around ten minutes per customer.

Data Information

The sales rep has pulled some data from their sales tracking system for us. They haven't included numbers for how much time was spent on each customer, but there may be some other useful customer information in here.

The data only relates to the new products sold. As there are multiple different products, the revenue will vary depending on which products were sold.

You can find the data here. I will let you decide how to process it, just make sure you include all your decisions in your report.

The data hasn't been validated, so make sure that you check it against all of the information in the table before you start your analysis.

Column Name	**Details**
week	Week sale was made, counted as weeks since product launch
sales_method	Character, which of the three sales methods were used for that customer
customer_id	Character, unique identifier for the customer
nb_sold	Numeric, number of new products sold
revenue	Numeric, revenue from the sales, rounded to 2 decimal places.
years_as_customer	Numeric, number of years customer has been buying from us (company founded in 1984)
nb_site_visits	Numeric, number of times the customer has visited our website in the last 6 months
state	Character, location of the customer i.e. where orders are shipped

---

Guide to Analysis Projects

1. I would like you to create a written report to summarize the analysis you have performed and your findings. The report will be read by me (Head of Analysis). The list below describes what I expect to see in your written report.

2. You will need to use a DataLab workbook to write up your findings and share visualizations.

3. You must use the data provided for the analysis.

4. You will also need to prepare and deliver a presentation. You should prepare around 8-10 slides to present to the sales rep. The list below describes what they expect to see in your presentation.

5. Your presentation should be no longer than 10 minutes.

Written Report

Your written report should include written text summaries and graphics of the following:

- Data validation:
  - Describe validation and cleaning steps for every column in the data
- Exploratory Analysis to answer the customer questions ensuring you include:
  - Two different types of graphic showing single variables only
  - At least one graphic showing two or more variables
  - Description of your findings
- Definition of a metric for the business to monitor
  - How should the business monitor what they want to achieve?
  - Estimate the initial value(s) for the metric based on the current data?
- Final summary including recommendations that the business should undertake

Presentation

You will give an overview presentation to the sales rep who requested the work. The presentation should include:

- An overview of the project and business goals
- A summary of the work you undertook and how this addresses the problem
- Your key findings including the metric to monitor and current estimation
- Your recommendations to the business

Grading

Before submitting your written report or delivering your presentation, remember to check your work against the grading criteria.

You can find the full grading rubric here.

You must pass all criteria to pass this part of the certification.