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STUDENT CASE COMPETITION



The Association of
Accountants and
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in Business




WEST VALLEY FRESH DISTRIBUTION COMPANY: Using Data Analytics to Explore Opportunities in the Hass Avocado Market & Visualizations

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Championing Innovation: The 2025-2026 IMA Student Case Competition

is sponsored annually by IMA to provide an opportunity for students to interpret, analyze, evaluate, synthesize, and communicate a solution to a management accounting problem.



IMA is happy to announce the 2025-2026 Student Case Competition, which provides an opportunity for students to interpret, analyze, evaluate, synthesize, and communicate a solution to a management accounting problem.

The 2025-2026 case is written by Dr. Di Wu, Professor of Accounting at California State University, Bakersfield; Dr. Zhenning "Jimmy" Xu, Associate Professor of Marketing at California State University, Bakersfield; Dr. John Tarjan, Associate Professor of Management at California State University, Bakersfield; and Dr. Ji Li, Professor of Accounting at California State University, Bakersfield.

For the case study, West Valley is a fictional company, but the case data is genuine business data.

The competition is comprised of regional competitions and is open to all college students globally. Students work in teams of three to five at their respective schools and compete in their respective IMA regions. The top four teams from each region will present virtually and in-person at the regional finals. The U.S. finalists will convene at the IMA Accounting and Finance Conference to determine the U.S. winner in June 2026. All U.S. finalist team members will receive a Certified Management Accountant scholarship worth over \$2,000, and a team commemorative plaque. The U.S. first-place team will win a \$4,000 cash prize; the other teams will each receive a \$2,000 cash prize. The U.S. finalists will also receive travel and hotel expenses to the IMA Accounting and Finance Conference where the U.S. finals will take place, and free conference registration.

Learn more on the [**IMA Student Case Competition webpage**](#).

In the article [The Advantages of Data-Driven Decision-Making](#), the author explains how data-driven decision making is essential to all types of companies in their operations. Not only do operations such as sales, customer service, and manufacturing-related activities produce data, but these companies also collect data about competitors, data about their market sectors, and economic and environmental data, as outlined in the article [Harvesting The Power of External Data](#). These data can be in different formats: structured or unstructured, quantitative or qualitative. Analyzing these data is referred to as “data analytics” or “big data analytics.” Depending upon the type of decision making it supports, data analytics utilizes four basic approaches: descriptive analytics, diagnostic analytics, predictive analytics, and prescriptive analytics. In each case, businesses and other types of companies rely on platforms and tools to collect, store, and use data. The collection, storage, and utilization of data is referred to as “data governance.”

Data analytics is becoming increasingly important for companies. When facing recent global challenges, such as the COVID pandemic, supply chain disruptions, and geopolitical uncertainty, businesses and other organizations need to be increasingly agile, “risk intelligent” (understand and manage risk factors), and cost effective. Data analytics can address all these issues by helping to frame problems, collect relevant data, analyze the data, and make the resulting information more accessible through visualization tools. Managerial accountants are heavy users of data analytics and often are called upon to support various types of decision-making. Managerial accountants face many ongoing challenges including acquiring and updating critical skills to perform data analytics tasks; staying abreast of technological changes; adapting communication strategies to support various types of stakeholders; and managing an exploding amount of available relevant data. These concepts are discussed further in the articles [The Data Analytics Journey: Interactions Among Auditors, Managers, Regulation](#); and [Technology and Software Tools for Conducting Real-time Information Processing and Visualization in Industry: An Up-to-Date Review](#).

Popular platforms and tools like Tableau, Excel, SAP, and R have proven particularly useful and popular for conducting data analysis and data visualization with varying levels of detail and complexity.

West Valley Fresh Distribution Company

West Valley Fresh Distribution Company (West Valley), a company in Southern California, purchases fresh vegetables, fruits, and nuts and distributes them to retailers throughout the United States. California is well known for supplying many types of produce to U.S. consumers and importing produce from Mexico and other Latin American countries. The industry is highly competitive as many companies operate in California, particularly in its Central Valley, due to its location near many transportation hubs and relatively low labor costs. Founded in 2015 in the southern Central Valley of California, West Valley has grown rapidly and earned a reputation in the community for quality service and products. The company, however, faces constant challenges from its many competitors in the region. West Valley must constantly explore new opportunities and become more cost efficient by analyzing its markets, consumer behavior, and its own operations.

West Valley distributes fruits, such as cherries, grapes, and oranges; nuts, such as almonds, pistachios, and pecans; and vegetables, such as carrots, cauliflower, and celery. West Valley is an intermediary that purchases food products directly from farms and sells them to domestic retailers such as restaurants and grocery stores. Recently, West Valley CEO Randy Miller has begun considering carrying a new product line—organic Hass avocados.

Avocados are becoming increasingly popular in the U.S. They are believed to be very healthy fruits and are especially popular in the younger demographic. Hass avocados are considered a premier variety due to their high quality, nutrition, and taste. Hass avocados, however, only grow well in certain regions. Due to fluctuations in supply and demand and cultivation challenges, Hass avocados are more expensive than other types of avocados. The USDA 2018 report showed that per capita consumption of avocados in the U.S. had tripled since 2001, and projects continued growth in sales.

West Valley has no prior experience in the Hass avocado market and would like to conduct a study to decide whether to move forward. José Martínez was recently hired as a cost accountant at West Valley. One of José’s responsibilities is assisting the company executive team in strategic decision-making by providing relevant information. Randy has asked José to investigate the Hass avocado market and to conduct an analysis of potential opportunities and do a PowerPoint presentation on his findings in one month. Despite growing up in California and having a fondness for avocados, José doesn’t really know much about Hass avocados.

Hass avocado markets

José would like to impress his boss by presenting a thorough analysis but has a limited data analytics background and is concerned that he only has one month to collect and analyze the data, as well as to prepare recommendations. José faces three critical challenges in this project: gathering and analyzing supplier information; preparing an overview of the Hass avocado market in the U.S., including sales, pricing, and major market data; and identifying potential opportunities and any potential risks. José is also cognizant that in the past, when he presented his analyses, his presentations were perceived as “dry,” perhaps by an overreliance on quantitative tabular data without the use of graphical representation. For this meeting, José plans to employ appropriate data visualization tools to generate graphical information to better support the kind of decision-making Randy faces.

José first reached out to a local agricultural business association to find information on Hass avocados. He learned that Hass avocados sold in the U.S. are from California and Mexico. About 90% of Hass avocados consumed in the U.S. are imported from Mexico, while nearly all the remaining 10% are grown in Southern California. In fact, a local farm is currently looking for buyers. A local agriculture business associate suggested that José visit the Hass Avocado Board (HAB), a nonprofit organization that collects and publishes avocado market information. José immediately checked out the HAB website and learned that the HAB published weekly avocado sales data in the U.S. by region and that all the data could be downloaded at no cost. José downloaded the data from January 2019 to November 2022 from 41 metropolitan regions, including major cities such as Atlanta, Boston, New York City, and San Diego.

José realized, however, he would have to learn more to effectively analyze the data and to develop an effective presentation for his boss. José remembered that when he was preparing for his CMA exam, he attended a local IMA event about the Certified Management Accountant (CMA) exam, which included a session on data analytics to support decision making. At that event, he met a speaker, Melanie Kirkland, CMA, who was an expert and a successful business consultant in business analytics and data visualization. Melanie encouraged him to pursue his CMA certification and to contact her if he needed any help, not only in preparing for the CMA exam but also if he needed assistance in data analytics. José emailed Melanie

to ask for some suggestions on his project, followed by several conversations on how to select the appropriate data, what analyses to conduct, and how to interpret the results. José appreciated Melanie’s guidance and suggestions, which included ranking Hass avocado sales by city and year, studying seasonality effects, collecting cost information, simulating sales transactions, and conducting profit analysis.

José then interviewed local farms that grow Hass avocados and found that the local farms only grew organic Hass avocados and could supply West Valley with 20,000 organic Hass avocados at a price of \$.20 each this year. After reaching out to logistics companies and potential stores in the region, José learned that the transportation costs of these organic Hass avocados from the West Valley warehouse was \$2 per mile plus \$1,000 fixed costs as of this year.

José initially is planning to recommend that West Valley charge its customers a wholesale price that is 40% of the local retail price these customers sell in their regions. He believes this pricing strategy would allow West Valley to penetrate the market while allowing for a sufficient profit margin. He will, however, combine projected avocado costs with transportation, other logistics, and operating expenses, and compare them with projected revenues to justify this and/or other recommendations.

José wanted to make sure that the analysis and final report to management would meet their needs. As a result, José requested another meeting with Randy for further guidance. In this meeting, José shared the findings of his initial investigation and conversations with Melanie and local professionals. Randy was very impressed by José’s progress and pleased to find out that the HAB had historical sales data on Hass avocados. As deciding whether to enter the avocado market was a crucial strategic decision, Randy requested that José conduct a more comprehensive analysis. Randy recommended that José include the following in his presentation: an overview of the avocado market; price elasticity in the avocado market; and modeling of revenues and profits using avocado market data and company operating information. Randy also asked him to investigate potential seasonal factors in the market and to explore how to address risk arising from these factors. José appreciated Randy’s guidance and set to work on finishing his report, realizing that he only had a few weeks to finish his analysis and prepare for his presentation at the meeting.

Your Assignment

Since Jose has downloaded the sales data from January 2019 to June 2025, he must start by exploring the data and conducting a market analysis.

1. Which city has the largest sales of both organic and conventional Hass avocados, in dollars, for each year from 2019 to 2024, and for the first half of 2025?
2. Which city has the largest percentage of organic Hass avocados sold, by unit volume, out of total sales of Hass avocados in that city, for each year from 2019 to 2024, and for the first half of 2025?
3. Does the price of Hass avocados have an impact on total annual sales volume? In other words, is there a relationship between price and sales volume? Describe the nature and strength of the relationship, if any.
4. What factors might impact demand for Hass avocados in the cities referenced in Question 1? You may want to infer factors based on general knowledge, in addition to the information contained in the case.

In addition to the analysis above, Jose may want to conduct a profitability and sensitivity analysis to provide recommendations on whether the company should pursue a potential partnership with local Hass avocado farms and enter the retail market.

5. If the local farms can fulfil an order of 20,000 organic Hass avocados to West Valley by June 2026, in which five cities would you suggest marketing them? Assume for each city that the average retail price of June 2025 (simple average) is used as the forecasted local retail price of June 2026 for purposes of your analysis and that this special order will not add any additional variable expenses or fixed expenses to the business, and assuming that the business has sufficient idle capacity and that each city's market has a demand exceeding 20,000 organic Hass avocados. Why did you select these five cities? Provide supporting analysis.
6. Recently, inflation, supply chain issues, rising labor costs, and unstable gas prices have brought uncertainty and challenges to many businesses. In answering the questions below, assume that all of the other conditions described in Question 5 remain the same.

- (a) If shipping and logistics expenses increase by 50% for each city, in which five cities would you suggest marketing organic Hass avocados? Why?
- (b) If shipping and logistics expenses drop by 50% for each city, in which five cities would you suggest marketing organic Hass avocados? Why?

7. Compare the results from Question 6 with the ones you developed to answer Question 5. Are your suggestions different? What was the most important factor influencing the differences in your answers?
8. Are there any seasonal factors that may affect Hass avocado prices and sales volume? What do these patterns look like? Provide graphical depictions. How would you suggest avocado growers and trade associations deal with seasonality issues or factors? You may want to infer factors based on general knowledge, in addition to the information contained in the case.

**DOWNLOAD AND USE THE FOLLOWING
FILE TO HELP YOU COMPLETE THE CASE:**

SALES DATA

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