



ChemCorp Inc. Case Study — Data Analysis

Scenario Overview

As a leading producer of chemicals, ChemCorp has observed that market demand has been strong over the past few years with growth averaging 7% Year-on-Year. As a Fortune 500 corporation, this is impressive growth and has led to continual operation and distribution center expansions across 48 states in the US. With favorable growth rates and lowered barriers to entry due to government regulation, this has attracted increased competition. New startups are offering optimized delivery channels for chemicals; a few companies have started using new technologies like machine learning and artificial intelligence to create new chemicals and lower the production costs for existing chemicals.

ChemCorp didn't think these competitors were a primary concern until recently when discussions with five long-term customers revealed that ChemCorp was no longer these firms' preferred provider of chemicals. After these customers left, the sales management team found that ~ 10% of sales revenue came from these customers.

ChemCorp's management team immediately drafted an action plan, pulling together a team from Commercial, Strategy, and Business Analytics to tackle this issue. If this trend were to continue unchecked, ChemCorp's market share and potential customer-base would gradually erode, damaging the board's confidence in existing management. This unchecked trend could also indicate a potential risk in the company's ability to make dividend payments to shareholders if losses prove to be too steep.

ChemCorp's current portfolio includes six primary industries and eleven different chemical products. These industries and chemicals are listed below:

Industries

- Aerospace Defence
- Biotechnology
- Machinery and Industrial Goods
- Medical Equipment
- Paper and Packaging
- Pharmaceuticals



Chemicals

- Chemical A (Speciality)
- Chemical B
- Chemical C
- Chemical D
- Chemical E
- Chemical F
- Chemical G (Speciality)
- Chemical H
- Chemical I
- Chemical J (Speciality)
- Chemical K

Management has concluded that to best address the loss of customers and protect the existing market share, an immediate short-term action plan needs to be drafted.

They've come up with a high-level problem statement below to focus their attention towards:

“How can ChemCorp prevent the loss of future market share through the identification of future growth industries and identification of at least one divestment product in at least one of our industries?”

Amelia Edwards, formerly Chief Operations Officer, has recently switched roles with ChemCorp's Chief Sales Officer. Amelia is now leading this project. Her strategy and approach to this issue have been outlined in the following email:

From: “Edwards, Amelia” <Amelia.Edwards@ChemCorp.com>

Sent:

Friday, January 2, 12:27 PM

Subject: Customer Segmentation Analysis

Hey Team,

As you'd know, I've recently taken over Ricardo's role as Chief Sales Officer. Ricardo will now take on the duties of Chief Operations Officer. I appreciate that I might take a few weeks to adapt to this new role, so bear with me here. I'd like us to refrain from using any technical jargon in our presentations as this is likely to go over my head. For now, let's keep things simple.

I believe there are three key areas we should focus on. I've listed them as points A, B, and C below.

Please find the data file for you to go through, “[ChemCorp Sales Data Jan15 – Dec15](#)”. Using Tableau, please import the above dataset and address the questions below.



Please ensure that for each 'tab' you create in Tableau, you clearly list out which question your tab is answering.

A. Understanding the Market Segment—How do the segments differ?

- I. For each segment, what % of customers in that segment purchase this specific chemical?
- II. What is the revenue breakdown per industry segment? (i.e. Which industries provide the largest inflow of revenues?)
- III. Does there exist any seasonality where industry sales drop or rise rapidly? (Perhaps consider whether there is any fluctuation of individual chemical sales.)
- IV. What is the geographic distribution of each segment?

B. Market Opportunity—Are there any existing opportunities ChemCorp should focus on when examining its existing customer segments?

- I. Of the six segments ChemCorp's business has focused on, which segments yield the highest average profit margin(s) on a % basis?
- II. Beyond profit margin %, how does this segment compare with the number of customers in that segment? (I.e. Create a graph which addresses both the profit margin % versus the number of businesses in that segment)
- III. Of the segment which proves most attractive, which products are responsible for driving the highest profit?

C. Product Divestment—Of the current products that ChemCorp produces, does there exist any chemicals or industries that they should divest themselves of?

- I. Of the six segments ChemCorp's business has focused on, do any negative or very low-profit margins exist?
- II. If the company were to divest in a particular area, where should they focus their resources (i.e. Instead of using resources for Industry X or Chemical Y, they should focus their efforts on Chemical B.)

Let me know if anything I've stated in the above three points — A, B, and C — are unclear. If they are, we can cover this in the next team meeting.

Ideally, I'd like a tableau story / series of dashboards which synthesizes the key findings from these questions with minimal technical jargon associated with these traditional analyses. Identify insights and/or recommendations to the management team based on these findings.

Thank you.

BR,
Amelia Edwards
