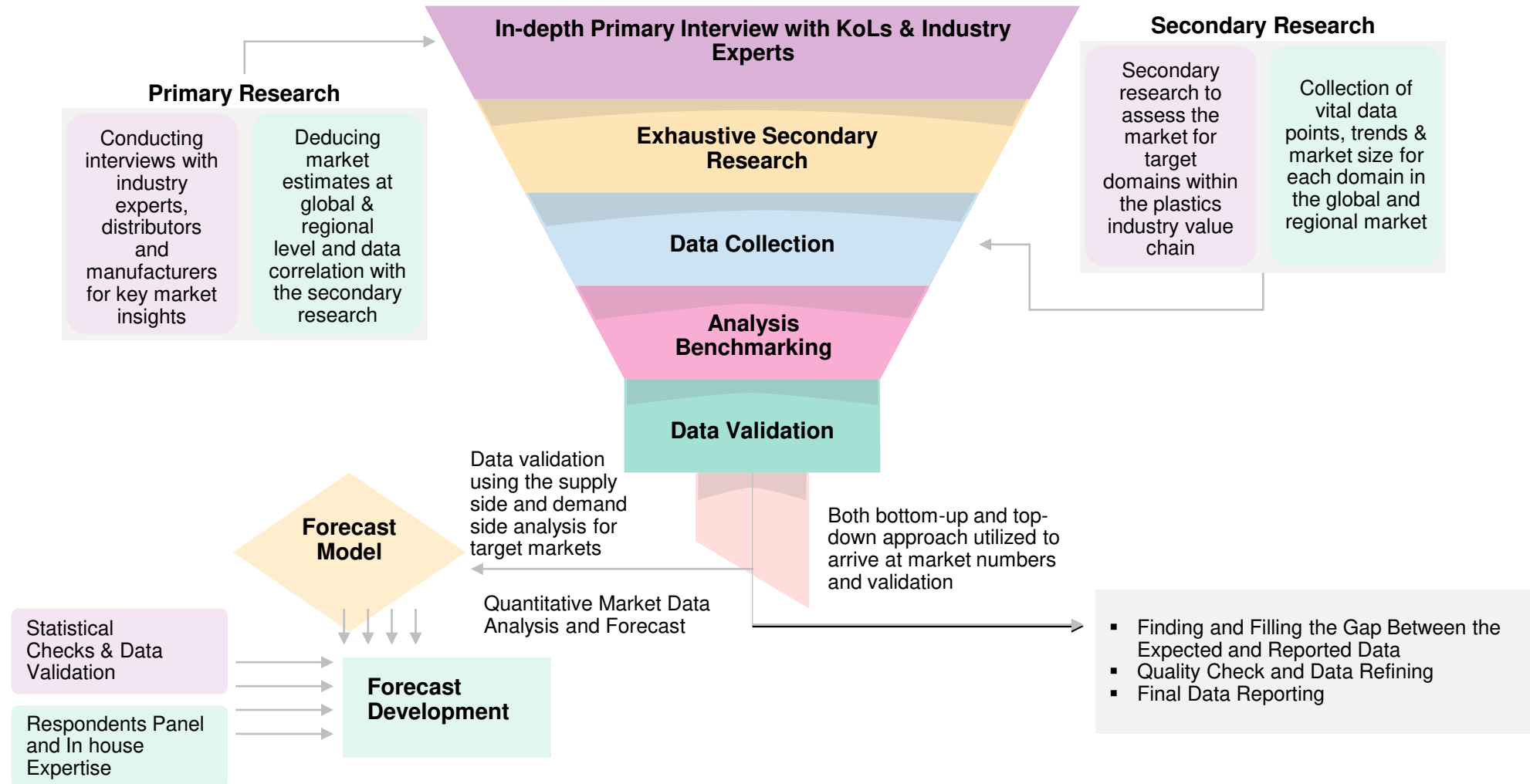


Research Methodology Flow

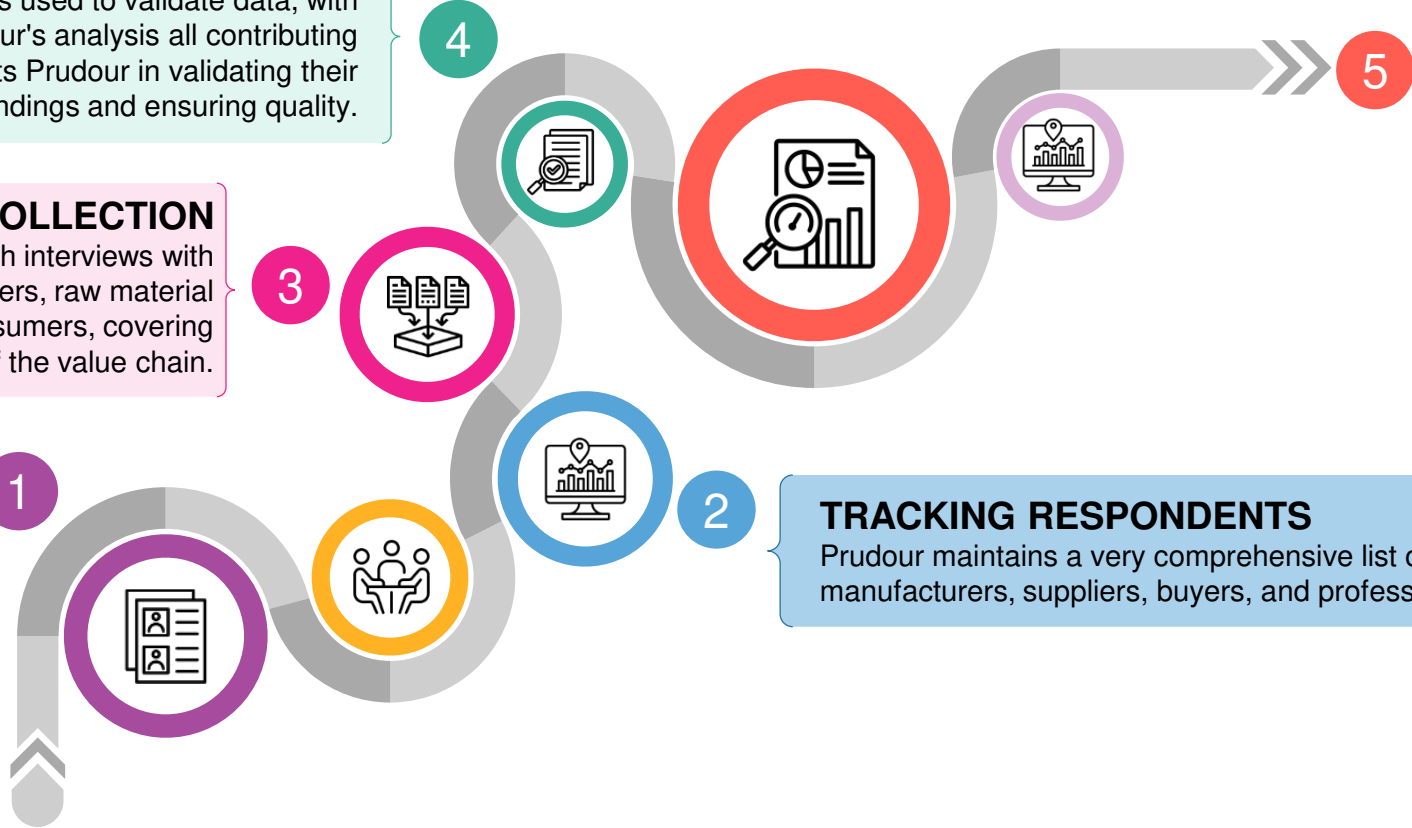


Research Methodology

DATA VALIDATION
The triangulation approach is used to validate data, with primary, secondary, and Prudour's analysis all contributing to the final data. This assists Prudour in validating their research's findings and ensuring quality.

DATA COLLECTION
Prudour collects data through interviews with experts in the field, manufacturers, raw material suppliers, distributors, and consumers, covering every aspect of the value chain.

RESEARCH DESIGN
The research design serves as a blueprint for collecting, analyzing, and interpreting data in a structured way that aligns with our research objectives.



TRACKING RESPONDENTS
Prudour maintains a very comprehensive list of industry respondents including manufacturers, suppliers, buyers, and professionals in the field.

DATA ANALYSIS
To gain qualitative and quantitative insights on the industry, the data is carefully examined using MS - Excel. Our internal forecasting model enables us to provide estimations that are nearly accurate across all domains.

Market Research Process

1. Research Design

- In this stage, we establish the overall approach and framework that will guide the entire market research process. The research design serves as a blueprint for collecting, analyzing, and interpreting data in a structured way that aligns with our research objectives. We ensure that our methodology is appropriate for the type of data we need, and we make sure to have clear plans for each aspect of data collection and analysis.

2. Data Collection

- The data collection process is the heart of our research, where we gather the necessary information to address the research objectives. This step ensures that the data we collect is accurate, reliable, and relevant to our research questions. We rely on both primary and secondary data sources, and our goal is to follow a structured and systematic approach to avoid bias and errors.

3. Data Analysis

- Data analysis involves collecting, cleaning, interpreting, and transforming raw data into meaningful insights that help guide decision-making. The goal is to identify trends, patterns, and relationships within the data to make informed business decisions or strategic recommendations.

4. Data Validation

- The validation process involves multiple layers of checking both the quality and integrity of the data we have collected, ensuring that the analysis holds up under scrutiny.

5. Documentation and Reporting, Publishing, Post-Publication Activities

Research Design

Research Methodology Selection

We decide between qualitative (e.g., focus groups, interviews, secondary research) or quantitative (e.g., surveys, analytics) methods, or a combination of both.



Sampling Strategy

We define the target population and sampling technique (e.g., random sampling, stratified sampling, convenience sampling).



Data Collection Tools

We create or select survey questionnaires, interview guides, or observation protocols.

Data Collection

Primary Data Collection

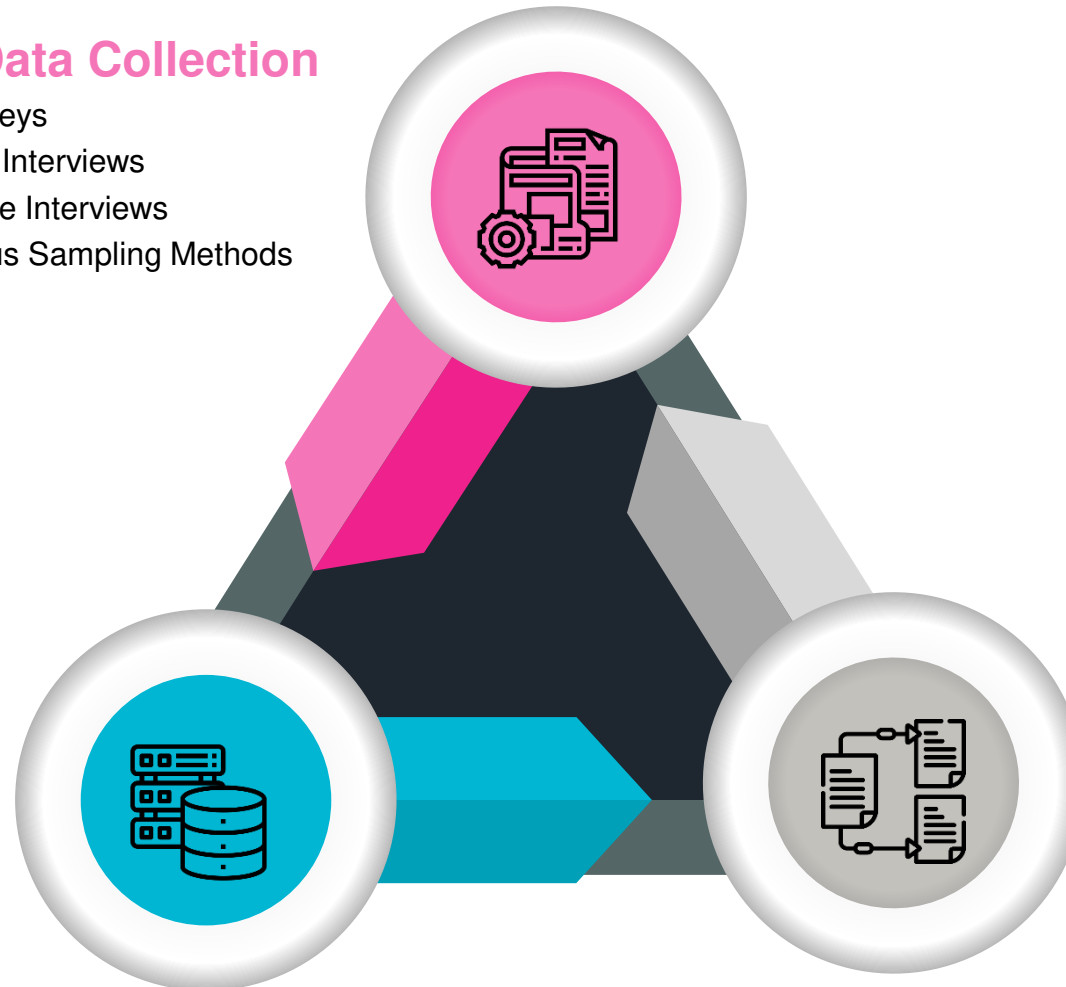
- Market Surveys
- Supply-side Interviews
- Demand-side Interviews
- Using various Sampling Methods

Databases

- Internal Paid Databases
- Government Databases
- Public Records
- Industry-Specific Databases

Secondary Data Collection

- Industry Reports
- Industry Journals and White Papers
- Company Annual Reports and Websites
- Press Releases and Financial Statements



Primary Data Collection

- ❑ PRUDOUR conducts in-depth primary interviews with various stakeholders/Key Opinion Leaders (KoLs) from both the supply and demand sides.
- ❑ Supply-side interviews include product manufacturers (and their competitors), opinion leaders, industry experts, distributors, dealers, traders, raw materials suppliers, and producers.
- ❑ Demand-side interviews include industry experts such as academic & research institutions, potential customers or end-users (product buyers), retailers, and industry experts in the global market.

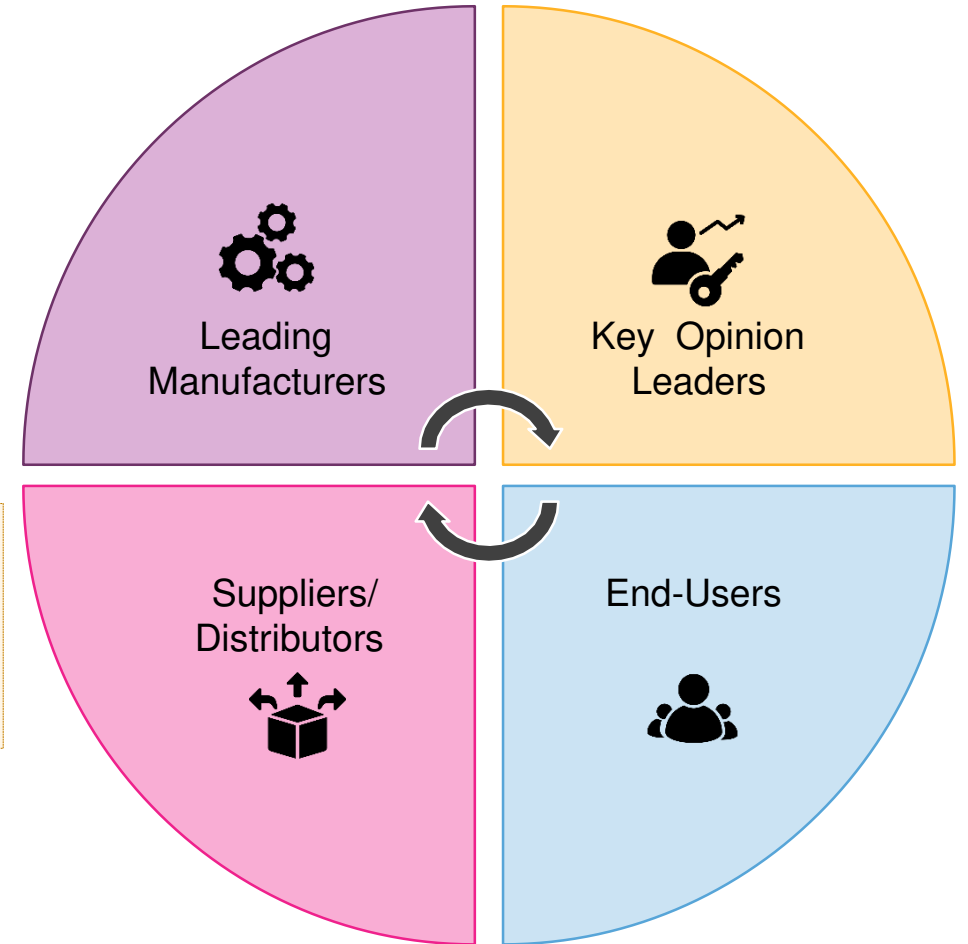
KoLs Tracking:

- Identifying respondents from different industry verticals and end-users
- Collecting data about their designations and hierarchy
- Classifying them based on their knowledge or expertise

Surveys: We design structured questionnaires that allow us to gather quantitative data. This could involve questions related to consumer preferences, purchasing behavior, or market trends. Surveys can be distributed via various channels:

- **Online/Email:** Using survey tools.
- **Telephonic:** Conducting interviews over the phone.

Interviews: We conduct one-on-one interviews with key individuals (e.g., consumers, industry experts, stakeholders). These interviews can be structured or semi-structured to gather qualitative insights into customer behavior, preferences, and attitudes. Mode of Delivery include Telephone Interviews and Email Conversations.



Secondary Data Collection

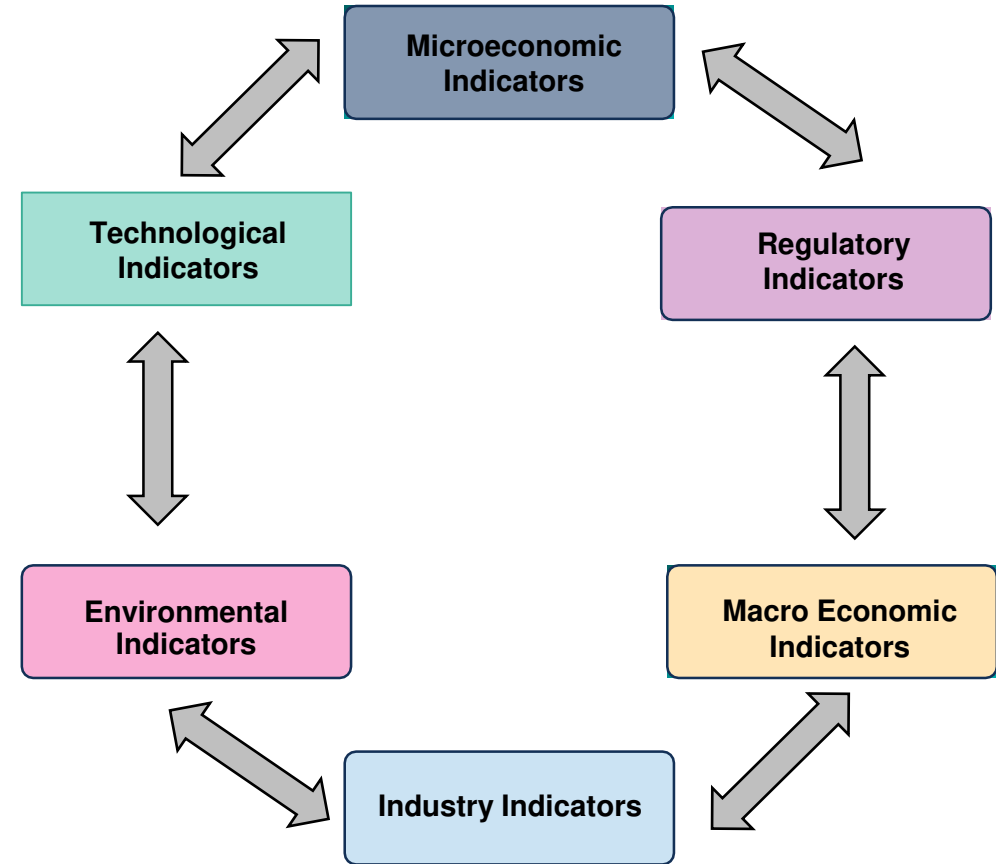
- ❑ The analysis encompasses market consumption and forecast across geographies, insights by key manufacturers, regional pricing trends, consumer preferences, market taxonomy, present and future scenarios, major drivers, restraints, trends, and opportunities.
- ❑ It also evaluates market scenarios in developed and developing economies, technology adoption, and country-specific production and consumption trends. These comprehensive insights aid stakeholders in making informed decisions and developing effective strategies to capitalize on emerging opportunities and stay ahead in the market.

Trade Publications: We gather data from trade journals and industry magazines. These sources often provide detailed insights into industry-specific issues, technological advancements, or regulatory changes affecting the market.

- **Company Reports and Websites:** We review publicly available annual reports, 10-K filings, financial statements, and investor presentations to analyze a company's performance, strategy, and financial health.
- **Press Releases:** We gather information from official company announcements to understand new products, partnerships, acquisitions, and other important updates.
- **Websites and Blogs:** We monitor the company's website, blogs, and other online content for updates on corporate strategies, product mapping, and market positioning.

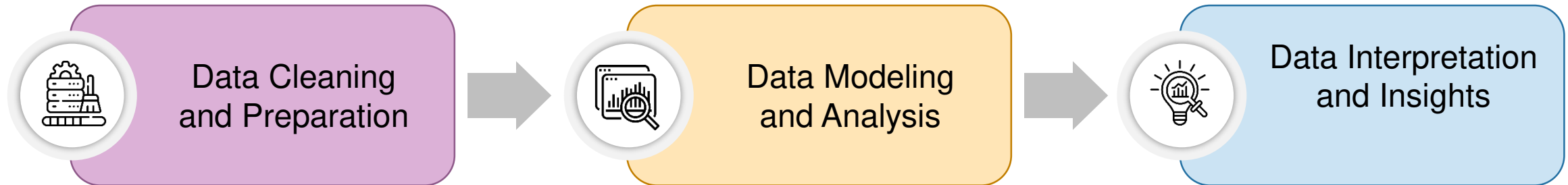
Industry Journals & White Papers:

- **Sourcing Articles:** We review peer-reviewed research, case studies, and reports from reputable journals.
- **Extracting Insights:** We identify key trends, statistics, and findings relevant to our research.
- **Trend Analysis:** We assess how data has evolved over time and track emerging trends.
- **Benchmarking:** We compare current practices with historical data to evaluate industry growth.



Data Analysis

- ❑ In the complete market engineering process, both top-down and bottom-up approaches were extensively used, along with several data triangulation methods, to perform market estimation and market forecasting for the overall market segments and sub-segments listed in the report.
- ❑ Extensive qualitative and further quantitative analysis is also done from all the numbers arrived at in the complete market engineering process to list key information throughout the report.



Data Cleaning and Preparation



Data Cleaning and Preparation

□ Key Processes in Data Cleaning:

- **Handling Missing Data:** Addressing gaps in the dataset by removing, imputing, or estimating missing values.
- **Removing Duplicates:** Identifying and eliminating any duplicate records to prevent skewed results.
- **Data Transformation:** Converting raw data into a structured format, such as normalizing data ranges, standardizing units, or aggregating data.

Data Cleaning and Preparation



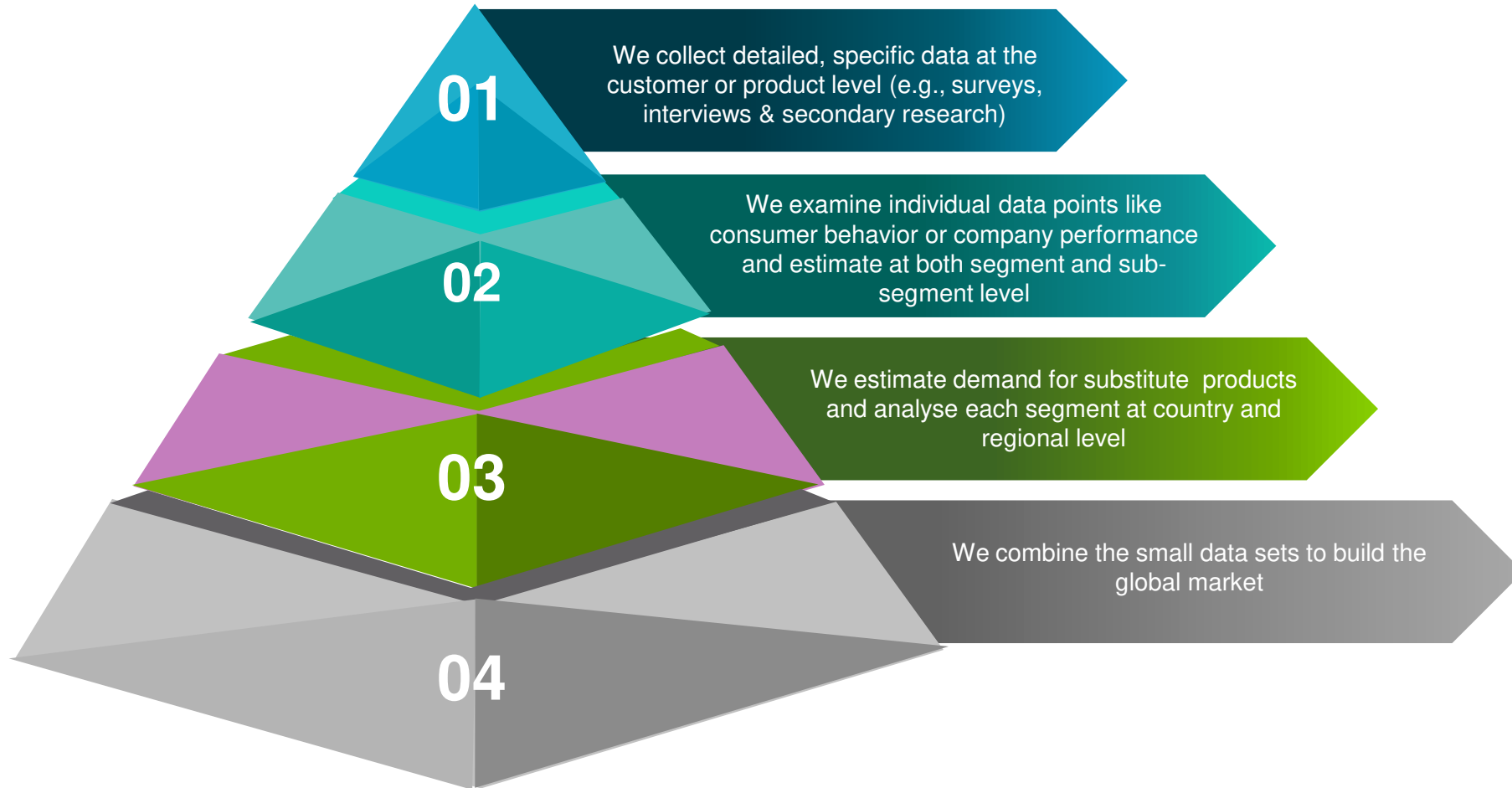
Data Modeling and Analysis

- ❑ Data modeling involves using statistical or mathematical models to explore relationships between variables and make predictions or classifications based on the data.
- ❑ **Key Processes in Data Modeling:**
 - **Regression Analysis:** A statistical method for modeling the relationship between a dependent variable and one or more independent variables (e.g., linear regression, logistic regression).
 - **Time Series Analysis:** Analyzing data collected over time (e.g., forecasting future trends)
 - **Data Visualization:** Using charts like histograms, scatter plots, box plots, and bar charts to visualize relationships and patterns in the data.
 - **Correlation Analysis:** Identifying relationships between variables using correlation coefficients or heatmaps.

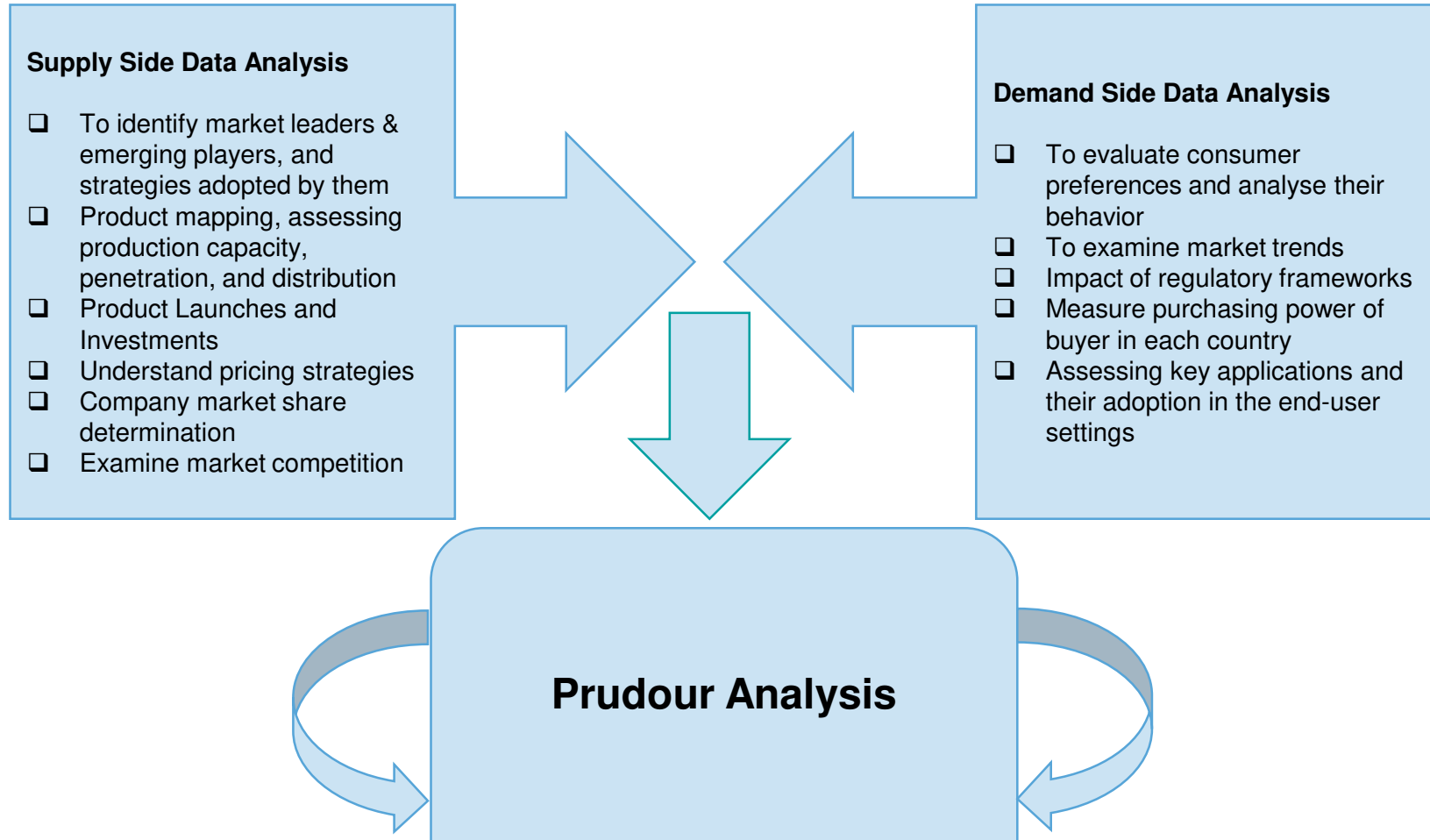
Market Estimation – Top-Down Approach



Market Estimation – Bottom-Up Approach



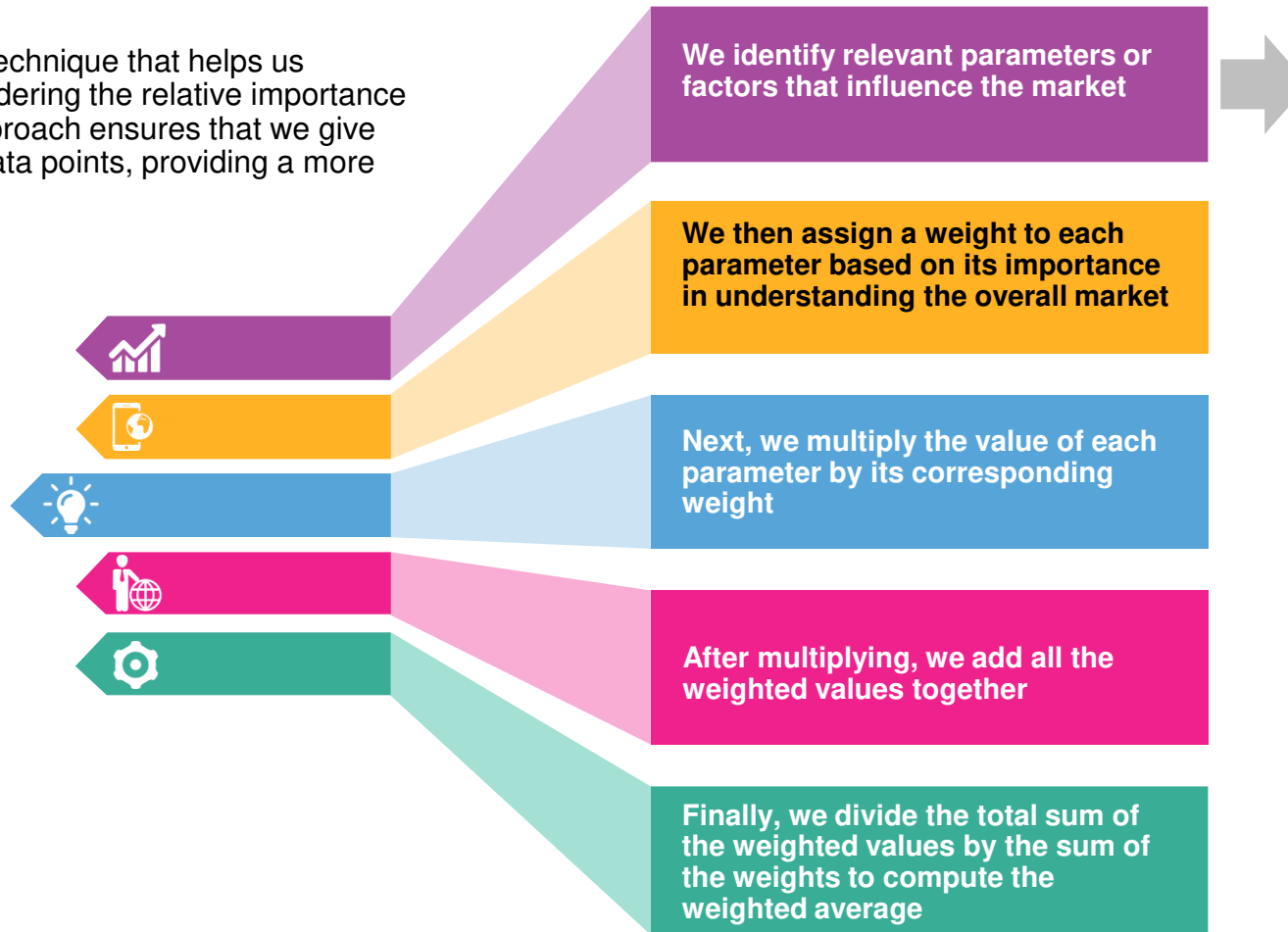
360 Degree Outlook



Weighted Average Method

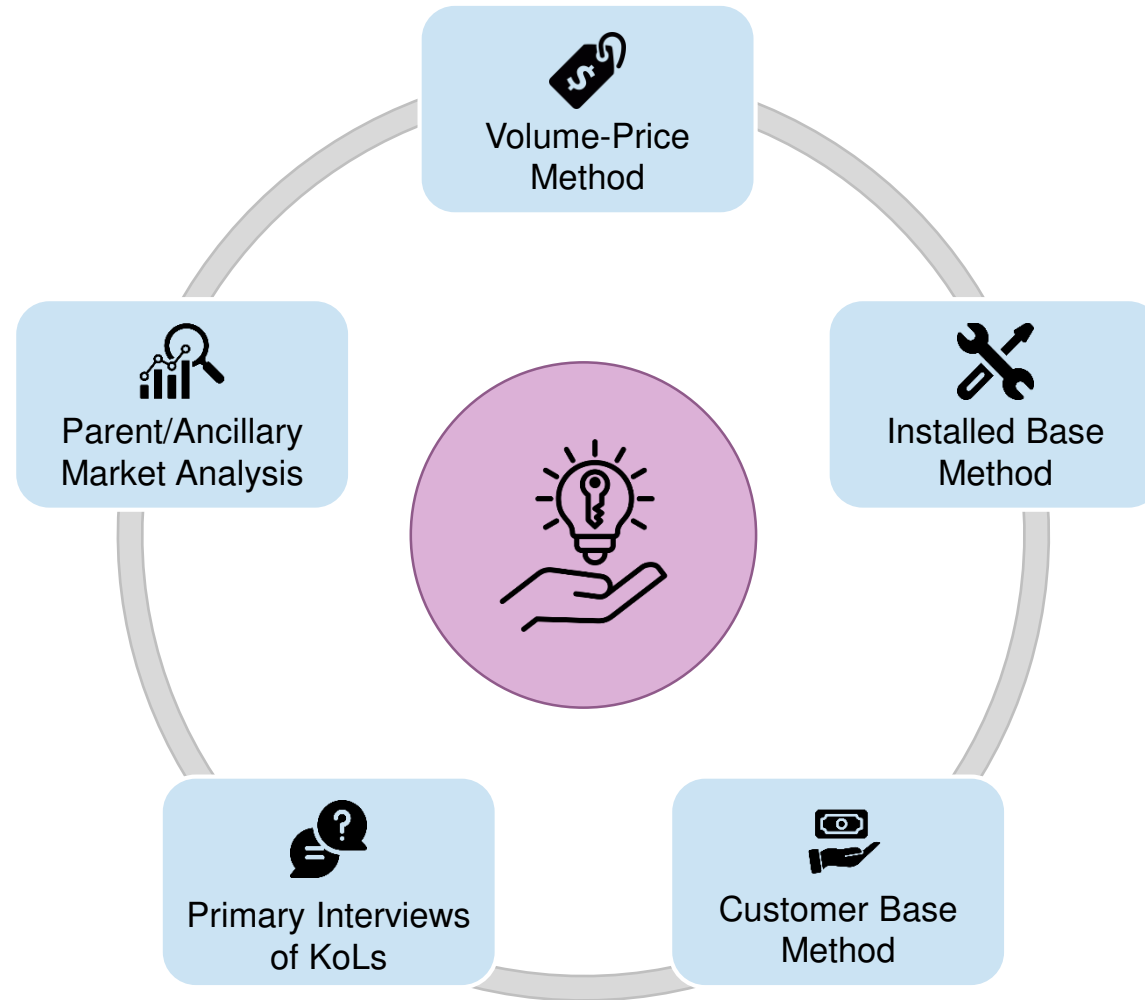
Weighted Average Method

Weighted Average Method is a statistical technique that helps us calculate an overall market figure by considering the relative importance of different factors or parameters. This approach ensures that we give more significance to the more influential data points, providing a more accurate representation of the market.

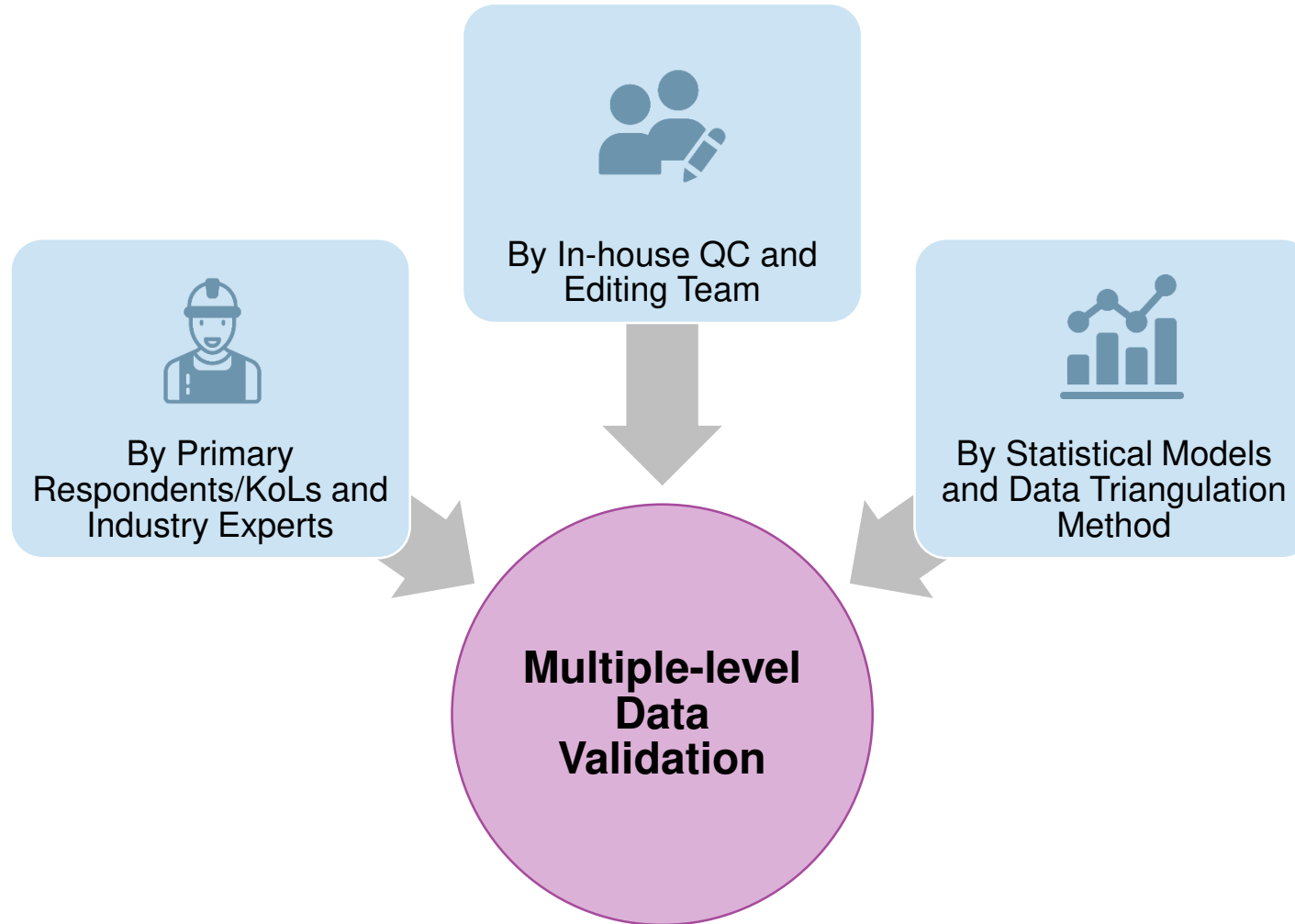


- Parameters (but not limited to):**
- Customer Preferences or Adoption
 - Pricing Trends
 - Growth Rate
 - Market Dynamics
 - GDP
 - Country-wise Purchasing Power
 - Sales Volume

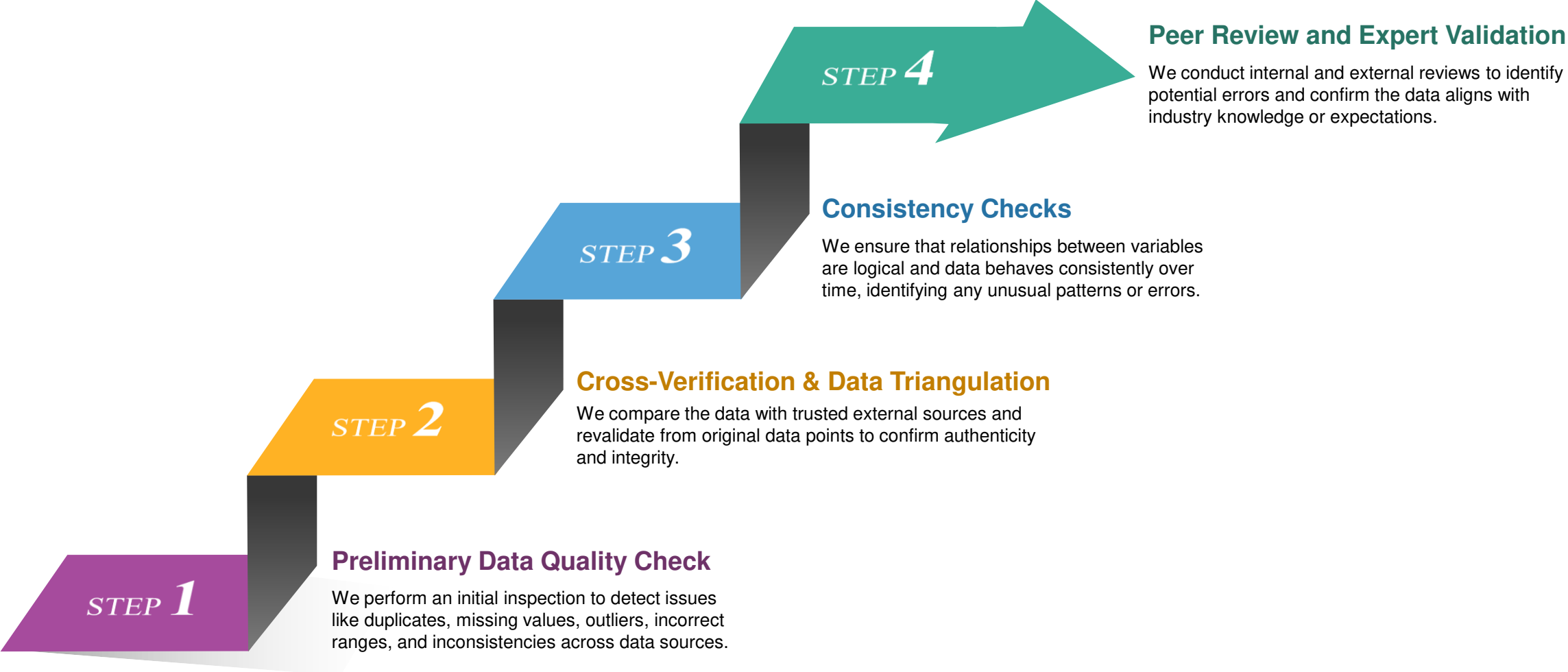
Key Approaches



Data Validation



Data Validation





Ethical Considerations

- ❑ **What we do:**

We ensure that all our data collection practices are ethical, transparent, and in line with industry standards.

- ❑ **Informed Consent:** We ensure that all participants provide informed consent, understanding the purpose of the research and how their data will be used.

- ❑ **Confidentiality:** We guarantee that all personal information is kept confidential, and participants' anonymity is maintained.

- ❑ **Voluntary Participation:** We ensure that participation is entirely voluntary, with no coercion or pressure applied.

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