

## Week 5 109 Assignment

**Name : Drishti Durgesh Telgu**

**Student ID : SM20240093**

**Unit : ICT\_109**

**Professor : Md. Badiuzzaman**

### A. "What" Question

**Question 1.** What is the total of sales revenue for each product category?

**Answer:** With a revenue contribution of \$970 out of the total of \$1830, the category that was the top performer is Electronics. Coming in second is the apparel category with \$455 while home goods have a total of \$405. This will help the company find out where exactly it is generating most of its revenue and possibly put more marketing or inventory in those categories.

**Question 2.** What is the total sales revenue generated by each marketing channel?

**Answer:** Social media is the best marketing medium with \$620 in sales income. Search engines are the runners-up with \$525. Referral earned the least amount of revenue at \$270, whereas Email produced \$415. This analysis shows the channels generating more money. Due to the high performance of social media and search engines, the company might increase investment in these channels or find out why these channels perform better.

**Question 3.** What is the overall sales revenue for each customer region?

**Answer:** The Asia-Pacific region generated the most sales revenue, with a \$725 contribution. North America was a close second, at \$690. Europe generated the least, with \$415 in sales revenue. From this regional difference, North America and Asia constitute important markets from which the majority of the revenue comes. The company may increase marketing efforts or presence in Europe to increase sales there or further exploit the lucrative Asia and North America sectors.

## B. "Why" Question Answer

**Question 1.** For what reason is one marketing channel more economical than another about the level of sales revenue against one marketing cost?

**Answer:** Referral marketing is the most cost-effective channel, returning \$42 in sales revenue for every dollar invested. Email and social media follow with \$27.69 and \$24.06, respectively. At the tail end is the search engine, which costs only \$16.88 for every dollar spent. The high efficiency of email and referrals suggests that both channels have high returns compared to their marketing expenses, perhaps because of better-targeted audiences and lower costs. Social media is also effective, while search engines might be less targeted or more expensive, which makes them less cost-efficient. This information helps the company identify which channels provide the best return on investment and where it should focus or adjust spending to maximize marketing effectiveness.

**Question 2.** Why might the units sold and sales revenue be highly or poorly correlated?

**Answer:** From this, the correlation coefficient is 0.265, which shows that the number of units sold and the sales revenue are not strongly related linearly. Some of the major reasons for the low correlation include:

- The relationship between the two variables may not be linear.
- Inconsistent unit prices among sales.
- The presence of outliers-in particular, the sale of 3 units for 450 dollars.
- Existence of possible external factors affecting the revenue generation not solely dependent on the number of units sold.

Therefore, although there is some positive association-higher the sales revenue with more units sold-the relationship is weak because of such inconsistencies and variations.

**Question 3.** Why do different product categories have different profit margins?

**Answer :** According to the data, electronics usually have a high margin of profit since their huge revenue from sales surpasses their cost of marketing. Being that

their cost of marketing is low, home products generate profits effectively as can be witnessed by their large profit margins in comparison to their sales revenue. On the other hand, for clothing, the profit margins vary, sometimes higher on specific items and sometimes lower due to increasing costs in marketing. Generally speaking, home products are cheaper, electronic goods provide the highest profit margins, and clothes show a wider range of profit margins according to price and marketing strategies.

### **Reference :**

OpenAI. (2024). *ChatGPT* (Version GPT-4). [online] Available at: <https://chat.openai.com> [Accessed 22 November 2024].

### **Prompts Used :**

- Considering the information provided on the given Excel file, answer the following question. Also, include a sample of each question.
- Below is the information worksheet for the above question. Prepare the actual answer, interpreting this worksheet.
- Read the given data and provide a short explanation for each question.