

The Role of Data and Information in Business Processes

What is business data?

- Business data refers to raw facts, figures, and statistics collected from various sources within an organization and its external environment.
- It includes structured data (e.g., sales transactions, customer details) and unstructured data (e.g., social media posts, emails).





What is information in business?

- Information is the processed and organized form of data that has meaning and relevance for decision-making.
- It provides context, insights, and actionable knowledge to support business operations and strategic planning.





Types of data used in business:



Transactional data: Records of business activities, such as sales transactions, invoices, and inventory levels.

Customer Data



www.educba.com

Customer data: Information about customers, including demographics, purchase history, and preferences.



Marketing data: Data related to marketing campaigns, advertising, and customer acquisition.



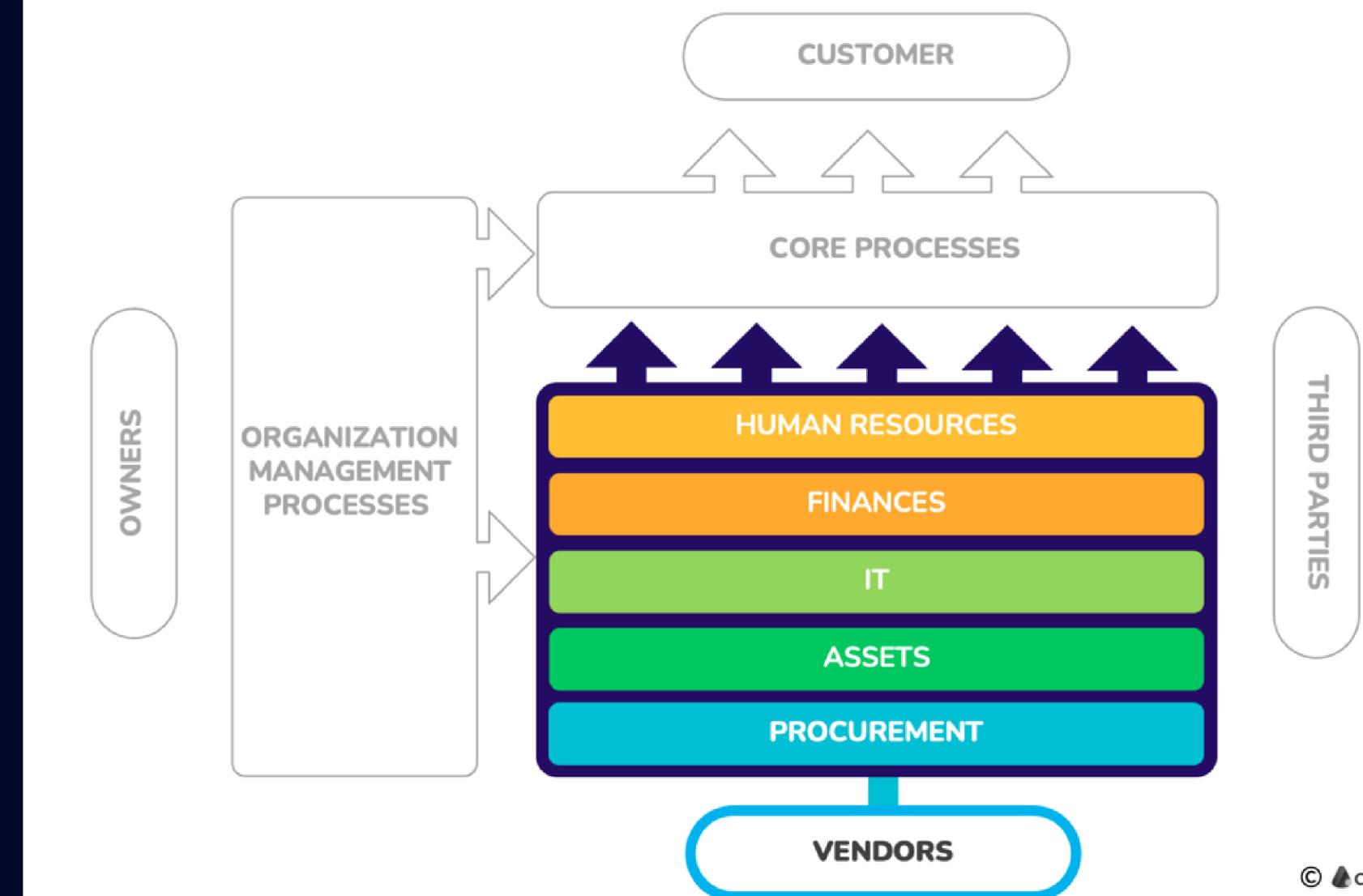
Social media and web analytics data: Insights from social media platforms, website traffic, and user behavior.

**Data and information support
business processes and deliver value
to the organization by:**

- Helping businesses make informed decisions based on accurate and relevant data.
- Improving customer satisfaction through personalized experiences and targeted marketing.
- Increasing revenue and profits by identifying growth opportunities and optimizing operations.
- Assisting with problem-solving by analyzing data to identify patterns, trends, and potential risks.
- Improving company processes by identifying inefficiencies and implementing data-driven improvements.

Support Business Processes

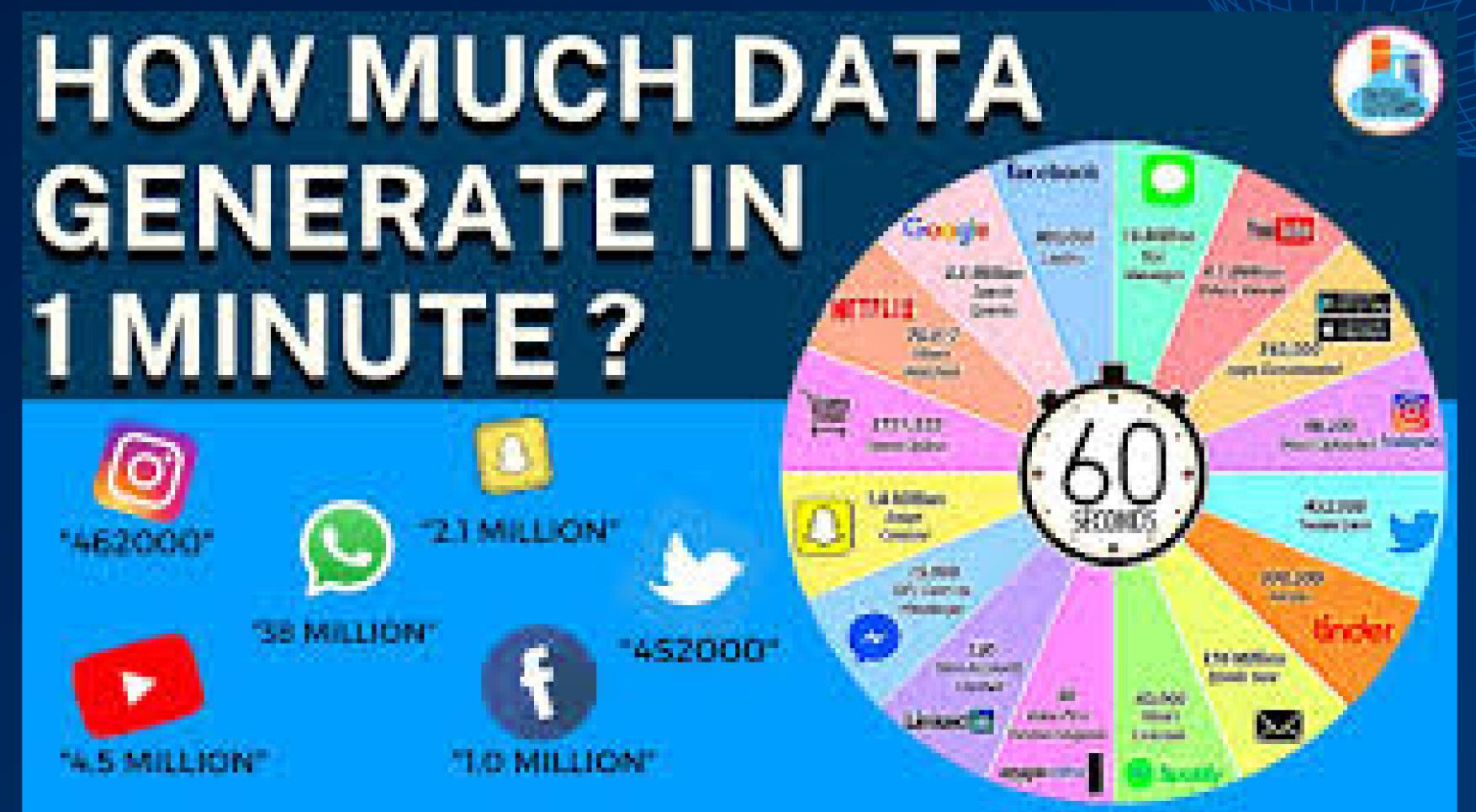
They ensure the smooth running of the organization and core processes





How data is generated:

- Transactional data: Generated through sales, purchases, and other business transactions.
 - Customer data: Collected through interactions, surveys, and customer relationship management systems.
 - Marketing data: Captured through advertising campaigns, website analytics, and market research.
 - Social media and web analytics data: Obtained from social media platforms, website analytics tools, and online surveys.



How data is used in business:



DECISION MAKING



Decision-making: Data analysis helps make informed decisions, develop strategies, and evaluate the success of initiatives.

Customer Engagement marketing



Marketing and customer engagement: Data-driven marketing campaigns, personalized recommendations, and targeted advertisements.



Risk management: Identifying potential risks, detecting fraud, and mitigating operational, financial, and cybersecurity risks.



Performance monitoring and improvement:
Tracking key performance indicators, identifying
areas for improvement, and optimizing processes.

Tools for data processing:

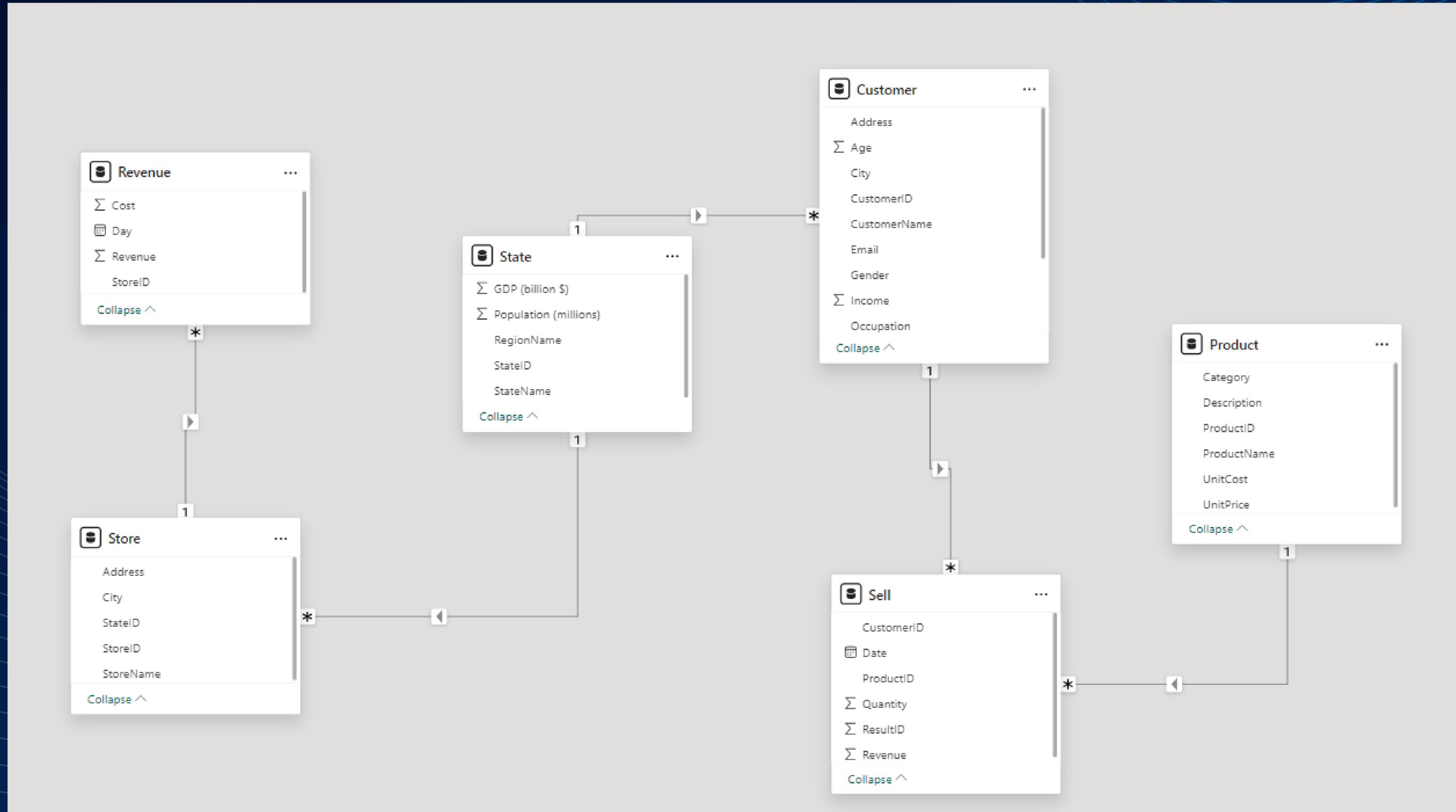


Excel [Protected View] - Excel (Product Activation Failed)

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	CustomerID	CustomerName	Email	Phone	Address	City	StateID	Age	Gender	Occupation	Income	PurchaseHistory	Preference		
2	1	John Smith	john.smith@example.com	123-456-7890	123 Main Street	Los Angeles	1	35	Male	Engineer	80000	Electronics, Clothing	Tech gadgets, Fashion		
3	2	Emily Johnson	emily.johnson@example.com	234-567-8901	456 Elm Avenue	New York City	3	28	Female	Marketing Manager	60000	Beauty, Home decor	Skincare, Interior design		
4	3	Michael Williams	michael.w@example.com	345-678-9012	789 Oak Boulevard	Chicago	5	40	Male	Business Analyst	90000	Electronics, Fitness	Latest gadgets, Exercise equipment		
5	4	Jennifer Brown	jennifer.b@example.com	456-789-0123	1000 Pine Drive	Houston	2	45	Female	Teacher	55000	Books, Home decor	Mystery novels, Home organization		
6	5	David Miller	david.miller@example.com	567-890-1234	123 Maple Street	Phoenix	14	32	Male	Accountant	70000	Electronics, Sports	Smart home devices, Basketball gear		
7	6	Jessica Davis	jessica.d@example.com	678-901-2345	456 Oak Avenue	Philadelphia	6	38	Female	Nurse	65000	Health, Pets	Healthy living, Dog care		
8	7	William Wilson	william.w@example.com	789-012-3456	789 Elm Boulevard	San Antonio	2	50	Male	Lawyer	120000	Travel, Fashion	Adventure travel, Luxury clothing		
9	8	Ashley Martinez	ashley.m@example.com	890-123-4567	1000 Pine Drive	San Diego	1	29	Female	Software Engineer	85000	Electronics, Beauty	New gadgets, Makeup		
10	9	Christopher Anderson	chris.and@example.com	901-234-5678	123 Main Street	Dallas	2	42	Male	Manager	95000	Home decor, Fitness	Interior design, Running gear		
11	10	Amanda Taylor	amanda.t@example.com	012-345-6789	456 Elm Avenue	San Jose	1	31	Female	Doctor	110000	Health, Electronics	Healthy lifestyle, Smart		

Microsoft Excel: Spreadsheet software for data entry, manipulation, and basic analysis.



SQL (Structured Query Language): Database management language for querying and manipulating structured data.



Power BI



Power BI: Business intelligence tool for data visualization, analysis, and reporting.

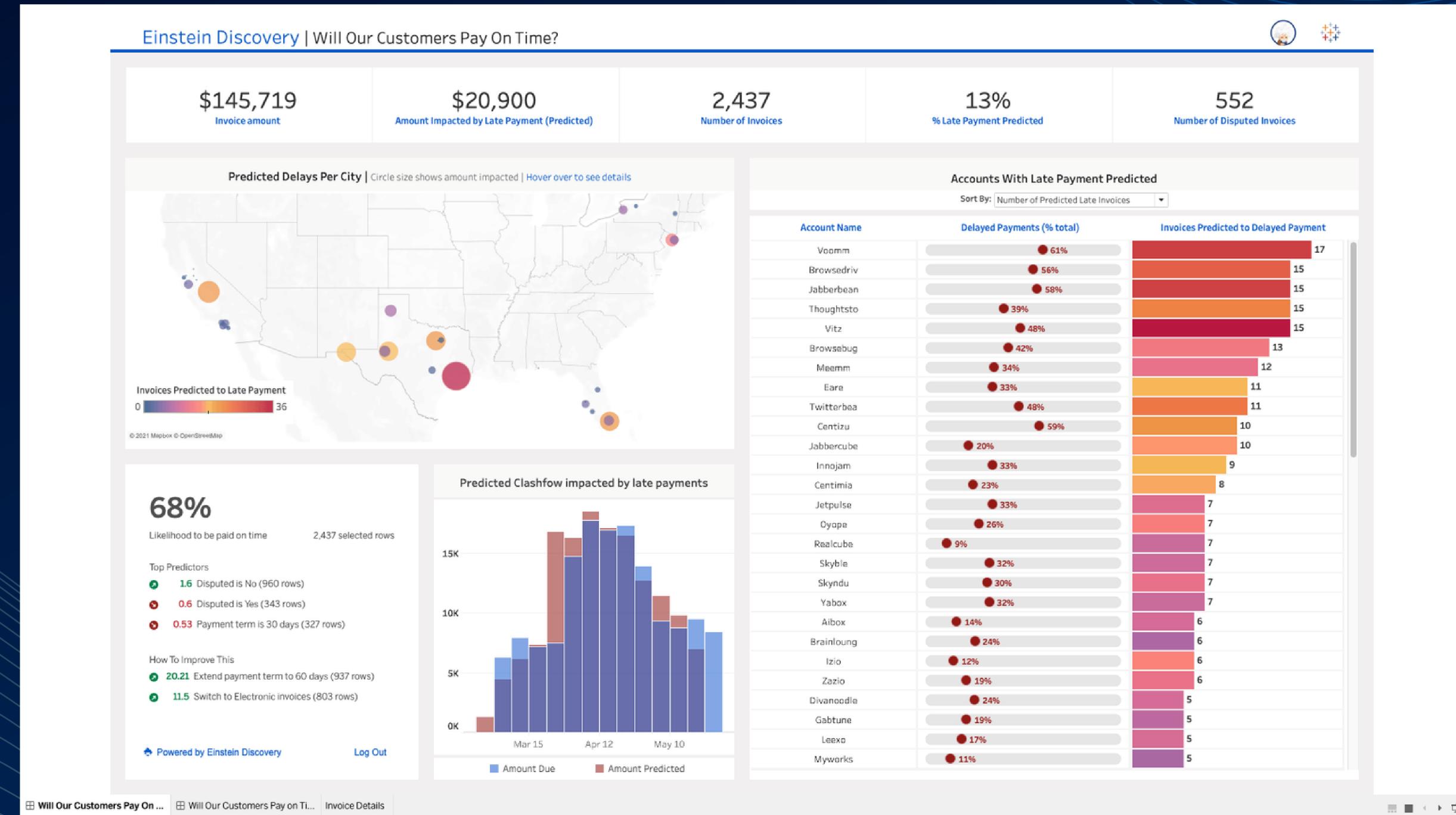


Tableau: Data visualization software for creating interactive dashboards and reports.

Tools used in the project:

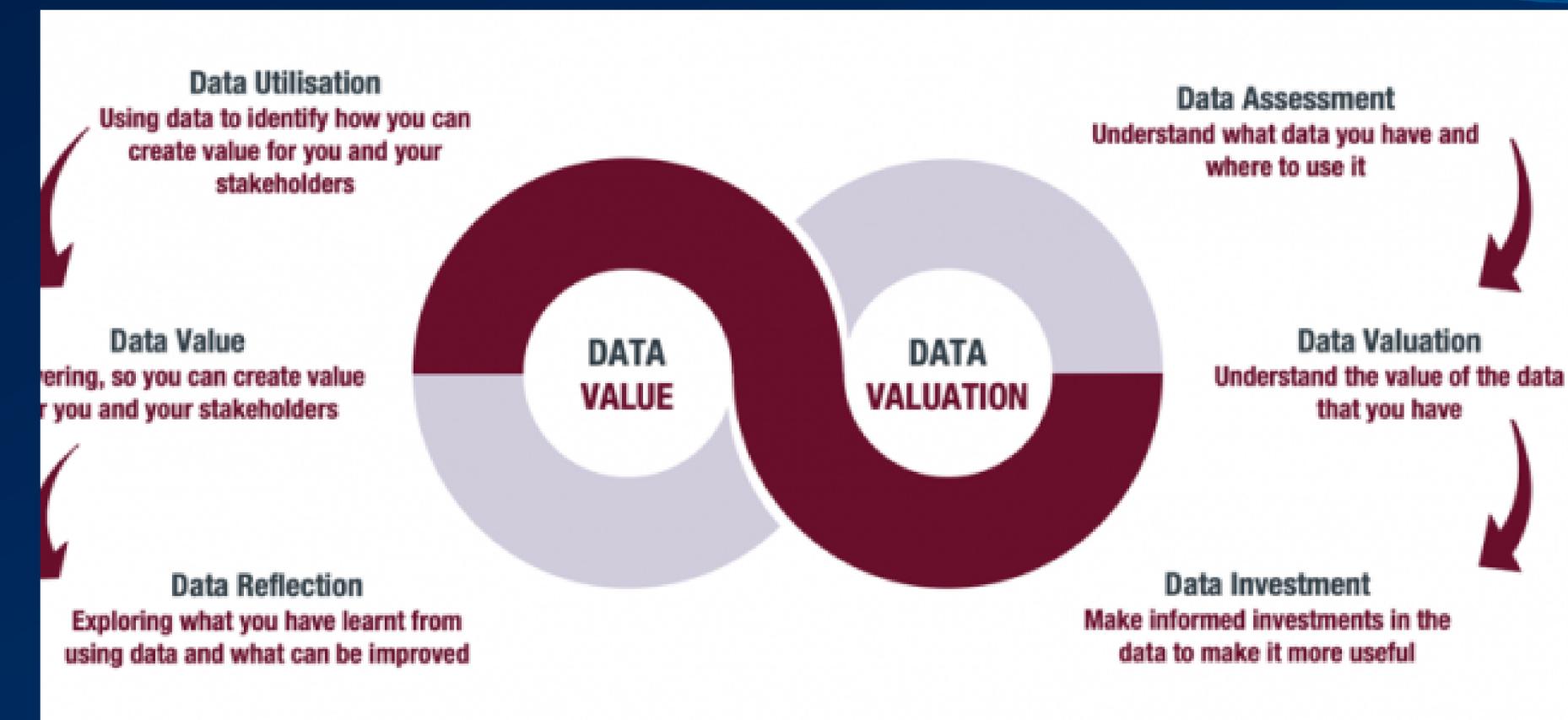


- Mention the specific tools used for generating, manipulating, and analyzing data (e.g., Power BI, Excel, SQL).
- Highlight their importance in supporting the project's objectives.



Assessing the value of data and information:

- Create sample data for the problem: Simulate relevant data to analyze and address specific business challenges.
- Apply it to Power BI and use business results for decision-making: Utilize Power BI to analyze and derive insights from the data.
- Use Power BI to create a Dashboard of evaluation charts and decision support for managers: Present key metrics, trends, and visualizations to aid decision-making.



Tables to be retrieved:

- Sales data (transaction): Transactional data capturing sales information, including dates, products, quantities, and prices.
- Customer + country data: Customer details, including demographics, contact information, and associated country.
- Product and price data: Information on products, including names, descriptions, and corresponding prices.
- Market trend data: Data reflecting market trends, industry benchmarks, and competitor analysis.
- Website access data: Metrics related to website traffic, user behavior, and conversion rates.

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Practice Power BI



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Electronics, Sports

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Sales Manager ABC Manufacturing

RegionName
All

StateName
All

StoreID
All

Day
01/01/2024 01/07/2024

14M

Sum of Revenue

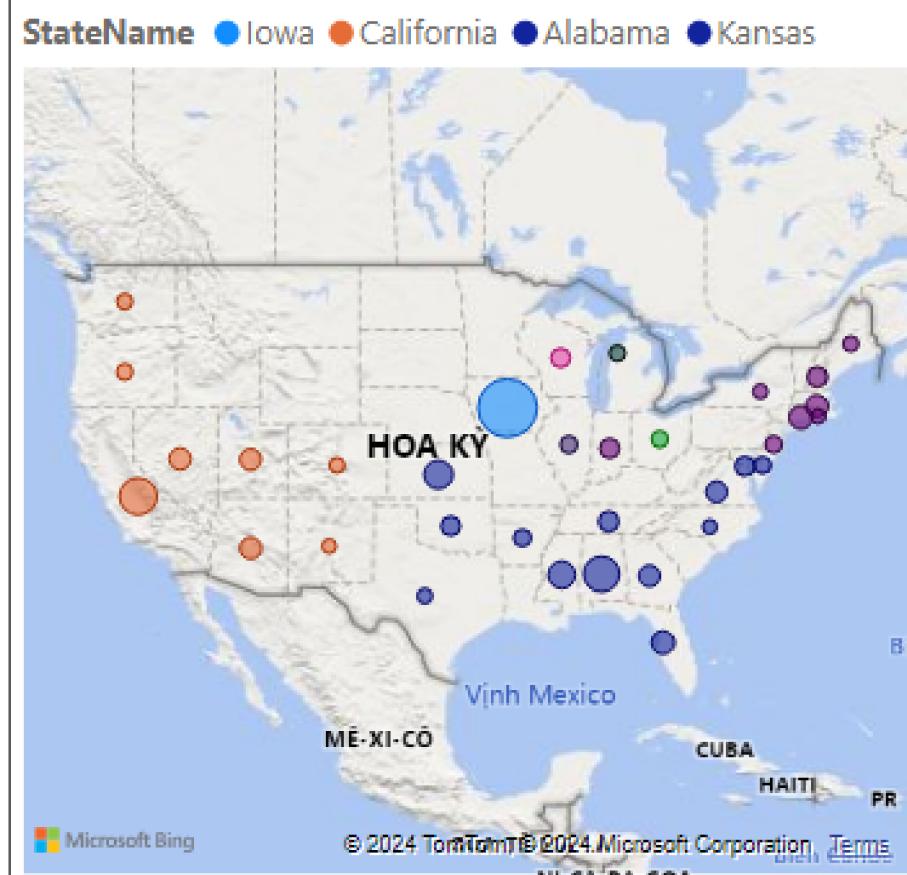
3M

Sum of Profit

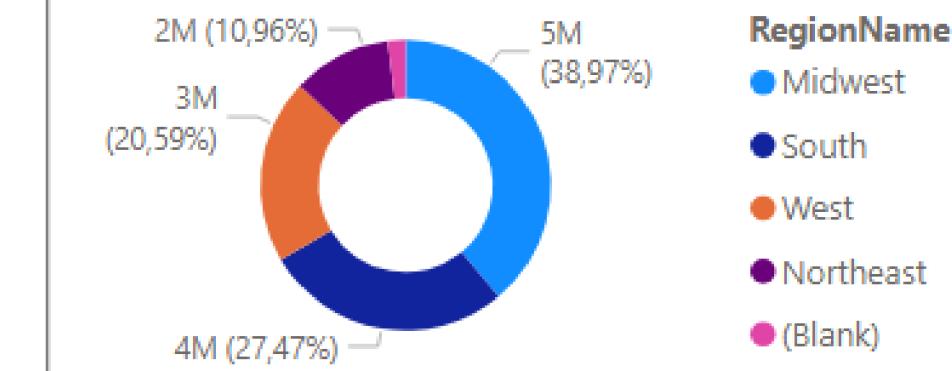
20,11%

Profit Percentage

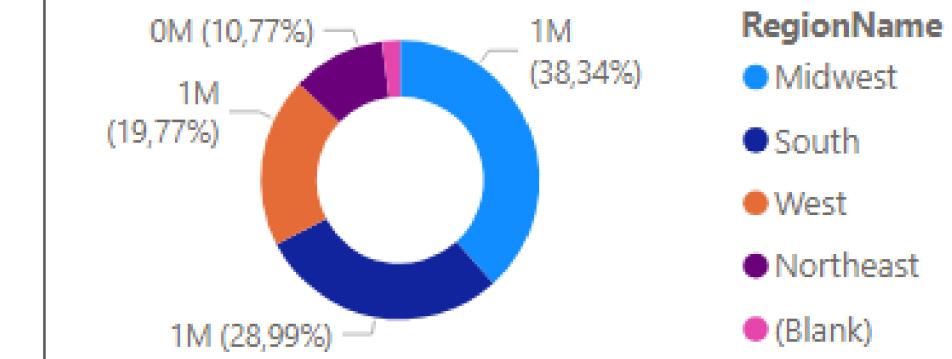
Sum of Profit by StateName and StateName



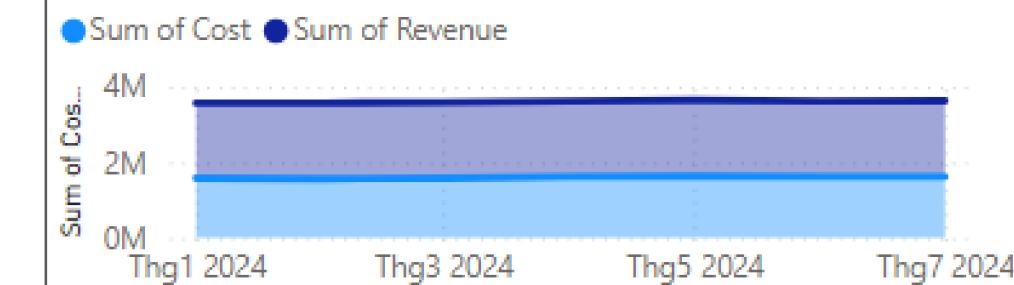
Sum of Revenue by RegionName and StoreName



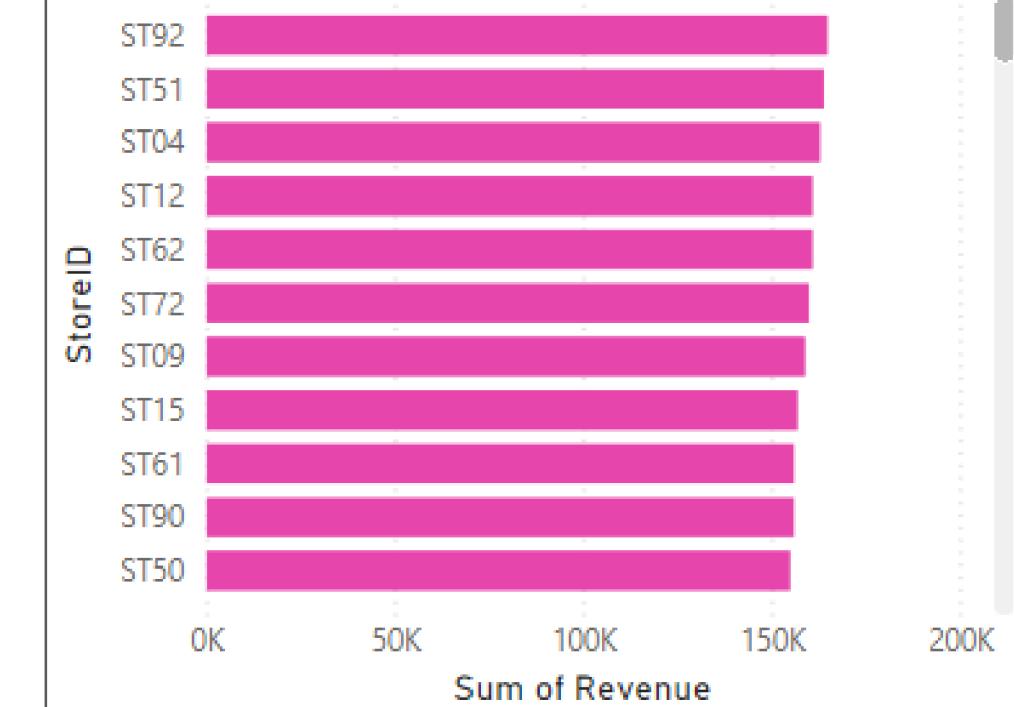
Sum of Profit by RegionName



Sum of Cost and Sum of Revenue by Year, Quarter, Month and Day



Sum of Revenue by StoreID



Link Github:

<https://github.com/nhungz/ASM1>

Conclusion



- Recap the importance of data and information in supporting business processes and delivering value to organizations.
- Highlight the role of data processing tools in manipulating and analyzing data effectively.
- Emphasize the practical application of data and information for decision-making and performance improvement in real-world business processes.

THANKYOU