



Capstone Research Project: Results and Recommendation

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Dec 6, 2022

This report aims to demonstrate the analysis finding of Ansell's market-sizing project as well as the options available for future usage. Based on the structure of our project, this paper is divided into four sections: 1. Key Client information results. 2. Key Client information recommendation. 3. Total addressable market results. 4. Total addressable market recommendation.

PART I: Key Client Information Result

Key client analysis is conducted based on 240 NAICS codes consisting of 2400 companies. The results of key client information are concluded from two major aspects, including 1) the Total number of PPE wearers; 2) the Total revenue respectively. Furthermore, the outstanding companies ranked by the total number of PPE wearers include Jae Bol Inc, Boeing Company, Apple Inc, De Na Lii Incorporated, and General Dynamic Corporation. The maps (**Figure 1**) enable the audience to understand the demand distribution geologically. Demands formed densely in the North and Northeast of the United States, such as *Minnesota*, *Virginia*, and *Delaware*. In addition, states near ports, as well as airports like California and Florida, show significant market demand. The outstanding companies ranked by total revenue include AM Retail Group Inc, Apple Inc, Valero Energy Corporation, Boeing Company, and DuPont De Nemours Inc. Key client distribution ranked by total revenue indicates that *Minnesota* has the most market demand. States near the water all have quite substantial demand. Texas acts as a bridge between North America's market and South America's market, which plays a critical role in the PPE market demand in both maps.

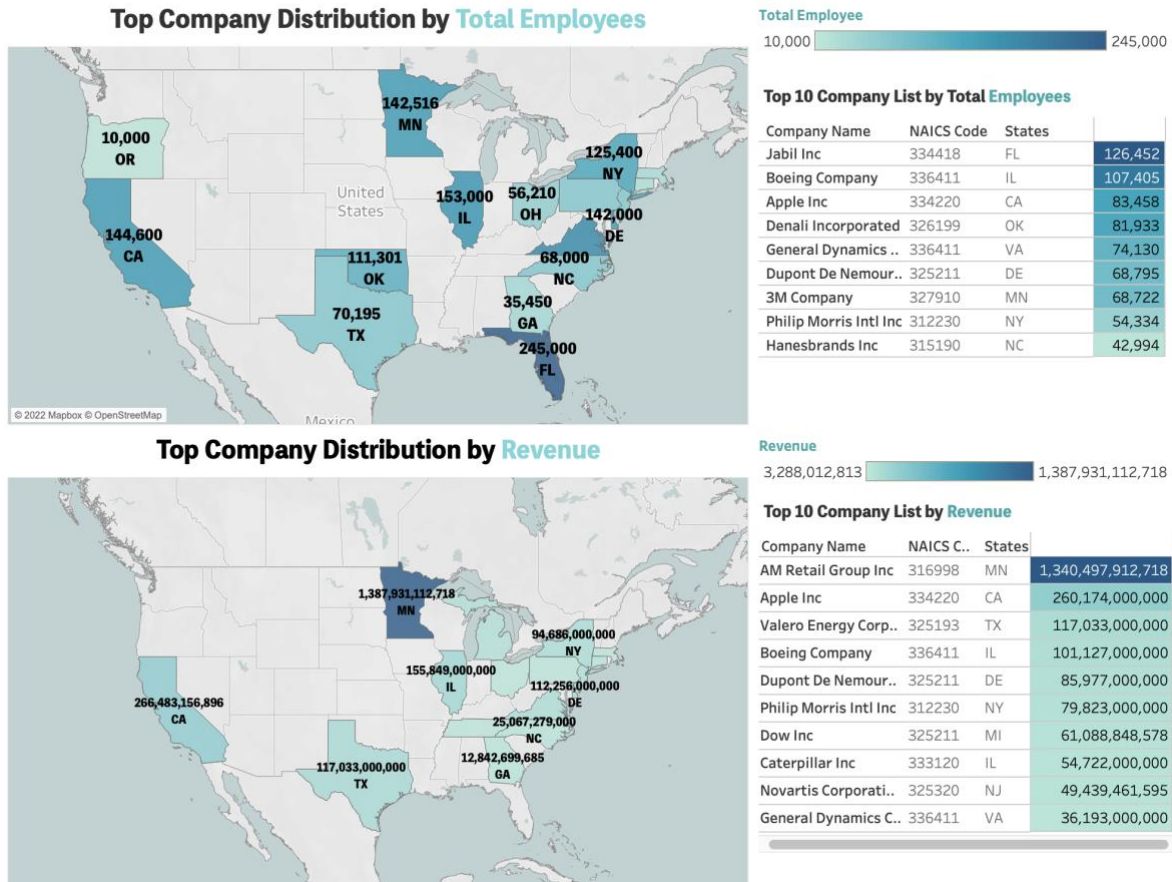
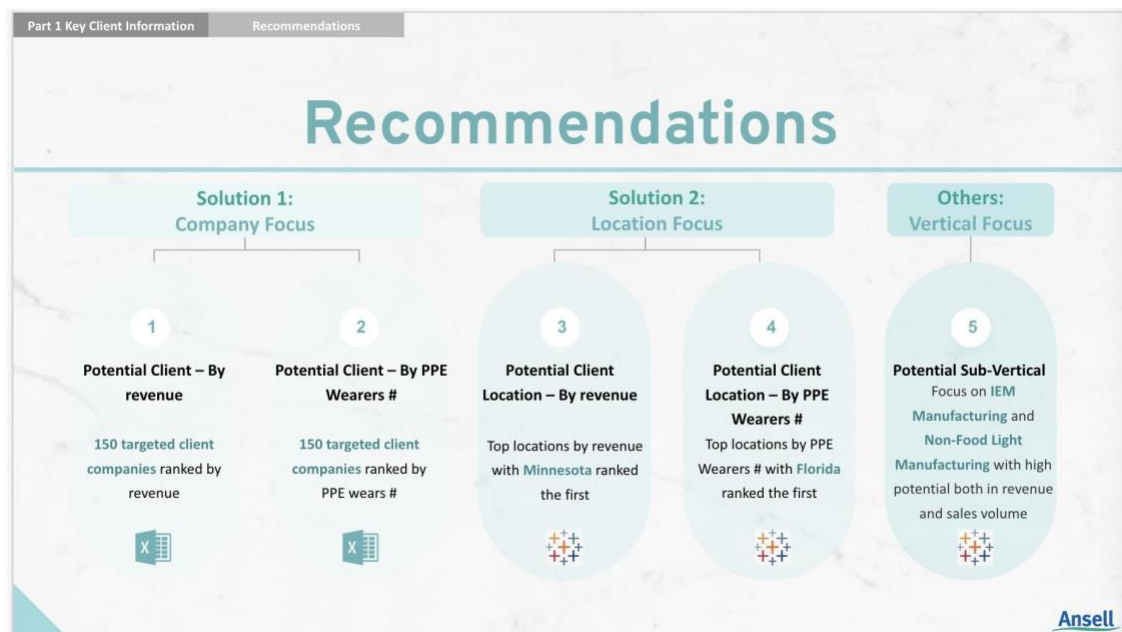


Figure 1: Top Company Distribution Maps by PPE Wearers / Revenue

PART II: Key Client Information Recommendation



Recommendations for Ansell's key clients are given from the following three perspectives: **Company**, **Location**, and **Vertical**.

The first two recommendations are from the **Company Focus** perspective. Key company lists are provided for Ansell to choose potential clients in the future. It is highly recommended that Ansell target future clients for each sub-vertical by the companies' business performance, which is their revenue. Also, we recommend that Ansell should also consider choosing future clients by their demand, which refers to the # of PPE wearers. For each recommendation, we provide the relevant excel file, which shows 10 companies for each of the 15 sub-vertical that Ansell requires, which is **150 companies** in total for each.

The next two recommendations are from the **Location Focus** perspective. These two recommendations are based on the location of the top companies in each key company list. By researching and calculating the location of the top future clients, we found that some states have more potential future clients than others that Ansell might want to prioritize. Ranked by revenue (business performance), we recommend focusing on **Minnesota** for Anell's client expansion. Ranked by the number of PPE wearers (demand), we recommend focusing on **Florida** and **Virginia** for Ansell's future clients.

The last recommendation is from the **Vertical Focus** perspective. We would like to recommend focusing on 2 specific sub-verticals if Ansell prefers to prioritize developing plans on 15 interested sub-verticals. From the bar chart of total revenue and the total number of employees for each sub-vertical, it turns out that there is some overlap between each top 3 ranking sub-verticals, which are **IEM Manufacturing** and **Non-Food Light Manufacturing**. These two sub-verticals have both the top revenue and the top number of employees within the

15 sub-verticals and should be prioritized on allocating resources and time for Ansell to create a more sustainable future market.

PART III: Total Addressable Market Results

The Total Addressable Market (TAM), also referred to as the total available market, is the overall revenue opportunity that is available for a product or service if 100% market share is achieved. It helps to determine the level of effort and funding that an individual or organization should put into a new business line (CFI Team). Here for Ansell, determining what the addressable market is in two key industries will help to prioritize its commercial efforts.

In order to obtain reasonable TAM results, we are committed to continuously improving the TAM calculation method. We have made 5 different versions of bottom-up calculation. The general idea is the same, we calculate the annual transaction value (ATV) and multiply it by the number of PPE wearers. Our first version considered the number of potential customer companies and the demand value from them, and we got \$56,523,228. However, bias exists in this result since the ATV we calculated did not include outside resources. This approach was soon replaced by a more objective measure of \$31,566,146, which is to use the frequency of use to multiply with the product price to conclude ATV. We have updated our definition for PPE wearers several times as well. We first started with all the employees within the companies, then tried using the blue-collar ratio and manager-to-staff ratio, and finally only considered onsite employees for the 4th version. Finally, we moved forward with a well-designed calculation method, which is TAM 5.0, that focuses on the number of employees for each occupation within a typical facility line.

In the method TAM 5.0, we redefined the PPE wearers by only involving the workers who work on-site and also participate in the production line. Then, for the protection needs for each PPE wearer, we limited that most PPE wearers wear 1 to 3 types of protection products. These can help us bring down the potential estimation.

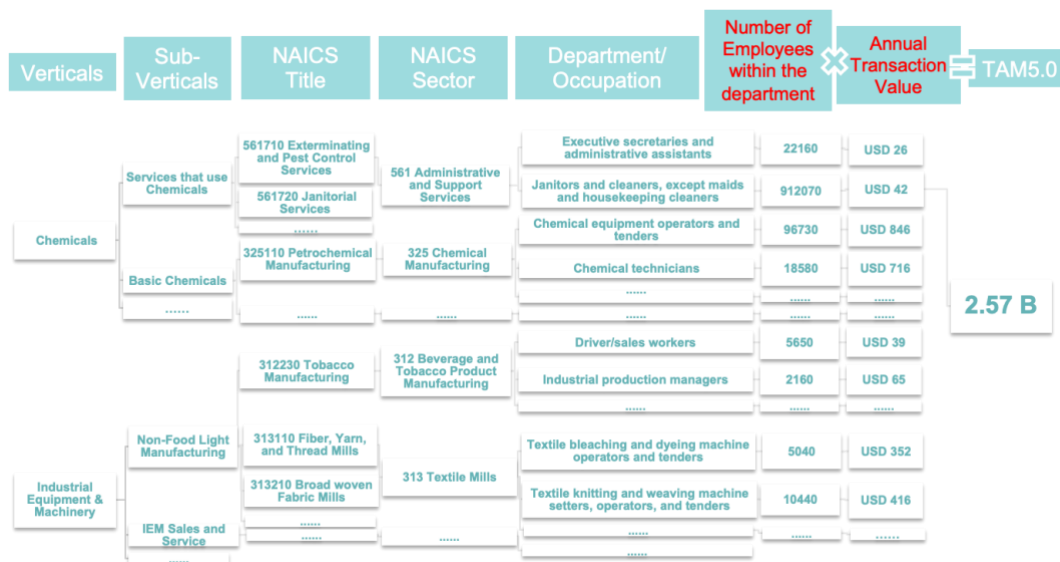
TAM = Annual Transaction Value(ATV) Per Occupation X Total Number of Employee in each facility department.

ATV per Occupation = $\sum_{i=3} Product Usage Frequency_i * Modified ASP_i$, i stands for the protection need type.

Number of PPE wearers per occupation = \sum Facility distribution percentage * total number of employees per NAICS sector

The main assumptions we made for this method are:

1. We educated guess on the protection needs for each occupation through the research and knowledge of certain occupations' daily duties.
2. NAICS codes in the same NAICS sector have the same facility distribution, leading to the sub-verticals within the same sector having the same facility distribution.



This graph showed our calculation steps for TAM.

As a result, the number of PPE wearers in Ansell's target verticals is **8,317,860**. The total addressable market we calculated is around **\$2.57B**. According to the U.S. Personal Protective Equipment Market Size Report by Grand View Research, the U.S. personal protective equipment market size was estimated at \$ 23.65 billion in 2021. Since we only target two vertical Chemicals and Industrial Equipment & Machinery in this project, \$2.57B seems to be a reasonable estimation compared to the whole U.S. market.

Moreover, we also used the bottom-up method to conduct the other deliverables. For sales per PPE wear, we used the total addressable market divided by the number of PPE wearers, the result would be \$308.45. For sales by SBU, we matched the protection need with SBU they belonged to and calculated the total sales produced by each SBU, as shown in Table 1: Sales by SBU. As we can see, CHEM BODY has the most sales, taking part in more than half of the total sales. Next, we also used matching to count volume by product category. Table 2: Volume by Product Category reveals that disposable exam gloves have the most demand, followed by CHEM GP Body.

Table 1: Sales by SBU

SBU	Sales
MECH_sales	626,056,972
CHEM_BODY_sales	1,499,263,325
CHEM_GLOVES_sales	351,383,760
EXAM_sales	88,966,800

Table2: Volume by Product Category

Product Category	Volume(units)	Price	Sales
CHEM GP Body	518,592,100	0.25/0.75/3*	1,339,195,325
Chem GP Gloves	178,091,680	0.75	133,568,760
Chem HEC Body	6,402,720	25	160,068,000
Chem HEC Gloves	72,605,000	3	217,815,000
Disposable EXAM Gloves	889,668,000	0.1	88,966,800
MECH-CUT	94,548,480	4	378,193,920
MECH-ELECTRICAL	2,790,080	29	80,912,320

MECH-GP	32,121,960	1.2	38,546,352
MECH-IMPACT	2,785,620	13	36,213,060
MECH-THERMAL	30,730,440	3	92,191,320

* Since there are three kinds of products falling into the same product category CHEM GP Body, so there are three different prices corresponding to those products. Three products are GP Disposable Other Body Protection (BP) Needs, GP Disposable Aprons and GP Disposable Coveralls

Table 3: Typical consumption (frequency of use) for each protection need

Frequency	Protection Need	SBU	Product Category	Modified ASP	Cost
260	Disposable (Single Use) Gloves	EXAM	Disposable EXAM Gloves	0.1	26
52	General Purpose (GP) Reusables for Ergonomic protection	MECH	MECH-GP	1.2	62.4
52	Cut Reusables for Ergonomic protection	MECH	MECH-CUT	4	208
2	Impact protection gloves (Reusables)	MECH	MECH-IMPACT	13	26
52	Thermal Protection Gloves	MECH	MECH-THERMAL	3	156
2	Electrical Protection Gloves	MECH	MECH-ELECTRICAL	29	58
130	GP Disposable Coveralls	CHEM BODY	CHEM GP Body	3	390
130	High End Chemical Protection Disposable Gloves	CHEM GLOVES	Chem HEC Gloves	3	390
130	GP Disposable Aprons	CHEM BODY	CHEM GP Body	0.75	97.5
130	GP Disposable Other Body Protection (BP) Needs	CHEM BODY	CHEM GP Body	0.25	32.5
52	GP Reusable Gloves	CHEM GLOVES	Chem GP Gloves	0.75	39
12	High End Chemical Protection Disposable BP Coveralls	CHEM BODY	Chem HEC Body	25	300
260	Value Brand Disposable Body Protection	CHEM BODY	CHEM GP Body	0.75	195

Part IV: Total Addressable Market Recommendation.

Our TAM results indicate that the industrial & chemical verticals are high-demand sectors with great marketing potential for Ansell. For the **industrial** sector, the majority of businesses operating in these industries are obligated to provide protective gear to their staff

members and oversee that they utilize that gear properly to shield them from potential accidents or decrease their severity. Protective equipment is in higher demand as industrial activity rises. For construction and manufacturers the majority of construction companies are mandated to provide their workers with protective gear and make sure they use the right gear to prevent injuries or decrease their severity. The **need for personal protection** gear rises along with the rate of construction.

To maintain **worker safety**, manufacturers must purchase a range of safety and personal protection equipment. **Manufacturers** purchase anything from generic fall safety devices to respiratory, hand, foot, eye, and head protection. Breathing issues, hydraulic oil injuries, back injuries, and injuries from crushing equipment and rocks are all rather frequent in the mining industry. As a result, this industry spends a lot of money on personal safety gear for its workers. In pace with the expansion of the broader economy, **demand** from the industrial production sector—which includes the manufacturing, electric, gas, and mining sectors—has **increased**.

Our results also satisfied multiple success criteria provided by the Ansell clients. For each success criterion, we recommend Ansell utilize our TAM estimations to **target their marketing efforts better**. For the industrial and chemical industries sector, Ansell could focus more on **designing protective gear and packaging PPE products** based on their needs to increase sales and market capitalization depending on the frequency of use for each product.

We also had complete research on the protection needs and frequency of use for those products in our deliverables, which can be served as a great **reference for Ansell to preview the client's needs** before sales are made and create **promotional package contracts** for clients. Our TAM will also serve as a target market achievement for Ansell to improve and urge everybody in the team to work for the target.

In conclusion, as we updated several versions of TAM from TAM1.0 to the final sophisticated version of TAM 5.0, we obtained reasonable results which satisfied multiple success criteria given by the Ansell clients. To truly improve the efficiency of operating the business, we recommend Ansell put our results into practice as soon as possible. As the regulating authority of Ansell puts the measures into effect, we can possibly discover more potential problems to solve to improve Ansell further. Last but not the least, it is crucial to give and solicit regular feedback from the workers. Ideally, Ansell should be providing feedback on a regular cadence, such as after a zoom meeting, and allowing your employees to give feedback as well. For instance, sending out regular employee pulse surveys is a great way to understand the team's concerns and challenges promptly, and it provides Ansell with helpful information about what your company is doing well and what needs to be improved.

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