



# Contribution of Data and Information to Business Strategy and Operations

In today's rapidly evolving business landscape, data and information have become indispensable assets, driving strategic decision-making and operational efficiency. This presentation explores the multifaceted role of data in shaping business strategy, optimizing operations, and enhancing customer experiences. We will delve into the key areas where data empowers organizations to gain a competitive edge and achieve sustainable growth.

# Role of Data in Strategic Decision Making

1

## Market Trend Analysis

Data analytics helps identify emerging market trends, allowing businesses to anticipate shifts in consumer preferences, competitive landscapes, and industry dynamics. This proactive approach enables organizations to adapt strategies, develop new products and services, and capitalize on emerging opportunities.

3

## Opportunity Recognition

Data analysis can unveil hidden opportunities that might otherwise go unnoticed. By analyzing market data, customer feedback, and competitor intelligence, businesses can identify new markets, untapped customer segments, or emerging trends that can lead to significant growth.

2

## Customer Needs Identification

Data provides valuable insights into customer behavior, preferences, and pain points. By analyzing customer data, organizations can gain a deeper understanding of their target audience, segment customers effectively, and tailor products and services to meet specific needs.



# Process optimization st



## Optimization of Operational Processes

1

### Process Mapping

Data helps businesses map their operational processes, identifying bottlenecks, inefficiencies, and areas for improvement. This comprehensive understanding enables organizations to streamline workflows, reduce redundancies, and enhance overall efficiency.

2

### Cost Reduction

Data analysis can identify cost-saving opportunities across various operational processes. By optimizing inventory management, streamlining logistics, and improving resource allocation, businesses can significantly reduce operational expenses and increase profitability.

3

### Efficiency Enhancement

Data-driven insights empower organizations to identify opportunities for automating tasks, improving resource allocation, and optimizing workflows. By streamlining processes and automating repetitive tasks, businesses can enhance operational efficiency and productivity.



# Enhancing Customer Experience

## Customer Segmentation

Data allows businesses to segment customers based on demographics, purchasing behavior, preferences, and other relevant factors. This enables organizations to tailor their marketing messages, product offerings, and customer service interactions to meet the specific needs of different customer groups.

## Personalized Recommendations

By analyzing customer data, businesses can provide personalized recommendations for products, services, and content. This personalized approach enhances customer engagement, drives sales, and strengthens customer loyalty by providing relevant and valuable suggestions.

## Customer Feedback Analysis

Data analysis can be used to gather and analyze customer feedback, identifying areas for improvement in products, services, and customer support. By addressing customer concerns and implementing positive changes, businesses can enhance customer satisfaction and build stronger relationships.



# Supply Chain Management

1

## **Demand Forecasting**

Data analysis helps businesses forecast demand accurately, enabling them to optimize inventory levels, manage production schedules, and ensure timely deliveries. By anticipating demand fluctuations, organizations can reduce stockouts, minimize waste, and improve overall supply chain efficiency.

2

## **Inventory Optimization**

Data-driven insights can help businesses optimize inventory management, ensuring that they have the right amount of inventory on hand to meet customer demand without incurring excessive storage costs or facing stockouts. By analyzing historical sales data and market trends, businesses can develop more accurate inventory forecasting models.

3

## **Improved Responsiveness**

Data enables businesses to track shipments in real-time, monitor supply chain performance, and identify potential disruptions early on. This proactive approach enables organizations to respond quickly to unforeseen challenges, mitigate risks, and ensure uninterrupted supply chains.

# Data-Driven Innovation

## Research & Development

Data analytics helps organizations identify emerging technologies, market trends, and customer needs, driving innovation in product development, process improvement, and service delivery.

## New Product Development

Data analysis enables businesses to understand customer preferences, market trends, and competitive landscapes, informing the development of new products and services that meet unmet needs.

## Business Model Innovation

Data can help businesses identify new business models, explore alternative revenue streams, and adapt to changing market conditions, driving innovation and long-term sustainability.

# Data-Driven Decision Making

Unlocking business insights and making data-driven decisions is essential for success in today's competitive landscape. By harnessing the power of data, organizations can gain a comprehensive understanding of their operations, customer preferences, and market trends, enabling them to make informed decisions and achieve optimal outcomes.



# How Data is Generated

1

## Transactional Data

Transactional data is generated from business transactions, such as sales, purchases, and payments. This data provides insights into customer behavior, product performance, and revenue streams.

3

## Customer Data

Customer data is generated from interactions with customers, such as website visits, email subscriptions, and customer service inquiries. This data provides insights into customer preferences, demographics, and purchase history.

2

## Operational Data

Operational data is generated from the daily operations of a business, such as production processes, inventory levels, and employee activities. This data provides insights into operational efficiency, resource utilization, and process optimization.

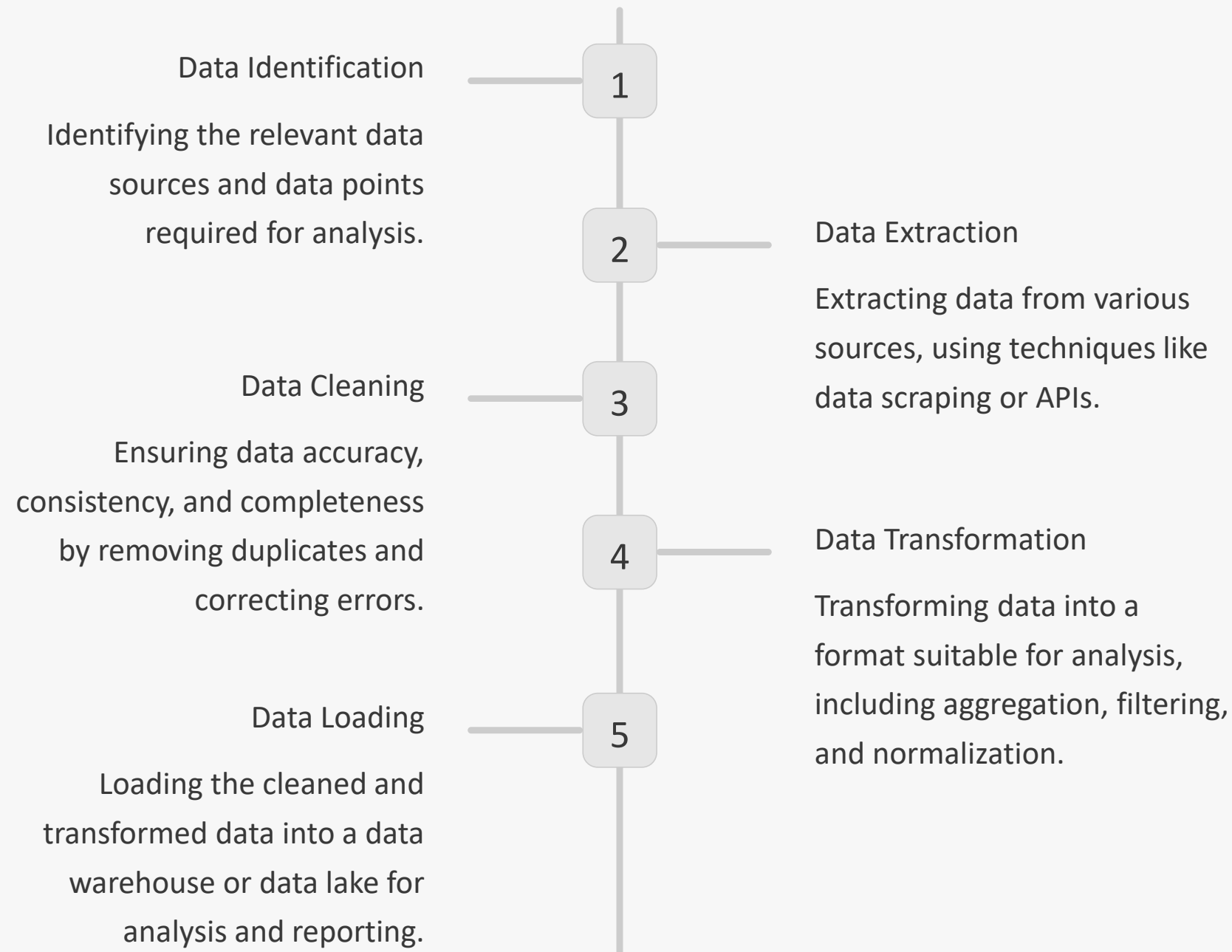
4

## Data Sources

Data can be collected from various sources, including internal systems, external databases, social media platforms, and customer surveys.



# Data Collection Process



# Tools for Data Processing

## Power BI

Power BI is a powerful business intelligence tool developed by Microsoft. It provides a comprehensive suite of features for data visualization, analysis, and reporting.

1. Visualization
2. DAX
3. Power Query

## Applications

Power BI is suitable for organizations of all sizes, offering customizable solutions to meet specific business needs.

1. Small Enterprises
2. Medium Enterprises
3. Large Enterprises

# Tools for Data Processing

## Tableau

Tableau is a leading data visualization and analytics platform known for its user-friendly interface and powerful data exploration capabilities.

1. Visualization
2. Tableau Prep
3. Advanced Analytics

## Applications

Tableau is widely adopted by organizations seeking a comprehensive data analytics solution, particularly those not reliant on the Microsoft ecosystem.

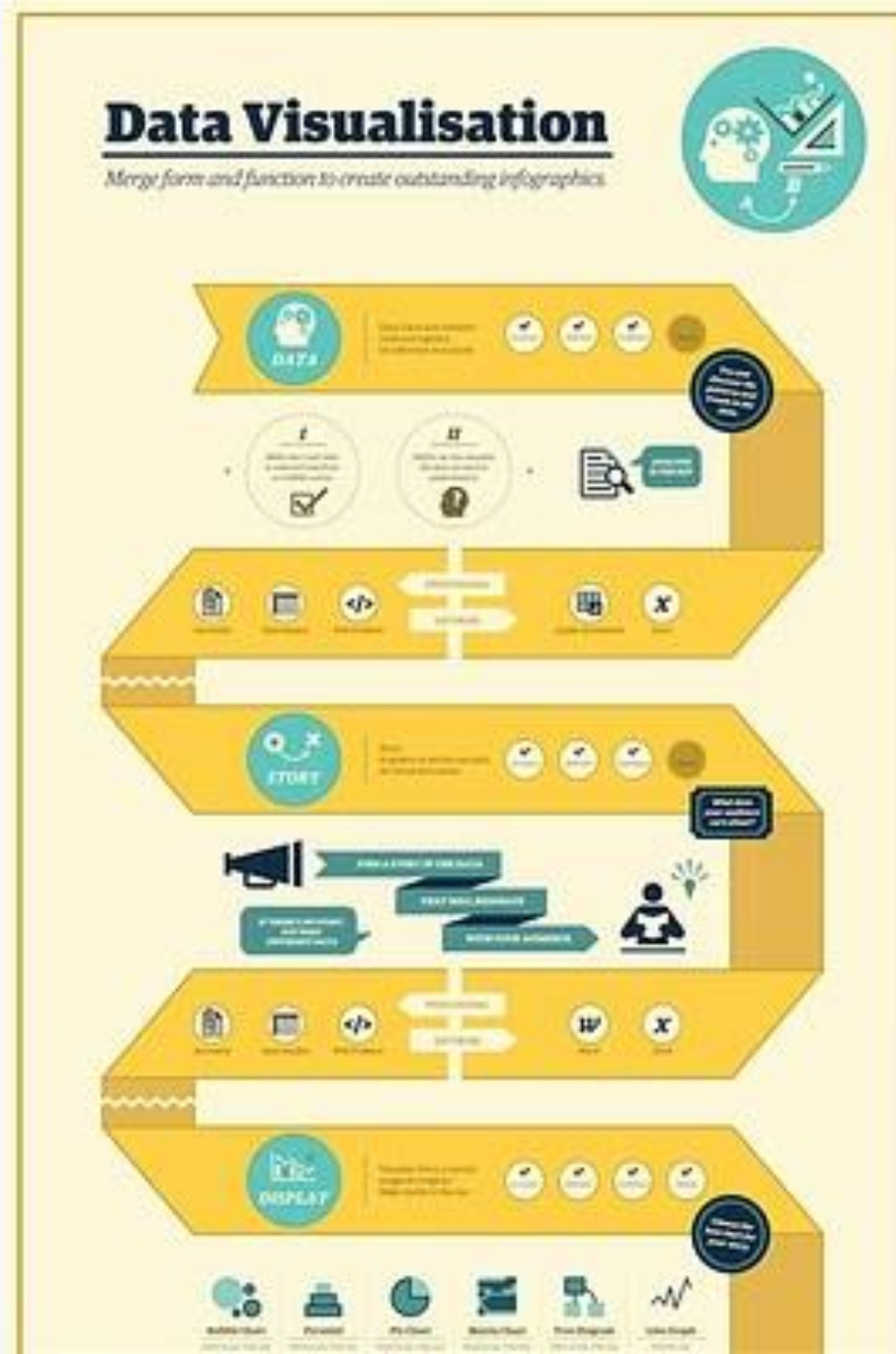
# Impact of Data on Real Business Processes





# The Power of Data in Business

Unlocking insights to drive growth and efficiency



# The Role of Data and Information in Business

1

## Informed Decision Making

Data supports strategic decisions by providing insights into market trends, customer behaviour, and operational efficiency.

2

## Deep Business Understanding

It offers a comprehensive view of business operations, revealing areas for improvement and opportunities for growth.

3

## Enhanced Customer Experience

Data helps businesses personalize offerings, streamline processes, and anticipate customer needs for improved satisfaction.

4

## Process Optimisation

Data analysis helps identify bottlenecks, inefficiencies, and areas where automation or streamlining can enhance productivity.

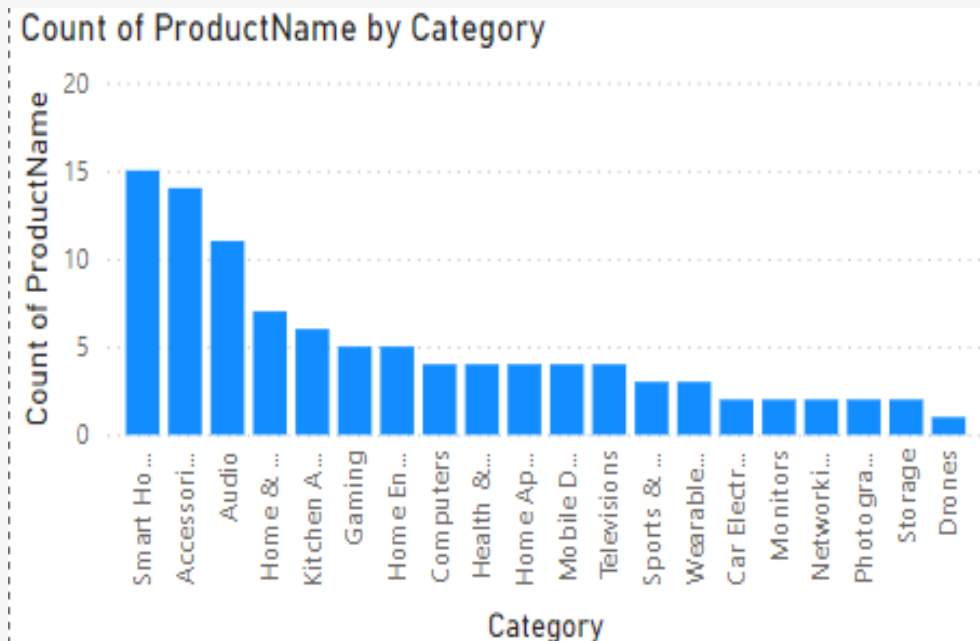


# Understanding Products and Suppliers

## Product Category Analysis

A bar chart visualises the number of products per category. This helps identify popular and less popular categories, guiding product portfolio optimisation.

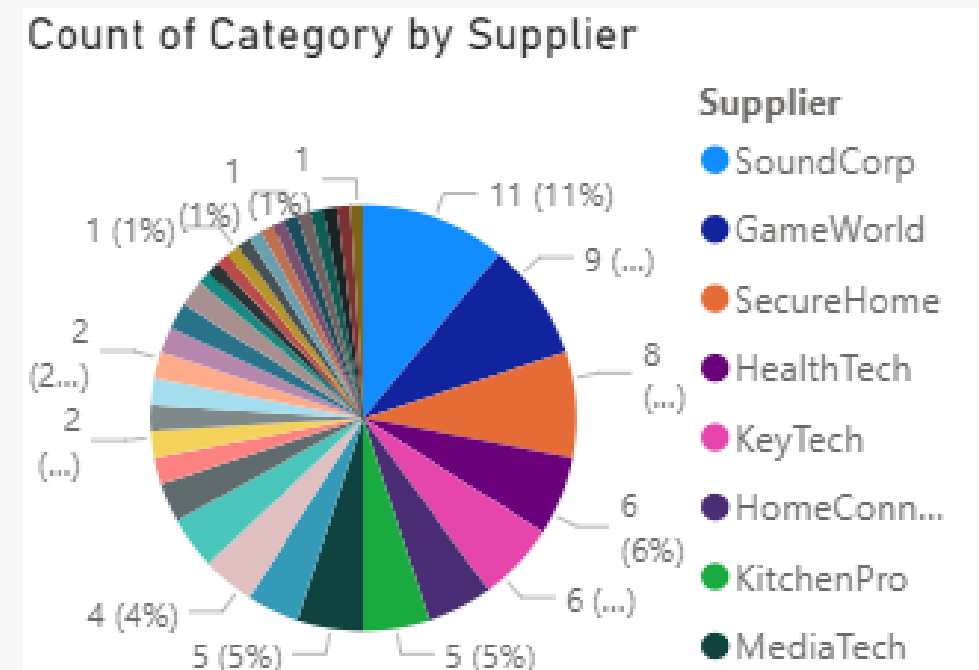
Example: The "Smart Home" category has the highest number of products, while "Drones" has the lowest number of products.



## Supplier Distribution

A pie chart represents the distribution of suppliers across product categories. This highlights the supplier network and potential for strategic partnerships.

Example: Suppliers SoundCorp and GameWorld have the largest number of catalogs, each accounting for about 11% of the total catalog.

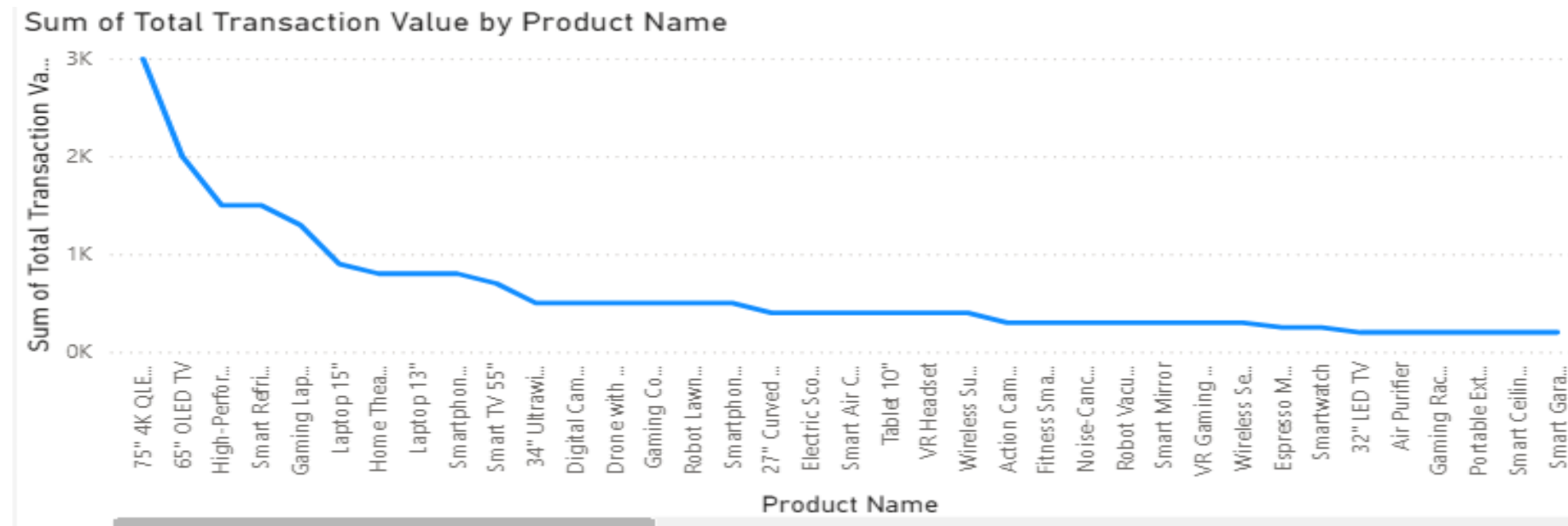


Product Name	Customer Ratings
Electric Scooter	4.90
Gaming Laptop	4.90
Laptop 13"	4.90
Robot Lawn Mower	4.90
Smart Air Conditioner	4.90
Smart Doorbell	4.90
Smart Lawn Sprinkler System	4.90
Smart Mirror	4.90
Smart Scale	4.90
Smartwatch	4.90
Video Doorbell	4.90
Wireless Charging Pad	4.90
Wireless Mouse	4.90
Wireless Router	4.90

# Assessing Product Performance

Product Name	Customer Ratings
Product Name A	4.5/5
Product Name B	3.8/5





- The line chart shows that 4K QLED TV has the highest total transaction value, around 3,000 currency units.
- Other products such as High Definition TV, Gaming Laptop, and Smart Refrigerator also have significant transaction values, ranging from 1,000 to 2,000 currency units.

# Market Analysis



Distribution of transactions by region

Geographic maps allow businesses to identify potential markets, allocate resources, and plan market expansion strategies.

# Data Generation Mechanisms and Tools

1

## Data Collection

IoT devices, sensors, and software applications like ERP and CRM systems gather real-time data.

2

## Data Processing

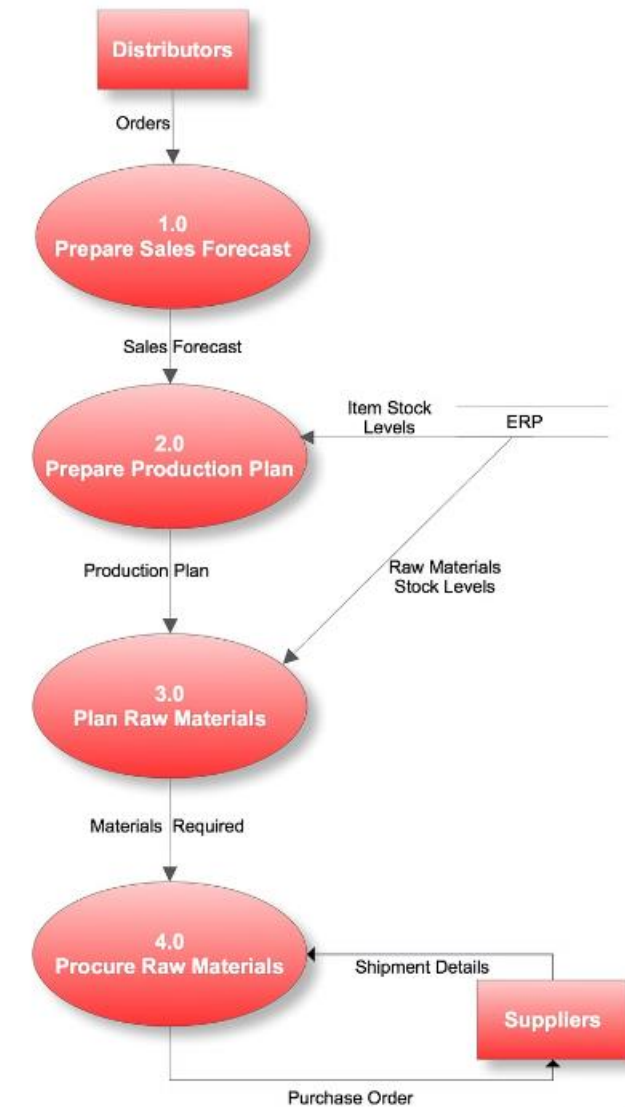
Raw data is cleaned, standardized, and transformed for analysis using tools like Power BI, Tableau, and Python.

3

## Data Storage and Analysis

Cloud-based databases, AI, and machine learning models are employed for storing, analyzing, and predicting insights from data.

Level-0 DFD



# Impact on Real Business Processes

## Sales and Marketing

Identify effective sales channels

Target the right customers

## Operations

Optimize supply chains and inventory management

Improve production processes

## Finance

Predict financial performance

Manage risk and optimize investments



## Tools for Meaningful Data Creation

Power BI

Interactive dashboards and reports

Tableau

Visual data exploration and analysis

Google Analytics

Web analytics and website traffic insights

**Analytics Tools If You  
e In The Industry**



# Data-Driven Insights in Action

1

## Customer Segmentation

Group customers based on demographics and behavior

2

## Targeted Marketing Campaigns

Deliver personalized messages to specific segments

3

## Improved Customer Retention

Identify and address customer churn risk



# Thank You

Thank you for your time. Feel free to reach out with any questions

# nk

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