**Analyzing Market Dynamics and Revitalizing Brand Strategy for Market Cannibalization of an Injectable Anesthesia Drug**

**Problem Statement:**

The anesthesia drug market is a segment of the pharmaceutical industry that focuses on the development, production, and distribution of medications used to induce and maintain anesthesia during medical procedures and surgeries. The market for anesthesia drugs encompasses a wide range of pharmaceutical products, including general anesthetics, local anesthetics, and adjunctive drugs that support the anesthesia process. The demand for these drugs is closely tied to the healthcare industry, as the number of surgical procedures, including both routine and complex surgeries, continues to grow worldwide. Factors such as an aging population, increased healthcare access, and advancements in medical technology contribute to the expansion of the anesthesia drug market.

You are a Healthcare Commercial Analytics leader working for anesthesia drugs portfolio at a big pharma company. As an analytics leader, understanding market dynamics and making evidence-based decisions are crucial for the success of the business. Your company has a market leading brand (Product 1) in the anesthesia portfolio. Your company also has recently launched a variant of the same brand (Product 2) in the market which is supposed to cannibalize your leading brand. (Market cannibalization is a loss in sales caused by a company's introduction of a new product that displaces one of its own older products in the market. The cannibalization of existing products need not necessarily lead to an increase in the company's overall market share, but at least the sales growth for the new product should be at the expense of the drop in sales of the old product.)

However, the expected cannibalization is not happening in the market. It appears that instead of your new product capturing the dropping sales of your old product, one of your competitors (Product 3) is rapidly gaining market share, leaving your new product (Product 2) to lose its expected market share.

Your tasks are:

1. Perform data preparations using the datasets provided to have one analysis-ready dataset.
2. Analyze the provided Medicare CCLF claims data using the Key Business Questions provided below, and come up with strong data-driven, actionable business recommendations to gain market share for Product 2
3. Compile the above analysis and recommendations into a PowerPoint presentation.

**Market Definitions:**

**Market:** Injectable Anesthesia Market

**Market Basket:**

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| --- | --- | --- | --- |
| **Product** | **Procedure Code** | **Generic Name** | **Product Description** |
| Product 1  (Market Leader - Your old Brand) | J1885 | ketorolac tromethamine | Ketorolac is used for the short-term treatment of moderate to severe pain in adults. It is usually used before or after medical procedures or after surgery |
| Product 2  (Variant Brand - Your new Brand) | J2250 | midazolam hydrochloride | Intravenously injected for induction of general anesthesia |
| Product 3 (Main Competitor Brand) | J3010 | fentanyl citrate | For analgesic action of short duration during the anesthetic periods, premedication, induction, and maintenance, and in the immediate postoperative period (recovery room) as the need arises |
| Product 4  (Alternative Competitor Brand) | J2704 | propofol | Propofol injection is used to help you relax or sleep before and during surgery or other medical procedures. This medicine is an anesthetic and a sedative |

**Product Performance:**

* **Leader Brand (Product 1):** The brand with the largest market share is experiencing a consistent decline.
* **Variant Brand (Product 2):** The newest brand that is slowly losing market share.
* **Main Competitor Brand (Product 3):** A competitor brand that is rapidly gaining the market share of Product 1, which Product 2 is supposed to absorb.
* **Alternative Competitor Brand (Product 4):** Another competitor brand in the market. Though Product 3 is the primary competitor brand, this product absorbing the market share is also a threat for your brands. So, consider Product 4 as a competitor brand as well.

**Project Structure:**

**Market Analysis:** Students should start by performing a comprehensive analysis of market dynamics, including market share trends, growth rates, and external factors impacting the market.

**Competitive Landscape:** Understand the competitive landscape by comparing the performance of the four brands.

**Identifying Key Drivers:** Identify the key drivers behind the declining market share of the variant brand, the decline of the market leader brand, and the growth of the competitor brand.

**Recommendations:** Based on the analysis, students should propose data-driven recommendations and solutions to address the current market challenges. Possible areas of business recommendations/observations can include:

1. **Marketing and Promotion (For Key Business Questions 1, 2 and 3):** Analyze marketing and promotional strategies, identifying areas for improvement. Investigate the effectiveness of targeting specific customer (HCPs and Patients) segments, on-field salesforce performance, NPP channels, samples, speaker programs, etc.
2. **Market Access (For Key Business Question 4):** Explore opportunities for expanding into new markets or segments, winning new formularies, new indications approval, Line of Therapy approval, copay/payer assistance.
3. **Product Strategy (For Key Business Question 4):** Evaluate the product portfolio including features, form, mode of administration, site of care, dosage, distribution, pricing, product innovation, forecasting, manufacturing and supply chain, and legal and medical affairs.

**Datasets:**

* Medicare Claims Data (compressed csv files in 5 parts)
* HCP Demographics Data - HCP\_demographics\_data.csv
* Patient Demographics Data - Patient\_demographics\_data.csv
* Zip to Territory Mapping Data - Zip\_to\_Territory\_Mapping.csv
* Diagnosis Code Mapping Data - Diagnosis\_Code\_Mapping.csv

**Deliverables:**

The deliverables should include:

* + A PowerPoint presentation deck (.pptx) with the summaries of the analytics and the recommendations using the template provided.
  + A Jupyter workbook (.html and .ipynb format) and/or Excel spreadsheet (.xlsx) with the codes used for data prep, analytics, and calculations, pivot tables and visualizations (if required). The file must be readable without any additional processing or any special applications.

**Assessment Criteria:**

* The quality and depth of the analysis performed on the provided datasets.
* The clarity, structure and quality of the charts and visualizations.
* The critical thinking, creativity, and effectiveness of the proposed recommendations.
* Clear and confident communication of thoughts during the project presentation within the bounds of the given time slot.