



MARKET BASKET ANALYSIS



Data Source: Choose a dataset containing transaction data, including lists of purchased products

BillNo	Itemname	Quantity	Date	Price	CustomerID	Country	
536365	WHITE HANGING HEART T-LIGHT HOLDER	6	06\10\2023	2.55	17850	United Kingdom	
536365	WHITE METAL LANTERN	6	06\10\2023	3.39	17850	United Kingdom	
536365	CREAM CUPID HEARTS COAT HANGER	8	07\10\2023	2.75	17850	United Kingdom	
536365	KNITTED UNION FLAG HOT WATER BOTTLE	6	07\10\2023	3.39	17850	United Kingdom	
536365	RED WOOLLY HOTTIE WHITE HEART.	6	07\10\2023	3.39	17850	United Kingdom	
536365	SET 7 BABUSHKA NESTING BOXES	2	08\10\2023	7.65	17850	United Kingdom	
536365	GLASS STAR FROSTED T-LIGHT HOLDER	6	08\10\2023	4.25	17850	United Kingdom	
536366	HAND WARMER UNION JACK	6	08\10\2023	1.85	17850	United Kingdom	
536366	HAND WARMER RED POLKA DOT	6	08\10\2023	1.85	17850	United Kingdom	
536367	ASSORTED COLOUR BIRD ORNAMENT	32	08\10\2023	1.69	13047	United Kingdom	
536367	POPPY'S PLAYHOUSE BEDROOM	6	09\10\2023	2.1	13047	United Kingdom	
536367	POPPY'S PLAYHOUSE KITCHEN	6	09\10\2023	2.1	13047	United Kingdom	

Data Preprocessing: Prepare the transaction data by transforming it into a suitable format for association analysis.

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536365	WHITE HANGING HEART T-LIGHT HOLDER	6	06\10\2023	2.55	17850	United Kingdom	
536365	WHITE METAL LANTERN	6	06\10\2023	3.39	17850	United Kingdom	
536365	CREAM CUPID HEARTS COAT HANGER	8	07\10\2023	2.75	17850	United Kingdom	
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536366	HAND WARMER UNION JACK	6	08\10\2023	1.85	17850	United Kingdom	
536366	HAND WARMER RED POLKA DOT	6	08\10\2023	1.85	17850	United Kingdom	
536367	ASSORTED COLOUR BIRD	32	09\10\2023	1.69	13047	United Kingdom	

Association Analysis: Utilize the Apriori algorithm to identify frequent itemsets and generate association rules.

Bill No	Items name	Quantity	Date	Price	Customer ID	Country
536365	White metal lantern	6	30/09/2023	2.55	1728	United kingdom
536365	Poppy's playhouse bedroom	5	29/09/2023	3.39	1728	United kingdom
536364	Poppy's playhouse kitchen	4	28/09/2023	3.45	1728	United kingdom
536374	Ivory knitted mug cosy	3	27/09/2023	3.45	1378	United kingdom
536363	Hand warmer union jack	4	26/09/2023	4.25	1378	United kingdom
536353	Hand warmer red polka dot	4	25/09/2023	1.22	1422	United kingdom

Interpret the association rules to understand customer behavior and cross-selling opportunities topics

1.Understanding Customer Behavior:

2.Cross-Selling Opportunities

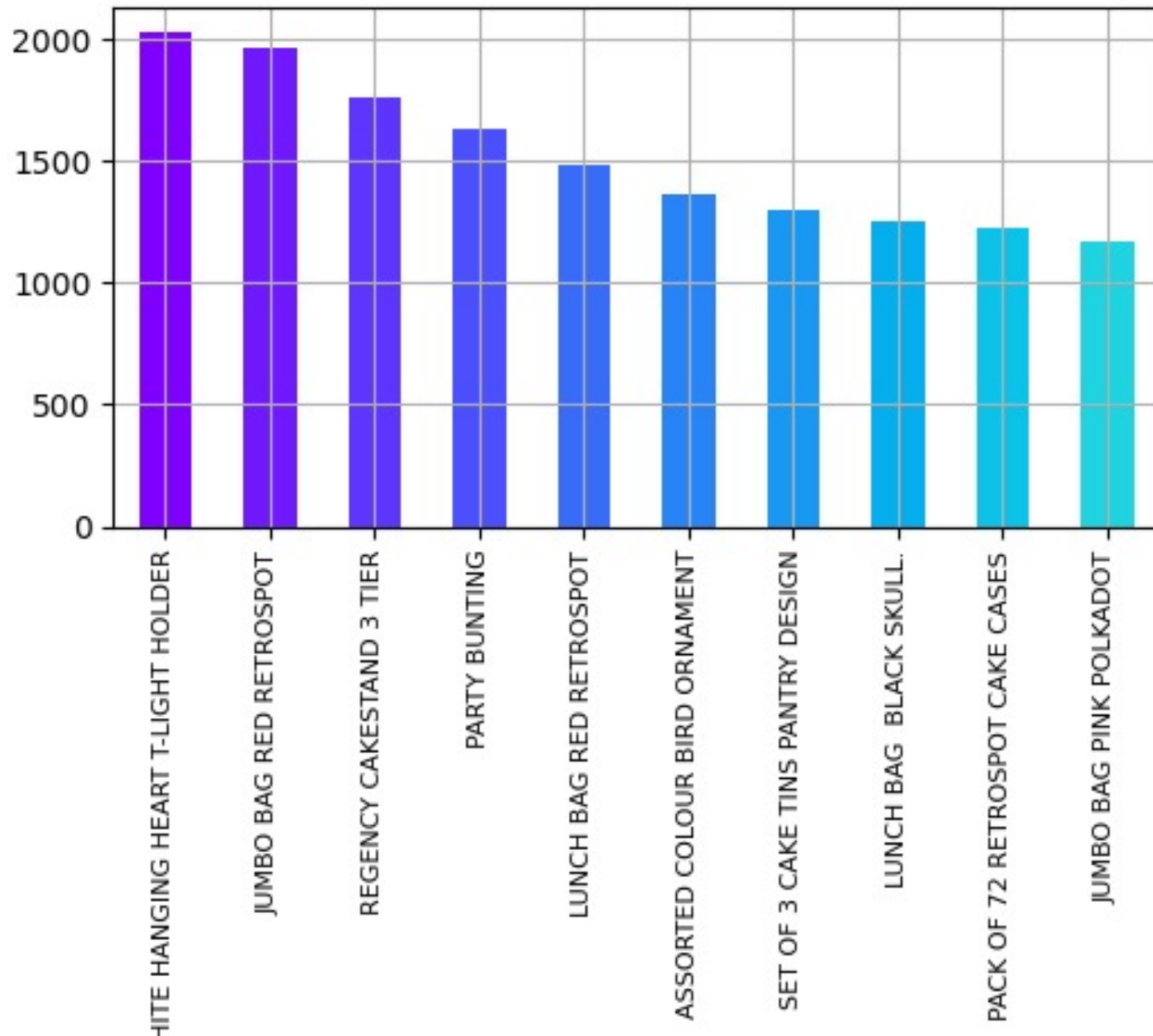
3. a Short-Term Focus

4.Dynamic Pricing

5.Customer Segmentation

6.Market Basket Analysis

Visualization: Create visualizations to present the discovered associations and insights.



Business Recommendations: Provide actionable recommendations for the retail business based on the insights

1.Embrace Data Analytics

2.Strengthen Online Presence

3.Customer-Centric Approach

4.Streamline Operations:

5.Competitive Analysis