

Interpreting and Employing Data to Build a Business Case

Final Project – MGT 608 –Information and Supply Chain Systems

Your company: You are a new Supply Chain Analyst with the ACME Corporation. We design specialty electronics that are components in larger finished goods such as major appliances, automobiles and industrial equipment. Manufacturing is outsourced to low-cost suppliers due to the significant labor contribution and closeness to electronic component suppliers.

Your product: ACME Corp. designs a leading-edge family of devices branded as “Voice Assistants.” These are add-on boxes that many OEMs are using as plug-and-play devices in a wide variety of Internet-of-Things products. They are also sold directly to consumers as after-market items, but only for IoT devices that were built with our proprietary data-port.



Figure 1: Product line of ACME Corp ***Voice Assistant*** IoT Add-on Boxes

Your task: Your Chief Supply Chain Officer (CSCO) is requesting a review of supplier-to-customer processes as related to recent growth in our company and increasing demand for faster responsiveness to customers. One alternative is to decentralize our inventory into regional Distribution Centers; however, our ERP system is currently limited in the data available to make some of these decisions – and the output reports are very antiquated. Starting off the process, the CSCO directed that your Analysis Team use population data to pro-rate our national sales data as a starting point. For this analysis, you are asked to focus only on the flagship product, *Voice Assistant* IoT Add-on Box, 4GB, SKU #123-456789. The challenge is now yours to complete some computations and interpret the results!

Your data: A detailed report from your ERP system along with secondary data from the U.S. Census Bureau (reference: <https://www.census.gov/programs-surveys/popest/data/data-sets.html>) is provided. (Note: Sales to Alaska, Hawaii and Puerto Rico are handled by a 3PL provider and therefore are NOT part of this analysis.) The consolidated EXCEL® file has incorporated several tasks already performed by the Analysis Team --- sort, cleanse, inventory optimization, etc. Other tasks remain for your team.

Detailed Requirements: Prepare a formal report summarizing your results and providing recommendations that are supported by facts. The required layout follows:

- A. Introduction: Describe the purpose of your project. Describe the background of the situation that is necessary to understand the project (e.g. your company and your product). Describe the data and its source. Overview what follows in the report:
- B. Management Information Systems supporting Sales:
 - a. Describe what roles this sales data would be helpful in management of your Supply Chain.
 - b. What other data would you need to make better decisions. (Ensure you fully explain the new data and your recommended decisions.)

- C. Logistics – Purchasing:
 - a. Using the data of all orders for the **Voice Assistant** product line, what actions would you recommend?
 - b. What additional data would you need added to the output report?
- D. Logistics – Inventory:
 - a. Compute the missing Inventory Holding Cost Rate using the provided Operating Cost data.
 - b. Using the demand forecast pro-rated for each region based on population and the previously computed optimal inventory policy (e.g. EOQ and ROP), compute the anticipated number of orders per year placed by each potential Distribution Center.
 - c. Describe managerial actions that could be taken to further improve on this optimal inventory policy.
 - d. Discuss how the number of Distribution Centers throughout the United States will impact your inventory costs.
- E. Logistics – Transportation:
 - a. First, estimate (*qualitative assessment only!*) the location for FOUR new Distribution Centers (one for each Region).
 - b. Next, create a table to assess each of the six options for shipping goods -- five modes plus intermodal makes six. Your table must rate relative cost, speed and flexibility (e.g. routing and delivery location options). In each cell, use very brief bullet-statements to state your assessment.
 - c. Next, assuming that you have raw materials, components and finished goods arriving from suppliers in Asia and Africa and being delivered to each of the four Distribution Centers, state your modal selection from the Port-of-Entry to each of the Distribution Centers.
 - d. Finally, as the Chief Supply Chain Officer is considering relocation of our current, single DC into a better-situated nationwide Fulfillment Center, compute an initial estimate for a demand-centric location based on the current demand as allocated to each region.
- F. Supply Chain Management:
 - a. Identify a single key supplier and a single key customer for your product, including a brief description of their product.
 - b. Identify the proper type of business relationship that your company should have with the supplier and customer from Part A, above, then briefly describe the data that you would share with them.
 - c. When implementing Supply Chain Management with your #1 key supplier for the first time, create a timeline that lists each of the six SCOR processes in the order that you recommend implementation; include process leader (by job title), primary contact at supplier/customer (by job title), and duration to implement.
 - d. Briefly describe each of the four enablers of supply chain management, and for each, recommend a single technology enhancement for your company to implement in the near future.

Limit your report to 10 pages, not including title page, Executive Summary (in lieu of an Abstract), and references. Do not include a Table of Contents. Include all tables and figures within the body of the document (no appendices); otherwise, APA format is required.

In your Main Headings of the Body, please indicate the author of each section (ex: “Marketing for West Coast Clients [by John Smith]”). The Executive Summary, Introduction, Conclusion and References must be a team effort.

In addition to your paper, **your analysis must be submitted in a SINGLE Excel-compatible file.** Multiple files will NOT be accepted.

