

Conduct Market Fit Research for Air Purifier Development Using AQI Analytics

Domain: Consumer Appliances

Function: Market Research Analytics

"AirPure Innovations" is a startup born out of the air quality crisis in India, with 14 cities ranking among the [world's top 20 most](#) polluted urban centers. The company is in the early stages of product development and is unsure whether there is a strong, sustained demand for its air purifier product. Before committing to production and R&D, they need to answer critical questions:

1. What pollutants or particles should their air purifier target?
2. What are the most essential features that should be incorporated into the air purifier?
3. Which cities have the highest demand for air purifiers, and what is the market size in these regions?
4. How can R&D be aligned with localized pollution patterns?

The urgency is highlighted by real-world examples: biotech entrepreneur [Bryan Johnson walked out of a podcast](#) due to poor air quality, and [Delhi's Taj Hotels now display AQI readings](#), emphasizing the growing awareness of air quality in daily life and business decisions.

COO **Tony Sharma** believes success lies in analyzing three key dimensions of the market. Tony has reached out to **Peter Pandey**, a Data Analyst, to assist in gathering insights for strategic decisions. The three dimensions to be analyzed are:

1. **Severity Mapping:** Identify cities experiencing persistent or worsening AQI (Air Quality Index) levels.
2. **Health Impact Correlation:** Quantify the health burden due to pollution and its impact on consumers' well-being.
3. **Demand Triggers:** Examine the relationship between pollution spikes and shifts in consumer behavior related to air purifier demand.

While searching for reliable, real-time AQI data, the team discovered the ["Dataful" platform](#), which provides datasets essential for answering these questions.

Task

Imagine yourself as **Peter Pandey** and perform the following tasks:

- Check 'primary_and_secondary_questions.pdf'. You can use any tool of your choice (Python, SQL, Power BI, Tableau, Excel, PowerPoint) to analyse and answer these questions. More relevant instructions are provided in this document.
- Design a dashboard with your metrics and analysis. The end users of this dashboard are top-level management and the product strategy team - hence, the dashboard should be self-explanatory and easy to understand.
- Present your insights to Tony Sharma & team. Be creative and concise with your presentation.
- Use your dashboard in the presentation along with the deck.
- Use additional data based on your own research to support your recommendations.

Other resources Provided:

Datasets from Dataful - [Challenges - Dataful](#)

- Primary dataset
 - AQI (2022 – 2025)
- Secondary datasets
 - Health-related consequences (2022 – 2025)
 - Vehicle data (2022 – 2025)
 - Population data
- Metadata
- Supporting documents

Note:

1. We recommend you create a video presentation of **15 minutes** or less for the business stakeholders. Additionally, make a LinkedIn post that includes relevant links, your video presentation, and a reflection on your experience while working on this challenge.
2. You can check out sample presentations to gain some inspiration. [Sample Presentation Link](#)

3. Please see the detailed evaluation criteria, which are provided in the document “evaluation criteria”.
4. Submit your post link on the resume project challenge page of Codebasics. If the post link is not submitted before the deadline, we won't be able to consider it.

All the best from Team Codebasics! 🤖

Feel free to reach out at Discord server for any support: [Discord Link](#)