| CHEMCORP INCORPORATED |

ChemCorp Inc. Case Study — Overview

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 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 1, 2, and 3 below.

1. **Customer Strategy** – Understanding our customers.Customers are at the heart of everything we do here at ChemCorp. We need to understand the following:

1.1. **Customer market size:** How many **unique** customers do we have per industry and chemical? Are there any trends that are apparent as we look at the breakdown across the year?

1.2. **Customer revenues (product):** What is the revenue breakdown for the chemicals in each chemical portfolio? (i.e. Specialty versus Standard Chemicals).

1.3. **Customer seasonality:** Does there exist any seasonality where industry sales drop or rise rapidly? We want to ideally minimize volatility in our portfolio.

1.4. **Customer revenues (region):** What is the revenue per state with respect to the different industries?

1.5. **Customer revenue (geospatial):** Looking at the data from a **longtitude / latitude** lens, where is our sales concentrated towards? (i.e. Is it concentrated in Nevada?)

2. **Market Opportunities** – As we look to the future, what opportunities are we missing? We know we can't rely on the one industry to carry us through. Using profit margins and the number of businesses as a proxy for growth, we might be able to identify some upcoming industries. We need to look deeper at our industries to maximize value-add for both customers and our company. This means considering the long-term:

2.1. **Total profit margin:** Of the six industries ChemCorp focuses on, which industries have the highest **total** profit margin?

2.2. **Average profit margin:** Of the six industries ChemCorp focuses on, which industries have the highest **average** profit margin?

2.3. **Market Growth:** Using average profit margin and the total number of businesses as proxies for growth, which industry appears most attractive?

3. **Product Divestment** – We have a limited amount of capital; we need to make sure we're spending the right dollars in the areas which have the highest growth potential. This means doing some potential cleaning of our existing product inventory and weeding out low performing categories. From your data analysis, I'd like a recommendation whether

you’ve identified any **potential chemical products that should be divested.** Analyse the following:

3.1. **Industry divestment:** Are there any industries that have **negative average profit margins** that we should divest from?

3.2. **Chemical divestment:** Are there any **chemicals** that have negative average profit margins? (You might want to view this in a table comparing the industries and chemicals).

3.3. **Customer divestment:** Are there any customers that have negative profit margins, that we might consider divesting from? If we were to hypothetically remove all our negative transactions, how does this impact our average profit margins for our chemicals?

Let me know if anything I’ve stated in the above three points — 1, 2, and 3 — are unclear. If they are, we can cover this in the next team meeting.

Ideally, I’d like a high-level series of slides / dashboards (**PowerPoint, Tableau or PowerBI is fine**) which synthesizes the key findings from these questions with minimal technical jargon associated with these traditional analyses.

I’ve included two snapshots of what I’m expecting to better help set expectations.

Customer Strategy – Market Size

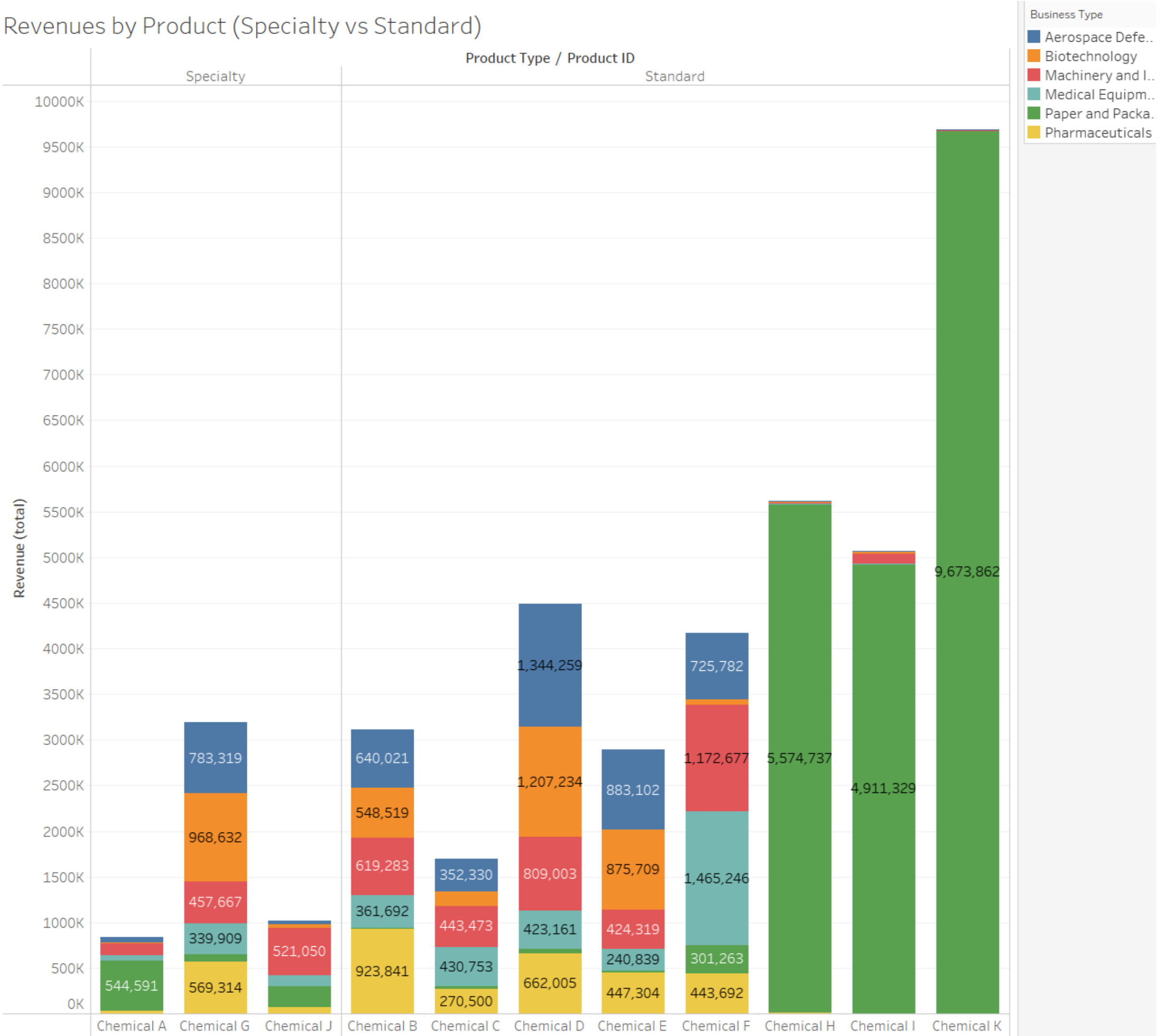
Percentage of unique customers per industry

CNTD(Customer ID)

1 97

Business Type	Chemical A	Chemical B	Chemical C	Chemical D	Chemical E	Chemical F	Chemical G	Chemical H	Chemical I	Chemical J	Chemical K	Grand To..
	Product ID											
Aerospace Defense	11.76% 10	18.49% 81	18.25% 71	17.84% 81	18.64% 82	18.58% 60	18.27% 57	10.77% 14	13.68% 26	12.86% 18	1.32% 1	16.18% 88
Biotechnology	9.41% 8	21.46% 94	20.82% 81	21.37% 97	21.82% 96	11.46% 37	25.00% 78	2.31% 3	9.47% 18	15.00% 21	1.32% 1	17.83% 97
Machinery and Industrial Goods	15.29% 13	17.35% 76	19.28% 75	17.18% 78	17.05% 75	21.05% 68	16.67% 52	10.00% 13	14.74% 28	25.00% 35	1.32% 1	18.01% 98
Medical Equipment	14.12% 12	14.61% 64	15.42% 60	14.54% 66	14.09% 62	17.34% 56	12.50% 39	4.62% 6	8.95% 17	19.29% 27		12.68% 69
Paper and Packaging	35.29% 30	7.08% 31	7.97% 31	9.03% 41	8.18% 36	12.69% 41	6.73% 21	66.92% 87	46.84% 89	10.71% 15	94.74% 72	18.01% 98
Pharmaceuticals	14.12% 12	21.00% 92	18.25% 71	20.04% 91	20.23% 89	18.89% 61	20.83% 65	5.38% 7	6.32% 12	17.14% 24	1.32% 1	17.28% 94
Grand Total	100.00% 85	100.00% 438	100.00% 389	100.00% 454	100.00% 440	100.00% 323	100.00% 312	100.00% 130	100.00% 190	100.00% 140	100.00% 76	100.00% 544

Customer Strategy – Customer revenues (product):



Thank you.

BR,
Amelia Edwards