

Introduction

Often, companies compete against one another for customers and to gain business. Companies may possess products similar to others in the market, which creates friction between them for market penetration. However, slight variances between products can make them more desirable to clients based on their needs. In this scenario, a company may conduct a competitive analysis to find where a product may possess certain advantages and disadvantages for sales tactics and to make improvements.

All company names have been anonymized in compliance with Mentor requirements. Company 1 is a pharmaceutical and laboratory equipment supplier intended for data analytics in biomedical processes. Companies 2, 3, and 4 specialize in data analytics software for various industries. Company 5 is a software company that provides services to process industries.

All companies listed above possess multivariate data analysis (MVDA) software, which allows customers to understand different trends and relations between them. For example, a reactor may have a flow rate, pressure, temperature, volume of material along with the equipment itself, and corrosion, which could all be potential factors that are interdependent. Individually, finding relations is time-consuming and not a resource-efficient endeavor. Thus, MVDA software is used to find trends and allows customers to make decisions based on the output given.

Objective: The goal of this study was to find actionable conclusions from the competitive analysis.

Methodology

A criteria was developed to see what competitors to consider. This included competition for the same clients, an overlap of feature functions, and name recognition within the market. Another criterion was determined to understand what specific feature functions would be compared.

The product websites were utilized to understand the feature functions of each service. Each website was individually read through for the feature functions, which were then marked within a data table. The product websites were again utilized to understand each company's customer base. The publicly listed clients were then compiled to understand market penetration. All data was manually gathered.

A multitude of websites were utilized to provide the data for the industry trends of growth and shrinking. The data collected was then utilized to find the percent change over the time interval. The market value of the industry was taken to view the growth and shrinking of the industry as a collective whole. The size of the different industries varied widely. So, the percent change allows for a fair basis for comparison.

Results

Feature Functions of Products											
Company	Batch Processing	Continuous Processing	Machine Learning Capabilities	Bundling	Deployment Options	Maintenance Optimization	Performance Optimization	Plug-ins	Web-based	Collaboration	Online Real Time Data
1	✓						✓	✓	✓	✓	
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
4			✓			✓	✓	✓		✓	
5	✓	✓		✓		✓	✓	✓	✓		✓

Figure 1

Industry Presence by Product					
Company	Oil and Gas	Biopharmaceuticals	Petrochemicals	Pulp and Paper	Metals and Mining
1	✓	✓	✓	✓	
2	✓	✓	✓		✓
3		✓	✓		
4	✓		✓		
5	✓	✓	✓	✓	✓

Figure 2

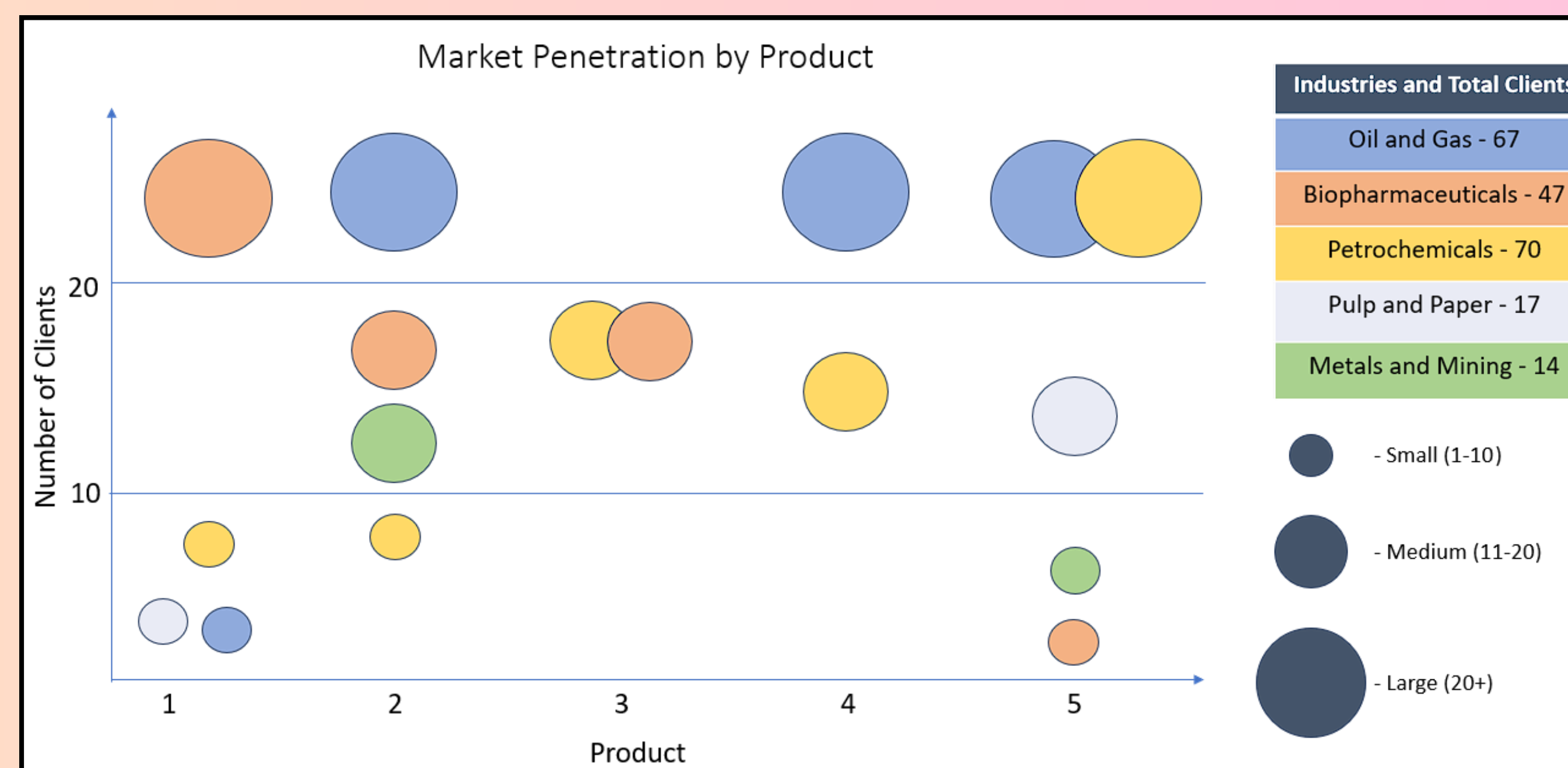


Figure 3

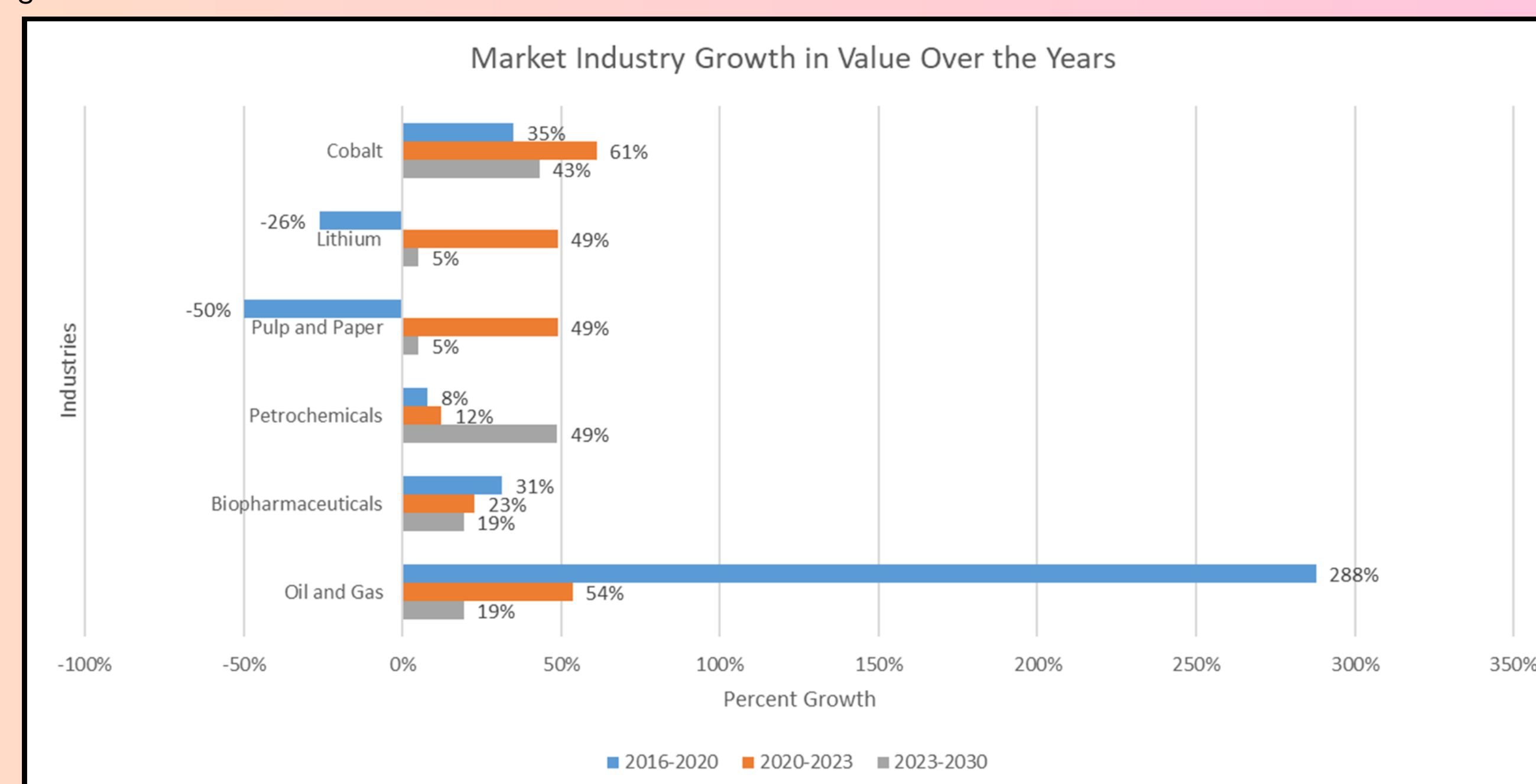


Figure 4

Findings

Figure 1 clearly establishes that all MVDA software have different features that clients would be interested in depending on their own needs. Different industries present different needs which are then fulfilled differently by each product.

Figure 2 establishes how the different features of each product are important to the different industries. While there is a strong prevalence in Oil and Gas, Biopharmaceuticals, and Petrochemicals, Pulp and Paper along with Metals and Mining remain less explored.

Figure 3 shows how big the customer base is in view of the different industries. Oil and Gas clearly is a big customer of multiple products. Biopharmaceuticals appears to be dominated by Product 1 while 2 and 3 appear to be medium-sized competitors for Product 5. Product 5 does have a strong hold of the Petrochemicals customers, but 3 and 4 could pose a challenge as they both have a medium-sized customer base there. Product 5 has a comparative majority in the Pulp and Paper industry. However, in the Metals and Mining industry, Product 2 holds the majority clients.

Figure 4 provides numerous insights about the various industries. The chart shows the percentage in growth of the market value of the industry as a whole. In the Oil and Gas Industry, there was a boom between 2016 and 2020 due to a high prices in 2020 and supply issues in 2016. The industry is expected to grow by 19% by the end of 2030. There is a growth in renewable energy by Oil and Gas companies. The Biopharmaceutical Industry made soaring profits during COVID. However, this boom appears to be calming down with only 19% projected growth by 2030. The Petrochemicals Industry has had continuous growth with a projected 49% growth due to the increased consumer demand of products that utilize petrochemical components such as plastic. The Pulp and Paper Industry shrank by 50% between 2016 and 2020 due to lower usage of paper products. However, it boosted with the sudden demand of e-commerce products that utilize paper. The Lithium and Cobalt Industries (both parts of Metals and Mining) had varying growth. Between 2016 and 2020, the lithium market shrank due to decreased demand of EVs. Lithium and cobalt are both components of the batteries within EVs and are projected to grow at 5% and 43% respectively.

Conclusion

With all this information in mind, many recommendations could be made for the companies to invest when analyzing their MVDA software. First, companies that have a presence in Oil and Gas should **maintain the current oil and gas** customers and **begin adding renewable energy** companies to their portfolio as that is a growing sector within energy. Secondly, **biopharmaceutical companies are also worth investing in** as they possess numerous processes that MVDA software could support. Thirdly, companies that are present within the petrochemical industry should maintain and expand **their customer base**, considering the high projected growth. The **pulp and paper industry does not indicate enough potential growth** that could be worth time and resources to maintain. Lastly, the **metals and mining industry is worth developing software resources** as the demand for electronic systems continues to increase.