OList - Retail Analytics

How OList can manage its Inventory to reduce any unnecessary costs?

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The problem

Company

OList is one such e-commerce company that has faced some losses recently

Context

They want to manage their inventory very well so as to reduce any unnecessary costs that they might be bearing.
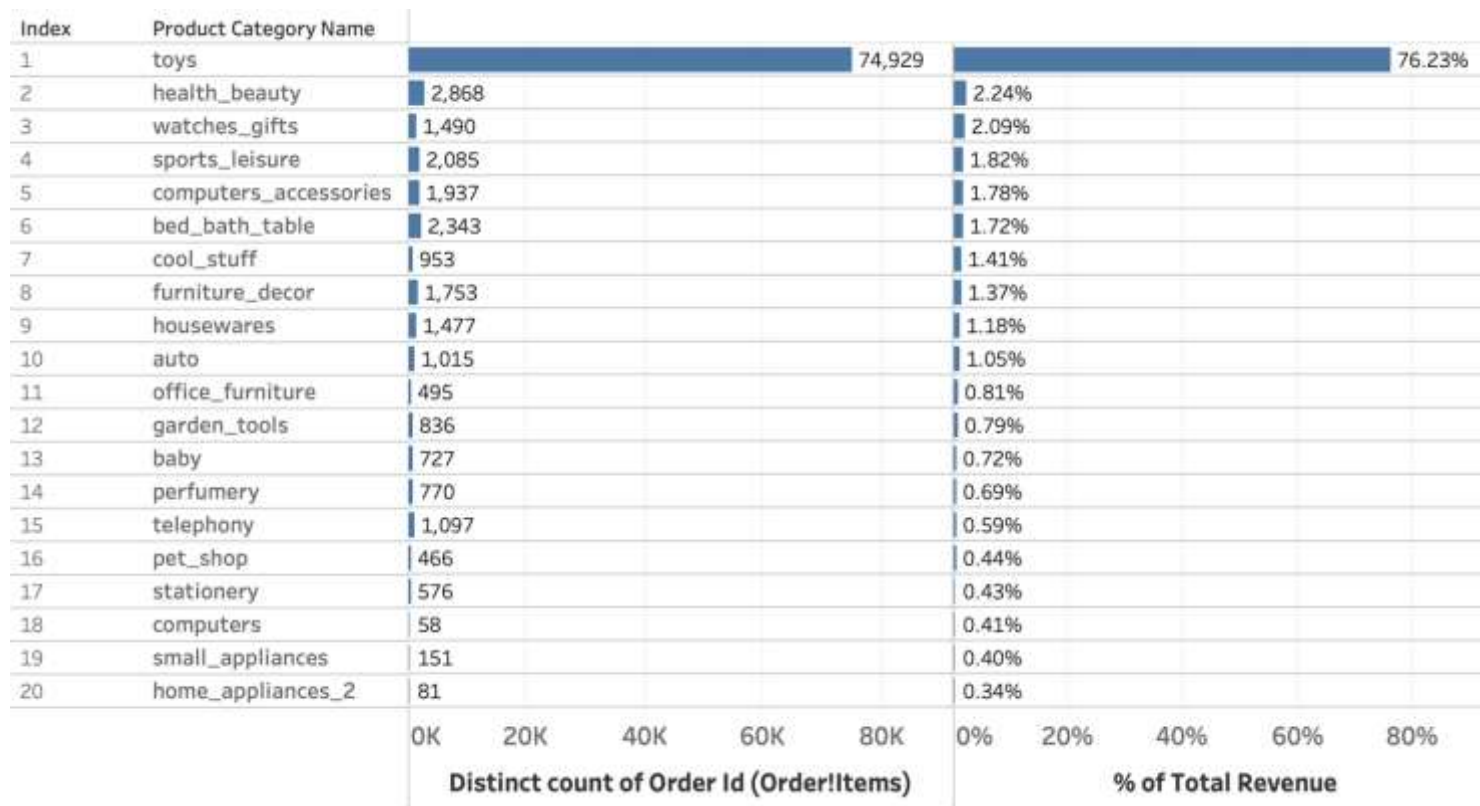
Problem statement

Need to identify top revenue-generating products and use Market Basket Analysis to identify individual product categories and combinations that can help with sales growth.
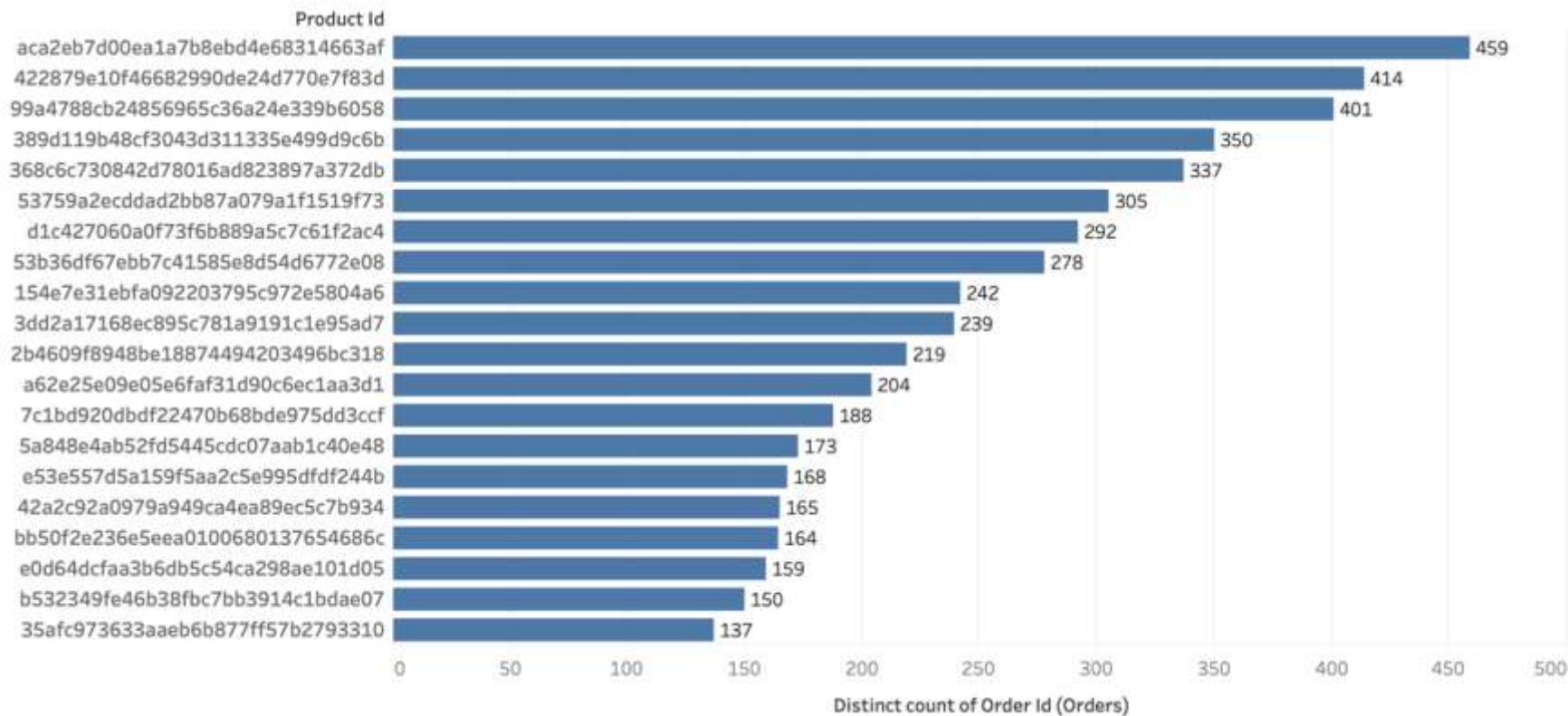
Solution

Key Visualisations

- Revenue and Orders by Category
- 20 Most Ordered Products
- Top 20 revenue-generating products
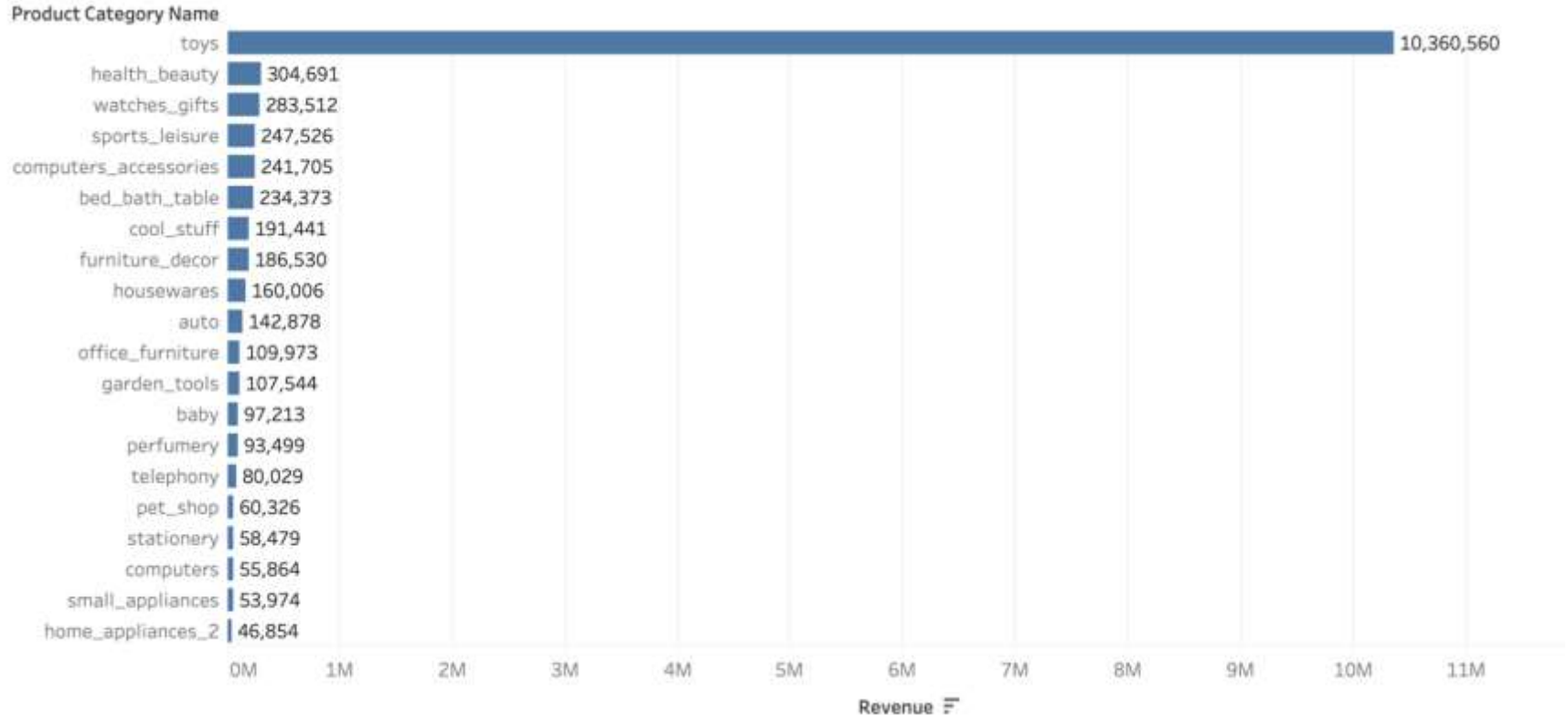- Market Basket Analysis

Revenue and Orders by Category

Index	Product Category Name	Distinct count of Order Id (Order!Items)	% of Total Revenue
1	toys	74,929	76.23%
2	health_beauty	2,868	2.24%
3	watches_gifts	1,490	2.09%
4	sports_leisure	2,085	1.82%
5	computers_accessories	1,937	1.78%
6	bed_bath_table	2,343	1.72%
7	cool_stuff	953	1.41%
8	furniture_decor	1,753	1.37%
9	housewares	1,477	1.18%
10	auto	1,015	1.05%
11	office_furniture	495	0.81%
12	garden_tools	836	0.79%
13	baby	727	0.72%
14	perfumery	770	0.69%
15	telephony	1,097	0.59%
16	pet_shop	466	0.44%
17	stationery	576	0.43%
18	computers	58	0.41%
19	small_appliances	151	0.40%
20	home_appliances_2	81	0.34%

Distinct count of Order Id (Order!Items) — axis: 0K, 20K, 40K, 60K, 80K

% of Total Revenue — axis: 0%, 20%, 40%, 60%, 80%

20 Most Ordered Products

Product Id	Distinct count of Order Id (Orders)
aca2eb7d00ea1a7b8ebd4e68314663af	459
422879e10f46682990de24d770e7f83d	414
99a4788cb24856965c36a24e339b6058	401
389d119b48cf3043d311335e499d9c6b	350
368c6c730842d78016ad823897a372db	337
53759a2ecddad2bb87a079a1f1519f73	305
d1c427060a0f73f6b889a5c7c61f2ac4	292
53b36df67ebb7c41585e8d54d6772e08	278
154e7e31ebfa092203795c972e5804a6	242
3dd2a17168ec895c781a9191c1e95ad7	239
2b4609f8948be18874494203496bc318	219
a62e25e09e05e6faf31d90c6ec1aa3d1	204
7c1bd920dbdf22470b68bde975dd3ccf	188
5a848e4ab52fd5445cdc07aab1c40e48	173
e53e557d5a159f5aa2c5e995dfdf244b	168
42a2c92a0979a949ca4ea89ec5c7b934	165
bb50f2e236e5eea0100680137654686c	164
e0d64dcfaa3b6db5c54ca298ae101d05	159
b532349fe46b38fbc7bb3914c1bdae07	150
35afc973633aaeb6b877ff57b2793310	137

Top 20 revenue-generating products

Product Category Name

Category	Revenue
toys	10,360,560
health_beauty	304,691
watches_gifts	283,512
sports_leisure	247,526
computers_accessories	241,705
bed_bath_table	234,373
cool_stuff	191,441
furniture_decor	186,530
housewares	160,006
auto	142,878
office_furniture	109,973
garden_tools	107,544
baby	97,213
perfumery	93,499
telephony	80,029
pet_shop	60,326
stationery	58,479
computers	55,864
small_appliances	53,974
home_appliances_2	46,854

Revenue

Market Basket Analysis

Product category nam..	toys	furniture_..	housewares	office_furnitu..	health_beauty	watches_gifts	telephony
toys		156	63	18	84	73	32
bed_bath_table	294	6	2	1	1		
furniture_decor	156		1			1	
computers_accessories	104		2				
health_beauty	84					1	
watches_gifts	73	1			1		
housewares	63	1					
sports_leisure	62		1	1	2		
garden_tools	45	3	1				
fashion_bags_accessories	42						
auto	40						
telephony	32						
perfumery	32						
stationery	31						
cool_stuff	25						
pet_shop	23						
baby	21	1					
office_furniture	18						
construction_tools_construc..	12				1		
luggage_accessories	11						
costruction_tools_garden	11						
musical_instruments	8						
fashion_shoes	8						
electronics	8	1					
market_place	7						
home_construction	7	1					

CNTD(Order Id)

1 — 294

Toys are most ordered and generate 76.23 % revenue alone

Toys, health_beauty, and watches_gift combined generated 80.56% of the revenues

Key Insights

Top Category

80% orders

80% revenue

toys, health_beauty, and bed_bath_table are 80.38% of total orders.
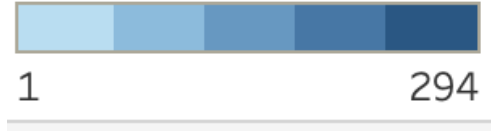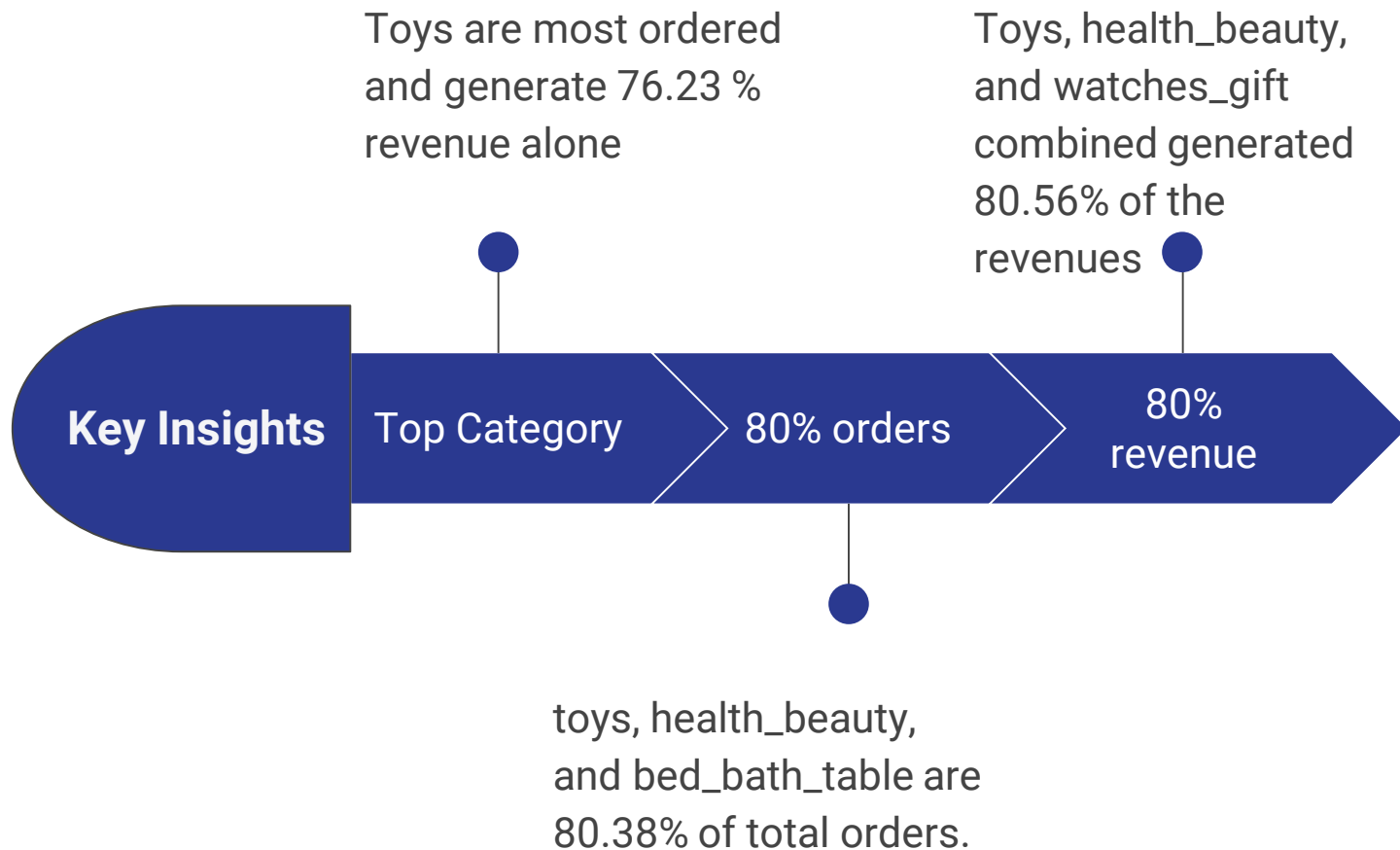
Recommendation

Offer discounts on things that work nicely in combination with toys.

Our Target customers are parents and Target consumers are newly born and young children

- Concentrate on the categories that accounted for more than **80% of total revenue**. Always keep them on hand and, if necessary, restock ahead of time.
- According to our analysis, customers should be recommended to purchase toys in conjunction with other things that complement them.

Summary

- The dataset at our disposal is known as "Retail dataset." It is an excel spreadsheet.
- The excel file contains five worksheets: orders, order items, customers, payments, and products.
- We have a lot of duplicates and null values in our data.
- In the jupyter notebook, we filter the values and produce a separate cleaned file.
- Following completion of the treatment, the cleaned data was exported to the Retail dataset cleaned excel file with the same sheet names.
- Tableau is used for visualising data on various items and product categories, as well as for Market Basket Analysis.
- For Market Basket Analysis, we must build a distinct dataset using the original dataset in Excel.
- Finally, a market basket analysis for various combinations is performed.

Thankyou

"Knowledge is power in business, and data is the fuel that creates this power"