As digital services have grown in popularity, the office supply store industry has seen consistent revenue growth. Despite the fact that the industry was already declining, the onset of the COVID-19 (coronavirus) pandemic in 2020 is expected to exacerbate this trend. As a result, industry revenue is expected to fall at an annualized rate of 3.8% to $11.5 billion over the next five years, with a 1.2% increase in 2022 alone. It should be noted, however, that the increase in revenue in 2021 and 2022 is primarily a reaction to the large decrease in revenue in 2020 and is not indicative of typical industry trends. In 2020 alone, industry revenue fell 5.1%, owing primarily to poor economic conditions and low consumer purchasing power (Ünal et al.,2018).

In the midst of the coronavirus crisis, working from home is becoming the new normal in almost every country around the world. As traditional offices remain almost empty and most paperwork migrates to digital platforms, demand for core stationery products such as pens and paper has decreased (Manuszak & Moul, 2008). Meanwhile, sales and demand for home offices and standalone desks, headphones, monitors, and similar equipment have shifted.

**The Importance of Analytics in Supplies Chain.**

Every department requires a robust business intelligence strategy for data analytics and business information management to assist teams in making more data-driven decisions and gaining a competitive advantage over other businesses. Because every step can be planned utilizing evidence, insights and business intelligence have the potential to fundamentally alter the way a task is carried out.

Any supply chain leader will agree that managing and constantly improving a global supply chain is difficult. You are tasked with coordinating operations among a large assortment of suppliers, vendors, buyers, carriers, agents, and local and international business partners, all with the common goal of providing a world-class customer experience (Malcata-Rebelo & Pinho, 2010). However, with so many moving parts, the amount of data and information flowing, and the numerous disruptions that constantly put your supply chain to the test, this can be extremely difficult. Naturally, a massive amount of data is generated in this complex system. Industry leaders are quickly recognizing the significance of analytics in their institutions in order to effectively manage and use this data.

According to a Gartner study, approximately 79% of supply chain leaders are working on plans to train their teams on the use of advanced analytics. So, what makes this so critical to the success of your supply chain? And how will you get forward with of this problem and make the most of your supply chain data? This article will go over exactly that.

**Application of Big Data Analytics in Supply Chain Analytics**

Big data in the office furniture industry can include anything from consumer preferences and behavior to buying patterns, places, and other information derived from sales data and online reviews. Companies that use big data see an average 8% increase in profits over those that do not. With the advent of customization, data engines and dashboards can be shaped to meet the business needs of each department, whether it's job recruitment, social media marketing performance, or managerial accounting (Dalkir & Warren, 2018).

Supply chain analytics has a wide range of benefits for a company's supply chain operations. When used properly, it enables businesses to convert data into actionable reports, dashboards, and visualizations in order to achieve better results by:

• Improved decision making in a company's supply chain operations

• Understanding, identifying, and monitoring potential risks

• Facilitating accurate demand forecasting

• Identifying and quantifying delay patterns

• Optimizing inventory balance and avoiding excess/short stock

All of this results in increased agility and resilience of your global supply chain, better control over orders, shipments, inventory and permanently lowered operational costs.

**About the Data Set**

In this report, I have examined sales data of Office Supply Store in 2020, which includes details like order Id, order date, shipping locations, finances, etc.

**Problem identification**

As customers become more sophisticated and better-informed because of new trend of online shopping, the sales process is much less about selling a product and much more about creating a relationship. There has been an accompanying shift from product to service (or solution) selling (“servitisation”) in many business-to-business interactions The emergence of servitisation has inevitably widened the constituency that is involved in the sales and subsequent delivery processes.

In this report, I am examining the change in the role of business-to-customer sales, its behavior, and specially focusing on areas of profits, loss & shipping cost. Through this I would like to answer following question below:

1. How did we perform financially in 2020? and how we can improve that?

### **What does our most profitable product mix look like?**

### What are the things your customer preferred needs?

1. How is our current shipping cost for different regions?
2. What else plays a role in the customer’s purchase?

**Methodology/Approach**

This report is structured as follows: first, we are present some descriptive statistics of price, quantity, discount, shipping cost, and profits and see if there are any connection between. Second, we check what is our most frequent price, quantity, discount & shipping cost, check the interaction between sales and other functions of a firm. Third, we compare different categories of segment, market, department & ship mode, and its observations. Fourth, we will discuss some business questions and findings from them. And then, we will try to analyze the co-relation between profit and loss with respect to segment. Finally, we discuss the conclusions of the article and identify managerial implications and future market opportunities.

However, analyzing and optimizing sales process can hardly be done without the help of additional tools. So, I am using RStudio for visual analytics.

**Reference**:

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1. Ünal, E., Urbinati, A., & Chiaroni, D. (2018). Managerial practices for designing circular economy business models: The case of an Italian SME in the office supply industry. *Journal of manufacturing technology management*
2. Manuszak, M. D., & Moul, C. C. (2008). Prices and endogenous market structure in office supply superstores. *The Journal of Industrial Economics*, *56*(1), 94-112
3. Malcata-Rebelo, E., & Pinho, P. (2010). Evaluation and monitoring of office markets. *Environment and Planning B: Planning and Design*, *37*(2), 305-325
4. Dalkir, S., & Warren-Boulton, F. (2018). Prices, market definition, and the effects of merger: Staples-Office Depot (1997). *The Antitrust Revolution: Economics, Competition, and Policy, 7th edn. Oxford University Press, New York (2018).*
5. Leitner, H. (1994). Capital markets, the development industry, and urban office market dynamics: rethinking building cycles. *Environment and planning a*, *26*(5), 779-802