IEMS5726B
Data Science in Practice (Summer 2024) Assignment 1
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1.

a. Answer:

A possible problem could be “To make more money, what kind of products we should select?”

Useful data: Product profit and cost data: collect from suppliers and cost management system; Customer preference data: collect from purchase data and customer surveys; Product sales data: collect from store sales records.

b. Answer:

Predictive analytics: How much of some products will be needed next week?

Descriptive analytics: What provided with most profit last week?

Diagnostic analytic: Why are this brand’s products the best sellers last week?

c. Answer:

Prescriptive analytics.

Beyond predictive analytics, prescriptive analytics not just tell us what will happen but how to make it into reality that can make more money. Descriptive analytics just tell us what happens before, and diagnostic analytics find out the reason.

d. Answer:

Survey data on cosmetics preferred by different groups of people: (i) this data can be obtained from some business database and research paper, (ii) we can combine the customer characteristics of the store to select appropriate product types and modify the display layout, (iii) can improve the descriptive analytics problem of customer preferences.

Cosmetics retail industry market data: (i) this data can be obtained from industry research agency, (ii) we can use this data to analyze overall market demand, (iii) can improve the predictive analytics problem of demand.

Regional demographic data: (i) this data can be obtained from government statistics department, (ii) we can use this data to analyze local customer groups and choose appropriate strategies to attract customers to the store, (iii) can improve the descriptive analytics problem of customer portrait analysis.