ShopNest stands as the leading department store in the e-commerce marketplace in Portugal. It connects small businesses from various regions in Portugal to channels, streamlining the process with a single point of contact. Through the ShopNest Store, these merchants can showcase and sell their products, with the added convenience of direct shipment to customers facilitated by ShopNest logistics partners. The provided data represents authentic commercial information that has undergone the process of anonymization.

This capstone has 9 datasets, and the descriptions are below:

**Customers\_dataset:**

* Customer\_id: Key to the orders dataset. Each order has a unique customer\_id.
* Customer\_zip\_code: First five digits of the customer zip code.
* Customer\_state: Customer state.

**Geolocation\_dataset:**

* Geolocation\_zip\_code: First 5 digits of zip code
* Geolocation\_lat: Latitude
* Geolocation\_lng: Longitude
* Geolocation\_city: City name
* Geolocation\_state: State name

**2. Order\_reviews\_dataset:**

* Review\_id: Unique review identifier.
* Order\_id: Unique order identifier.
* Review\_score: Note ranging from 1 to 5 given by the customer on a satisfaction survey.
* Review\_comment\_title: Comment title from the review left by the customer.
* Review\_comment\_message: Comment message from the review left by the customer.
* Review\_creation\_date: Date the satisfaction survey was sent to the customer.
* Review\_answer\_timestamp: Timestamp for survey response.

**Orders\_dataset:**

* Order\_id: Unique identifier of the order.
* Customer\_id: Key to the customer dataset. Each order has a unique customer\_id.
* Order\_status: Reference to the order status (delivered, shipped, etc.).
* Order\_purchase\_timestamp: Purchase timestamp.
* Order\_approved\_at: Payment approval timestamp.
* Order\_delivered\_carrier\_date: Order posting timestamp.
* Order\_delivered\_customer\_date: Actual delivery date to the customer.
* Order\_estimated\_delivery\_date: Estimated delivery date informed to the customer.

**3. Products\_dataset:**

* Product\_id: Unique product identifier.
* Product\_category\_name: Root category of product.
* Product\_name\_length: Number of characters extracted from the product name.
* Product\_description\_length: Number of characters extracted from the product description.
* Product\_photos\_qty: Number of product published photos.
* Product\_weight\_g: Product weight measured in grams.
* Product\_length\_cm: Product length measured in centimeters.
* Product\_height\_cm: Product height measured in centimeters.
* Product\_width\_cm: Product width measured in centimeters.

**Sellers\_dataset:**

* Seller\_id: Seller unique identifier.
* Seller\_zip\_code\_prefix: First 5 digits of seller zip code.
* Seller\_city: Seller city name.
* Seller\_state: Seller state.

**4. Product Categories (Tasks to do):**

* Product\_category\_name: Category name in Portuguese.
* Product\_category\_name\_english: Category name in English.

**Tasks to do:** Design a comprehensive Power BI dashboard to address key business analytics for a retail dataset. The following analytical questions should be answered through your dashboard:

1. Identify the rating distribution in the Shop\_Nest dataset, showcasing ratings categorized as Excellent, Very Good, Good, Bad, and Very Bad, along with corresponding orders.
2. What are the top 10 and bottom 18 most popular product categories in the ShopNest dataset? Please list them based on the number of orders.
3. List the total number of active sellers by yearly and monthly.
4. Which payment methods are most commonly used by ShopNest customers?
5. Identify the product category-wise profit margin using the formula:
   * Hint: (Payment value - Price + Freight\_value) / Payment\_value \* 100 (Rounded to two decimal points).
6. Determine the monthly payments made by customers using credit cards.
7. Identify sellers categorized by city, excluding cities starting with the letters "S" and "B".
8. Create a dynamic visual that compares the number of delayed orders to the number of orders received earlier for each month. Utilize the cross-report feature to provide a detailed analysis of late and on-time deliveries.