

# STRATEGIC E-COMMERCE INVESTMENT

## **PREPARED FOR**

Brasilia Group Investments<sup>1</sup>

Dataset: <https://www.kaggle.com/datasets/olistbr/brazilian-ecommerce>

## **PREPARED BY**

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Junior Data Analyst

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<sup>1</sup> Fictitious company

October, 7th 2023

## **Brasilia Group Investments**

Dear Brasilia Group Investments

Re: Brazil Investment Proposal

Please find enclosed our detailed expansion proposal for your kind consideration.

In response to your request for a thorough understanding of the Brazilian e-commerce sector, we conducted a thorough data-driven analysis to provide you with insights that can guide your expansion decisions. You underlined the necessity of choosing locations that are not dominated by large rivals and avoiding product categories that are saturated. You also sought clarification on prevalent issues to enable you embark on this journey with a clear vision and strategy.

According to our data, Brazil is a lucrative e-commerce sector with an increasing trend in both sales and income. Rio de Janeiro, with its strong sales numbers and surprisingly low competition, emerges as a good site for your headquarters. In terms of product categories, 'bed & bath essentials' stands out as both popular and profitable, despite the fact that it is not oversaturated with suppliers. Our in-depth analysis of consumer feedback found some recurring difficulties, particularly with regard to product quality and delivery delays. This information provides you with an opportunity to stand out and flourish in areas where others are failing.

By aligning your strategies with these findings, you will be ready to carve out a major market niche. We are certain that with the correct focus and a commitment to filling market gaps, BGI can build a strong presence in the Brazilian e-commerce environment.

Warm regards,

Abdel Rahman Nasir

Junior Data Analyst.

# EXECUTIVE SUMMARY

Brasilia Group Investments (BGI) approached us with the goal of better understanding the Brazilian e-commerce market and seeking advice on how to invest strategically within the country. They sought to learn about the market's profitability, potential headquarters sites, product choices, competitive dynamics, and prevailing customer sentiment.

Our comprehensive data-driven analysis found that Brazil is a promising e-commerce market, with strong growth in both sales and revenue. Among the cities considered, Rio de Janeiro emerged as the best location for BGI's headquarters. Rio not only has excellent sales, but it also has little direct competition, which aligns with BGI's desire to avoid markets dominated by major competitors. When it comes to product categories, the 'bed & bath essentials' stand out. This sector is both popular with consumers and has significant revenue potential, despite the fact that it is not oversaturated with sellers. A thorough review of consumer feedback for this product category revealed certain market problems, most notably product quality disparities and delivery delays.

These findings provide BGI with a clear path for their future investment efforts. BGI is positioned to develop a distinctive and lucrative presence in the Brazilian e-commerce sector by selecting Rio as a key location and focusing on the 'bed & bath essentials' category while concurrently tackling the stated market difficulties.

# 1. Brazilian Market

To derive insights into the Brazilian e-commerce market's dynamics, we employed a time series analysis. This approach allowed us to visualise and understand sales and revenue trends over a specific period. Utilising datasets containing order and payment details, we combined them to generate a cohesive view of the monthly sales (order count) and revenue. This amalgamation enabled us to ascertain the growth trajectory and month-on-month fluctuations, providing a comprehensive perspective on market health.



Data quality and integrity are paramount for generating accurate and actionable insights. Our preliminary data preprocessing revealed an anomaly—post July 2018, there was a significant drop in data entries, indicating incomplete or missing records for subsequent months. To ensure our analysis was founded on complete and reliable data, we made a strategic decision to omit records from August 2018 onwards. This data cleansing step ensured that our insights were derived from a consistent and comprehensive dataset, eliminating potential biases or inaccuracies from incomplete data months.

Post-Cleansing Dataset Descriptions	
Dataset	Records and Fields
Customers	92587, 5
Geolocation	1000163, 5
Order Items	105025, 7
Order Payments	96837, 5
Order Reviews	92399, 7
Orders	92587, 8
Products	30758, 9
Sellers	2932, 4

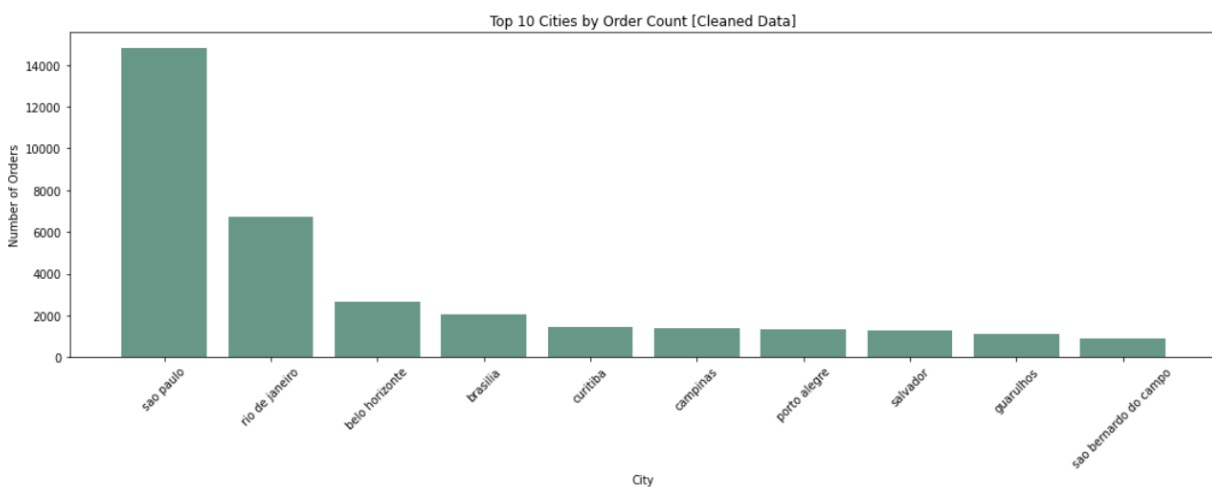
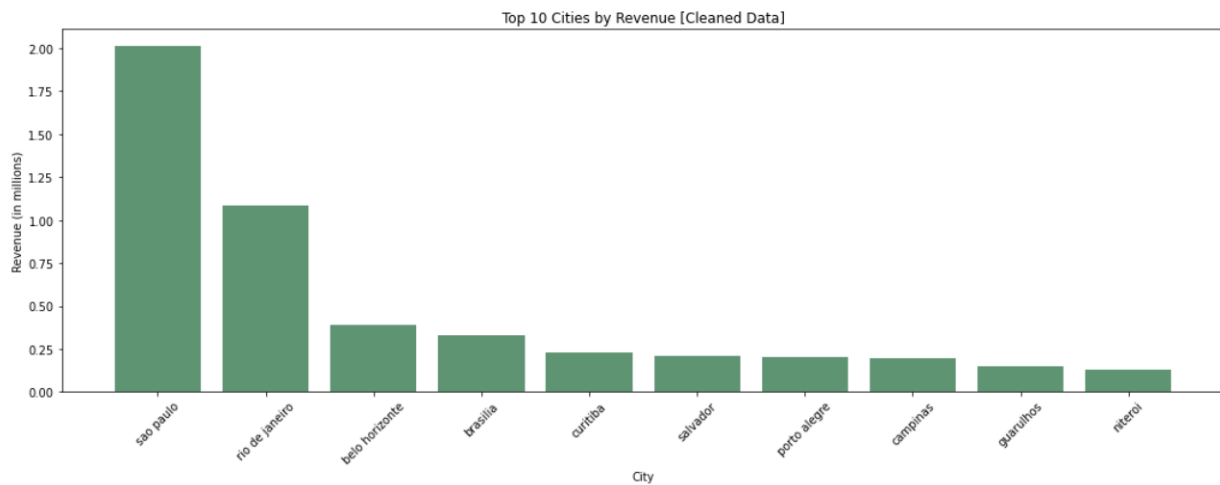
The time series analysis revealed that Brazil has a thriving e-commerce market. Both sales and income increased, reflecting Brazil's rising consumer base and increased interaction with online platforms. The monthly sales (order count) depiction highlighted the market's pulse, seasonality, peak shopping hours, and prospective growth periods. Similarly, the revenue graph illustrated the market's financial potential, indicating moments of increased economic activity.

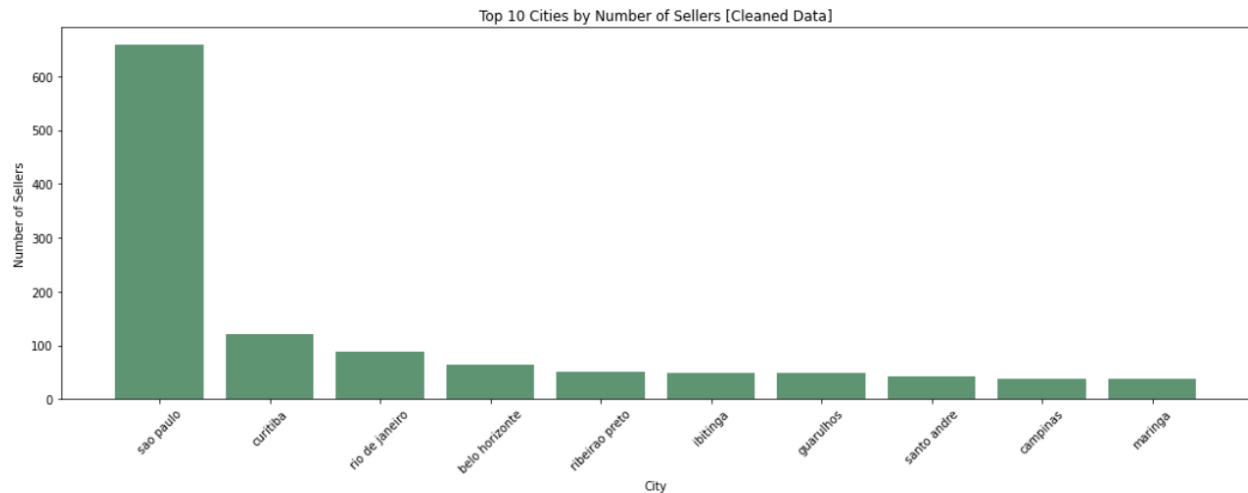
## 2. Location Analysis

Understanding the geographical distribution of sales, revenue, and sellers is pivotal for strategic expansion. We dove deep into the datasets, aggregating the metrics at a city level. This analysis allowed us to rank cities based on three key parameters:

- Total revenue generated
- Number of products sold
- Number of sellers operating

This trifecta of metrics provided a holistic view, enabling us to pinpoint cities that are not only e-commerce hubs in terms of sales but also have a competitive landscape conducive for a new entrant.





Our research highlighted numerous cities that dominate the Brazilian e-commerce scene. Two cities, however, stood out: So Paulo and Rio de Janeiro. As the financial centre, So Paulo naturally had a high level of e-commerce activity. Rio de Janeiro, on the other hand, presented an intriguing proposition. Despite the city's strong sales and revenue figures, Rio had a shockingly low number of sellers. This oddity suggested that there was a potential market inefficiency or untapped opportunity.

Given BGI's specific needs for a site that is both profitable in terms of sales and not overrun with competition, Rio de Janeiro emerged as the top contender. Its strong sales figures, paired with a small seller landscape, made it an excellent choice. The city provides a healthy market with a strong desire for e-commerce, yet there is plenty of leeway for a new entrant to establish itself without being overwhelmed by a slew of competitors.

### 3. Product Analysis

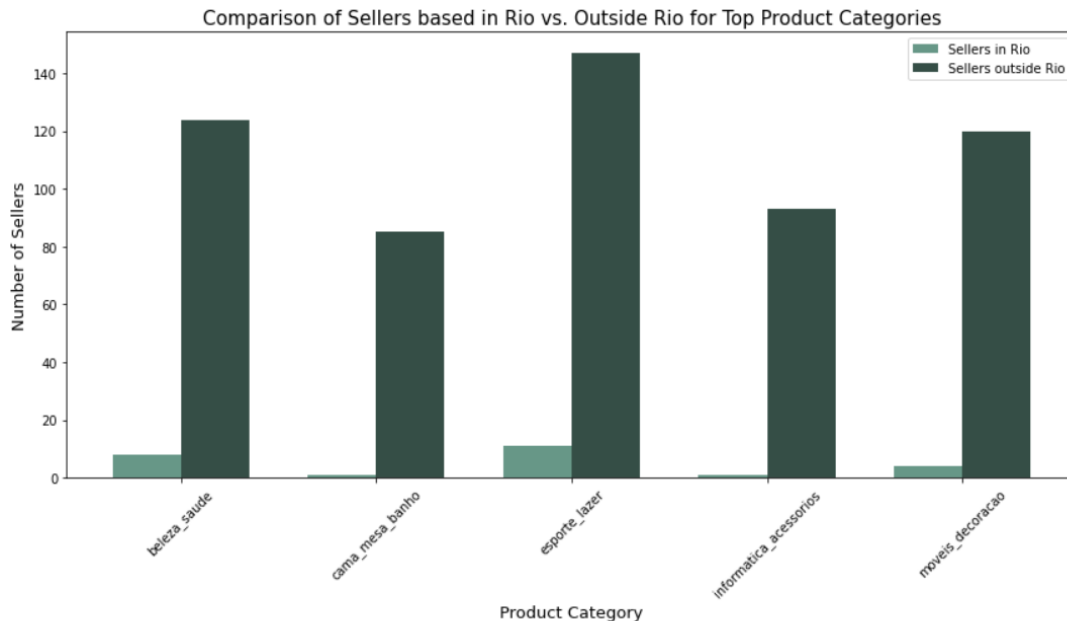
After determining the city of operation, the following stage is to choose the products to provide. We aggregated Rio de Janeiro-specific product sales and revenue statistics using the cleaned datasets. This enabled us to rank product categories according to:

- Total number of units sold
- Total revenue earned

By combining these measurements, we were able to find categories that are not only popular with consumers but also profitable.

Product Category Name	Total Revenues	Total Products Sold
Bed & Bath Essentials	\$121,833	863
Telephone Fixing Services	\$112,491	24
Sports Leisure	\$103,405	568
Watches & Gifts	\$101,138	448

Our analysis highlighted several product categories that resonate well with the consumers of Rio. Notably, 'bed & bath essentials' emerged as the top category. It wasn't just the sheer volume of sales that made this category stand out, but also the impressive revenue figures it posted.



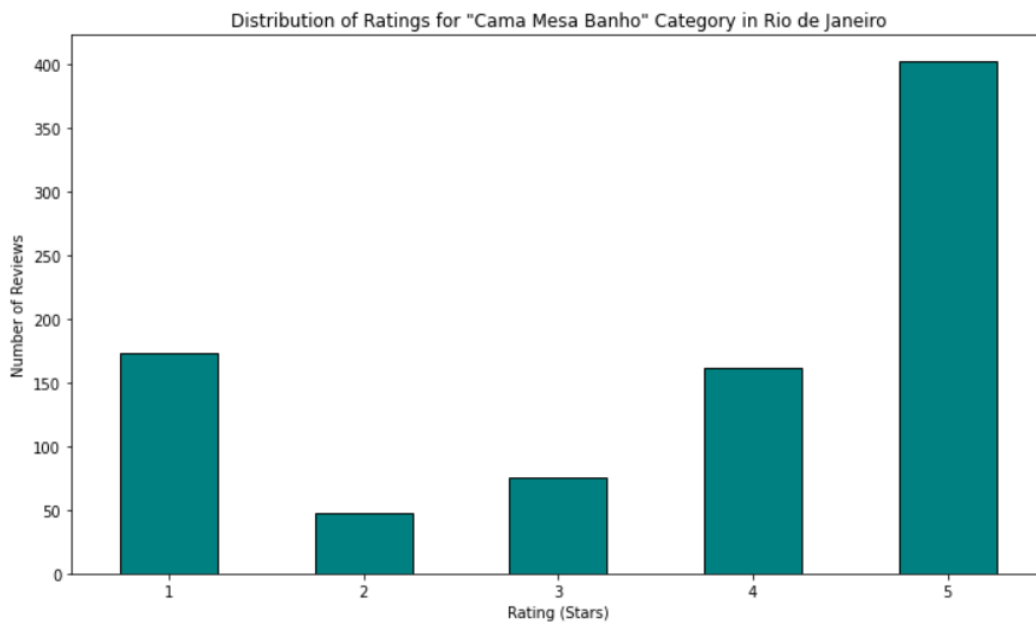
Further investigation into the 'bed & bath essentials' category showed an additional benefit. Despite its popularity and large sales, the number of direct retailers in this category was very minimal in Rio. This provides BGI with an added advantage: it can tap into a product area that is in great demand while also avoiding the dense competition landscape.

Based on the findings, BGI should highlight the 'bed & bath essentials' category in their product offers. This category not only meets market demand, but also provides a competitive advantage due to the small number of direct sellers in Rio.



## 4. Customer Feedback Analysis

To gain a holistic understanding of the market, beyond just sales and revenue figures, we delved into customer feedback, specifically for the 'bed & bath essentials' category in Rio de Janeiro. This involved extracting customer reviews and ratings to identify prevalent issues and sentiments associated with this product category. Given that the reviews were in Portuguese, we undertook a translation effort to convert these reviews into English, enabling a comprehensive sentiment analysis.



A substantial number of 1-star reviews provided invaluable insights into areas of improvement within the market. Three predominant themes emerged from these reviews:

- **Product Quality Discrepancies:** A significant number of customers felt that the product they received did not match the quality or appearance depicted online.
- **Delivery Delays:** Extended delivery times and missed delivery windows were a common grievance, highlighting potential inefficiencies in the supply chain.
- **Missing Shipments:** Some customers reported not receiving their products at all, signalling potential issues with inventory management or logistical challenges.

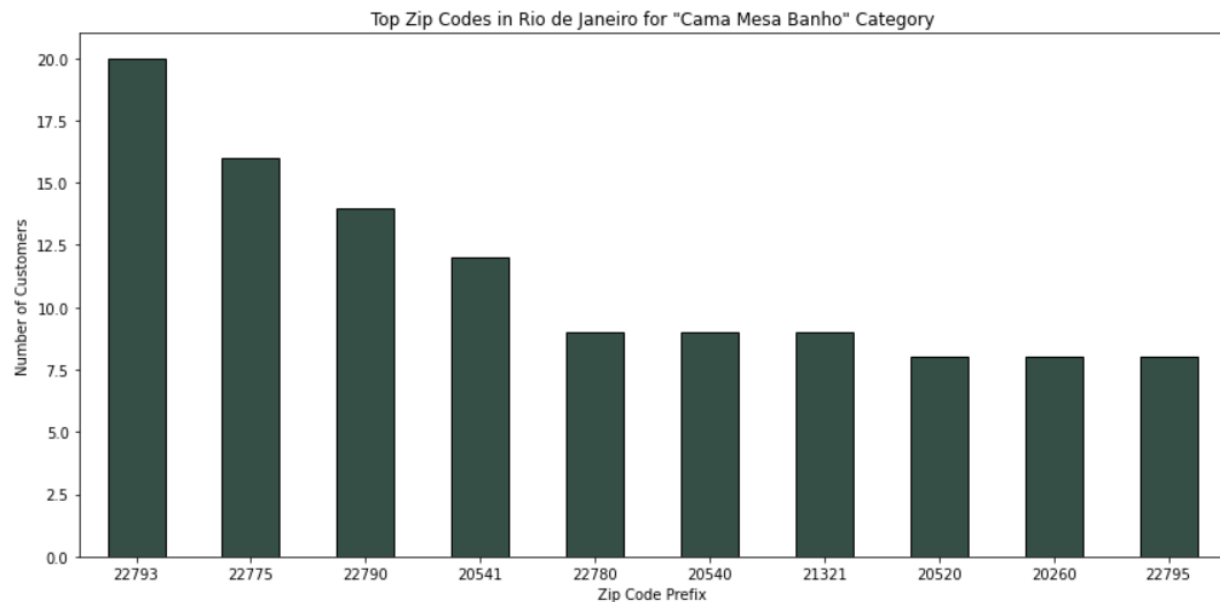


To further refine our understanding, we performed a correlation analysis between delivery time and customer satisfaction. The results indicated a negative correlation, meaning as delivery times increased, customer satisfaction tended to decrease. This insight underscored the importance of efficient and timely delivery in ensuring customer satisfaction.

To address the concerns highlighted by customers, it's crucial for BGI to prioritise accurate product representations, ensuring that online listings truthfully depict the actual quality and appearance of products. Efficient delivery systems, bolstered by the establishment of local distribution centres and enhanced tracking capabilities, can mitigate delays and improve customer trust. Furthermore, implementing robust inventory management systems will prevent missing shipments, and in instances where issues arise, a transparent and hassle-free refund policy can be a powerful tool to retain customer loyalty and trust.

## 5. Zip Code Analysis

Understanding customer distribution is pivotal for optimising delivery operations. We analysed the distribution of customers within Rio de Janeiro for the 'bed & bath essentials' category based on their zip codes. This helped us identify regions within the city with the highest concentration of potential customers.



Our analysis revealed specific zip codes where a higher concentration of customers resides. These regions represent areas with a higher propensity for purchases in our target category, indicating potential hotspots for focused marketing efforts and streamlined delivery.

For BGI, this granularity can be instrumental in:

- **Optimising Delivery Routes:** Prioritising these zip codes can lead to faster delivery times, directly addressing one of the major pain points identified earlier.
- **Strategic Warehouse Placement:** Considering a warehouse or distribution centre in proximity to these zip codes can significantly reduce delivery times and operational costs.
- **Focused Marketing:** These regions can be targeted with more specific marketing campaigns, ensuring higher ROI on marketing spend.

## 6. Conclusion

Our exhaustive analysis of the Brazilian e-commerce market has illuminated a series of actionable insights tailored to Brasilia Group Investments' unique objectives.

- **E-commerce Landscape:** Brazil presents a burgeoning e-commerce market, characterised by strong growth in sales and revenue. The upward trajectory witnessed in our time series analysis highlights the nation's increasing affinity for online shopping.
- **Optimal Location:** Rio de Janeiro emerges as the prime candidate for BGI's expansion. The city offers a blend of impressive sales figures and a relatively unsaturated seller landscape.
- **Product Focus:** The 'bed & bath essentials' category stands out. It's not only in high demand among Rio's consumers but also offers substantial revenue potential with limited competition.
- **Addressing Market Pain Points:** Feedback from Rio's consumers indicates areas for improvement, primarily centred around product quality, delivery efficiency, and order fulfilment.
- **Strategic Zip Code Analysis:** By understanding customer distribution within Rio, BGI can optimise its delivery routes, consider strategic warehouse placements, and target specific regions with focused marketing campaigns.

As BGI embarks on its e-commerce journey in Brazil, the roadmap is clear. With strategic positioning in Rio de Janeiro, a focus on the 'bed & bath essentials' category, addressing market pain points, and leveraging zip code insights, BGI is poised to make a significant mark in Brazil's e-commerce sector.