

Purchasing Patterns Analysis

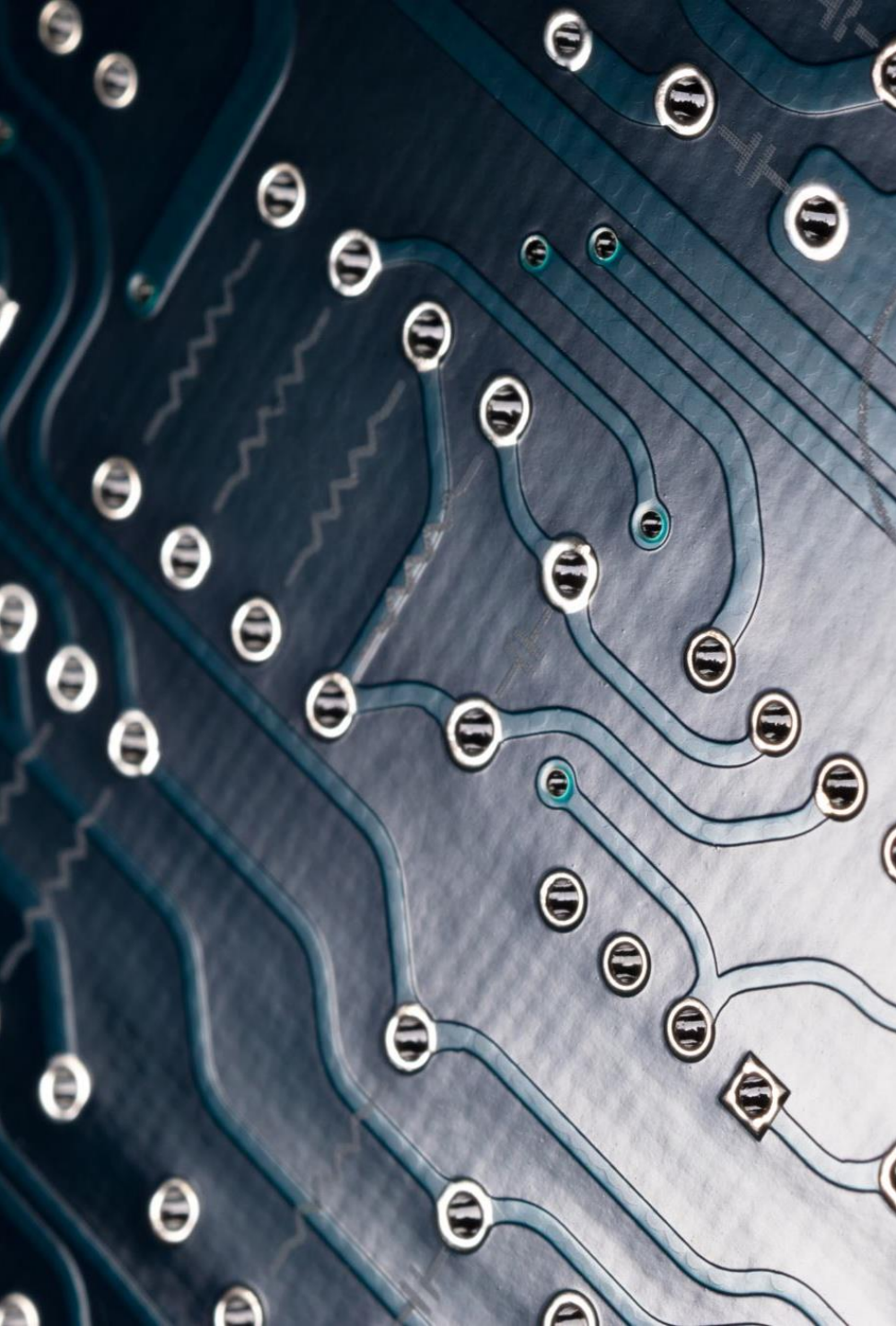
Insight into Electronidex's Clientele

125,058	154,568	95,054	124,500
56,845	97,511	125,000	154,000
125,000	99,011	95,000	95,000
	99,216	154,200	110,000
		89,000	50,000
105,450	83,000	68,700	123,000
86,502	45,000	101,902	
		102,747	
		100,006	

The background of the slide is a collage of financial data visualizations. It includes a bar chart at the top left, a line chart with a shaded area in the middle, and a table of numbers at the bottom. The charts are overlaid on a grid, and the overall color scheme is a mix of blue, orange, and white.

Agenda

- The background of this project
- What is the Business questions?
- Description of the data
- Item frequency and items for each transaction
- Market Basket Analysis
- Plot Purchasing Patterns
- Answer the Business Questions



The background of this project

- Blackwell Electronics' board of directors is considering acquiring Electronidex, a start-up electronics online retailer.
- Blackwell Electronics' board of directors need our help to identify purchasing patterns that will provide insight into Electronidex's clientele.

What is Business Questions?

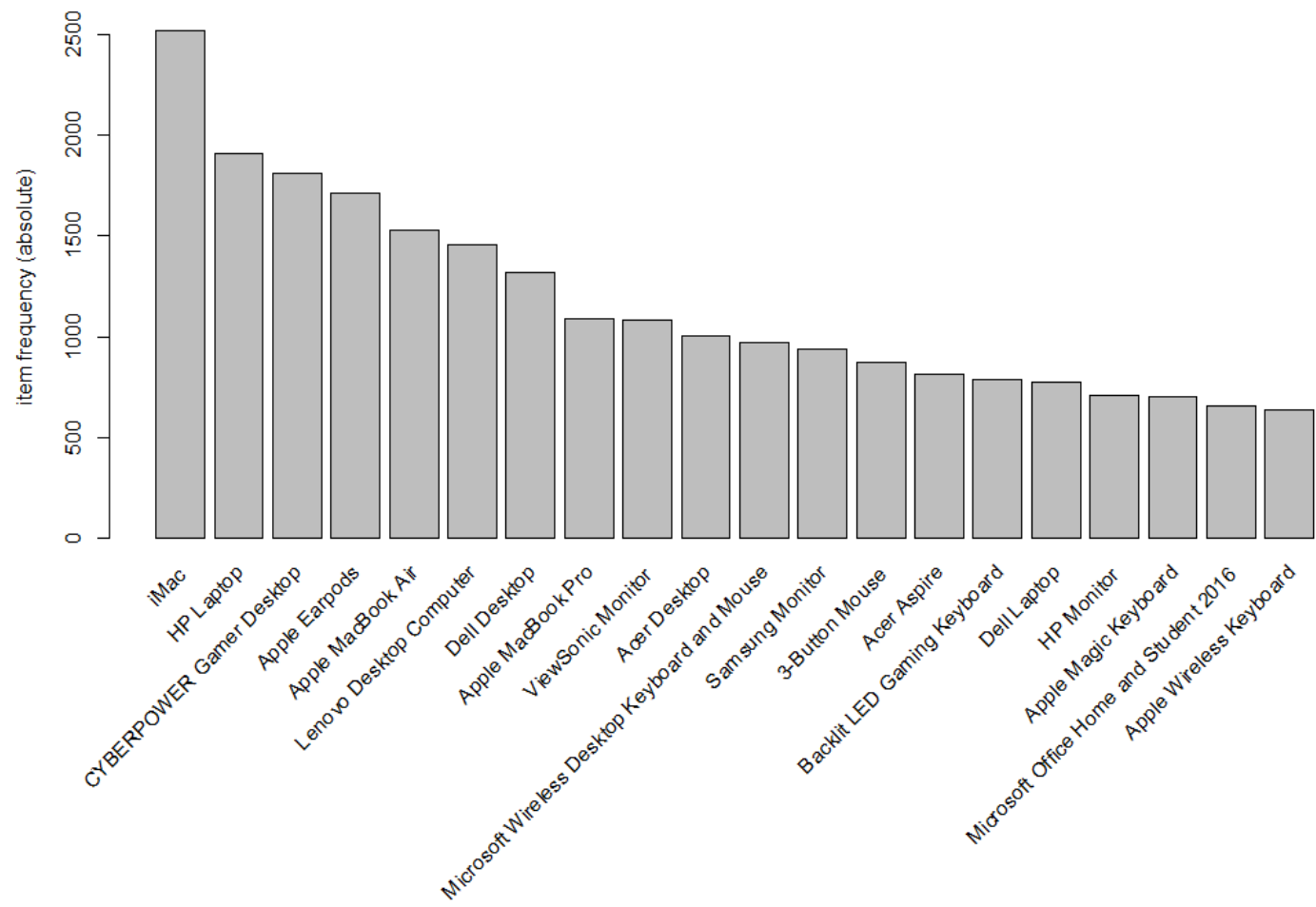
- Are there any interesting patterns or item relationships within Electronidex's transactions?
- Would Blackwell benefit from selling any of Electronidex's items?
- Should Blackwell acquire Electronidex?
- If Blackwell does acquire Electronidex, any recommendations for Blackwell?

Description of the data

- 9835 Transactions
- 125 Items
- Numbers of items per transactions:

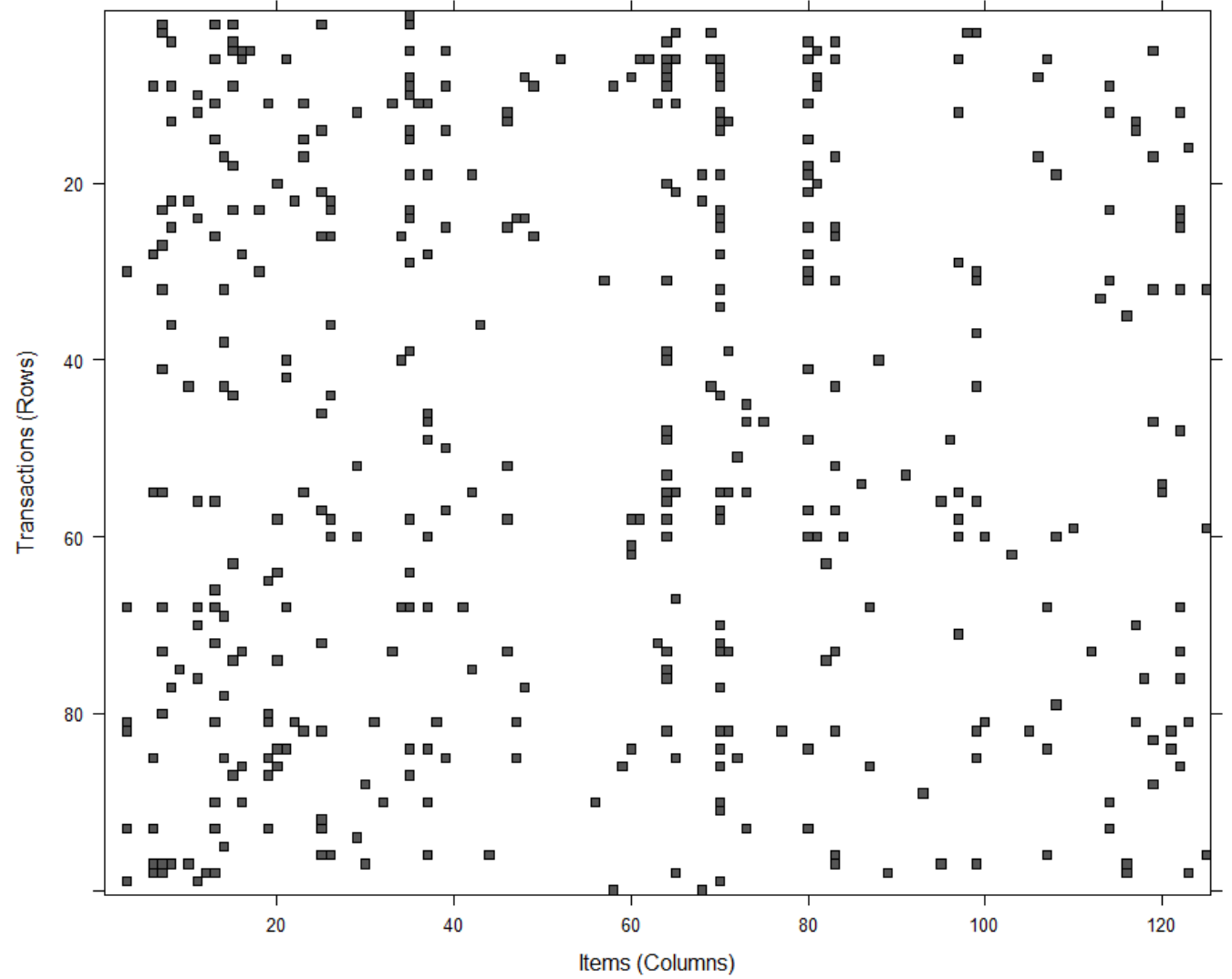
Number of items per transation	frequency	Number of items per transation	frequency
0	2	15	56
1	2163	16	41
2	1647	17	26
3	1294	18	20
4	1021	19	10
5	856	20	10
6	646	21	10
7	540	22	5
8	439	23	3
9	353	25	1
10	247	26	1
11	171	27	3
12	119	29	1
13	77	30	1
14	72		

Item Frequency



Items	Transaction Times
iMac	2519
HP Laptop	1909
CYBERPOWER Gamer Desktop	1809
Apple Earpods	1715
Apple MacBook Air	1530
Other	33622

Items for
each
Transaction



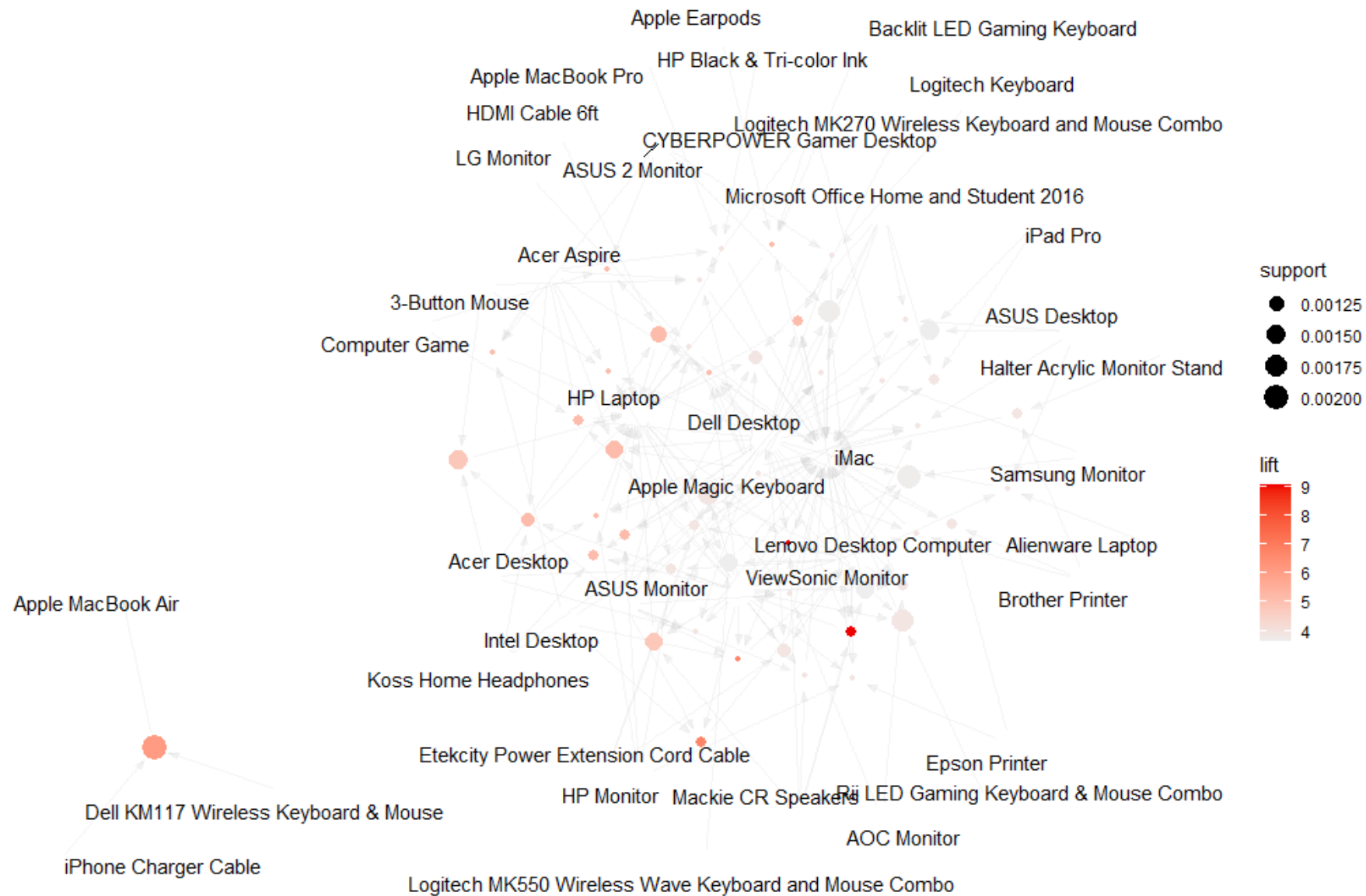
Market Basket Analysis

- We found 635 sets of purchasing patterns with 80% confidence
- Within this 635 sets, the frequency of items per transaction is:

Items per transaction	3	4	5	5
Frequency	30	303	269	33

- Purchasing Patterns:
 - [1] {Brother Printer, Halter Acrylic Monitor Stand} => {iMac}
 - [2] {ASUS Monitor, Mackie CR Speakers, ViewSonic Monitor} => {iMac}
 - [3] {Apple Magic Keyboard, Rii LED Gaming Keyboard & Mouse Combo, ViewSonic Monitor} => {iMac}
 - [4] {ASUS Monitor, Koss Home Headphones, Microsoft Office Home and Student 2016} => {iMac}
 - [5] {Acer Aspire, Koss Home Headphones, ViewSonic Monitor} => {HP Laptop} 0.001220132

Plot Rules of Purchasing Patterns



Answer the Business Questions



We can see the purchasing Patterns in the previous analysis.



Since the products of Blackwell are PC, laptop, accessories, display, printer, software, game console, tablet, which are pretty like the product line of Electronidex. These products are often in the related purchasing patterns, so Blackwell can benefit from selling Electronidex's products.



Blackwell should acquire Electronidex.



I will recommend that Blackwell use the market basket analysis results to bundle its own products with Electronidex's products.



Thank you!

Presented by Wanyun Ho
howanyun@gmail.com
