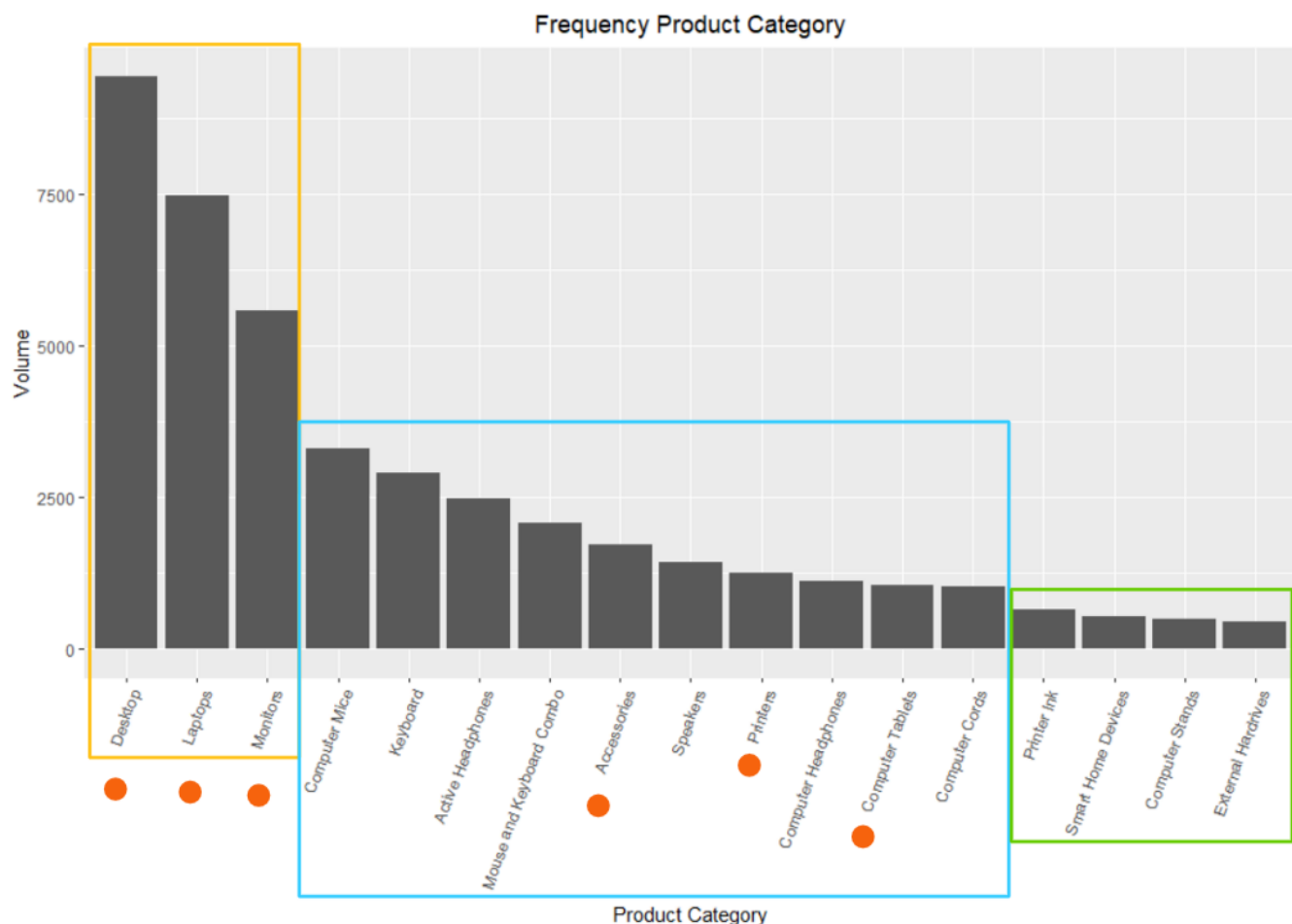


# SHOULD BLACKWELL ACQUIRE ELECTONIDEX, A COMPANY PRODUCT ANALYSIS

## ELECTRODINEX OVERVIEW

- The data received shows us the frequency of a product appearing in the transactions of one month.
- The total products appearing is 43,102 from 125 types of product, cataloged in 17 categories.
- Roughly 50% of the customers choose a combination of 2 to 6 items, and almost 25% of the transactions show more than 6.

The frequency of an item does not imply volume sales and the volume cannot be inferred because we have no information on the total number of products purchased. However, the frequency is a good indicator to understand which product is the most wanted. In this case, after one month of transactions, ElectroDinex has three main product categories indicating highest frequency: Desktop, Laptop, and Monitor. These product categories have a total of 25 product types out of the 125. The frequency of the resting 14 categories are divided in two blocks of 10 and 4 respectively. The graph bellow helps to visualize these divisions.



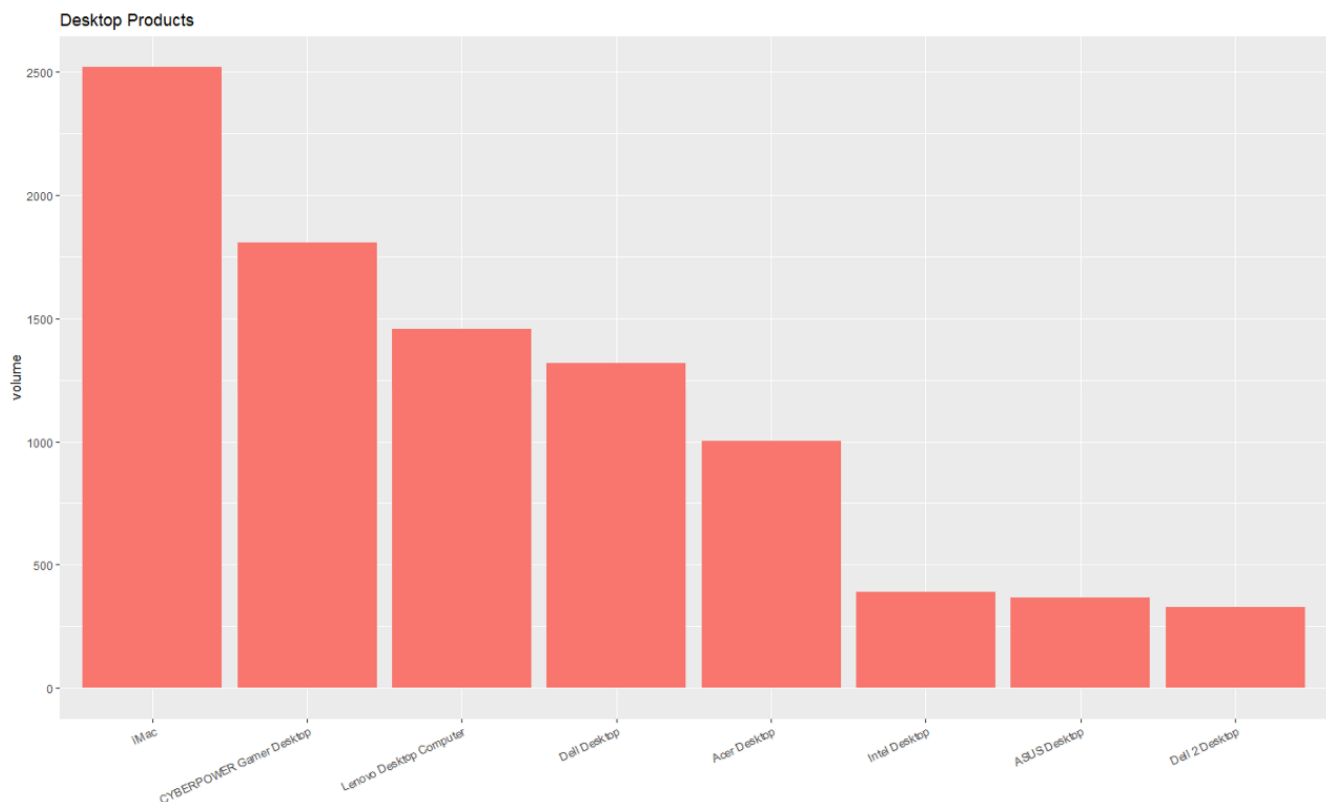
- The first block has products with a frequency of 22,525, the second 17,353 and the third 2,150.
- The orange dots show the product categories that appear on Blackwell's existing list.

We have no information if Blackwell catalogs its product type in the same manner but in order to be able to explore the potential product relationship with ElectroDinex's products we will assume this division is done the same. On the contrary, we can repeat the analysis to be more specific in product type interactions. Additionally, the data from Blackwell only defines the product type brand and then uses a number for more precision. This is perhaps helpful for internal logistics but when it comes to product analysis it makes it difficult when comparing products with another company.

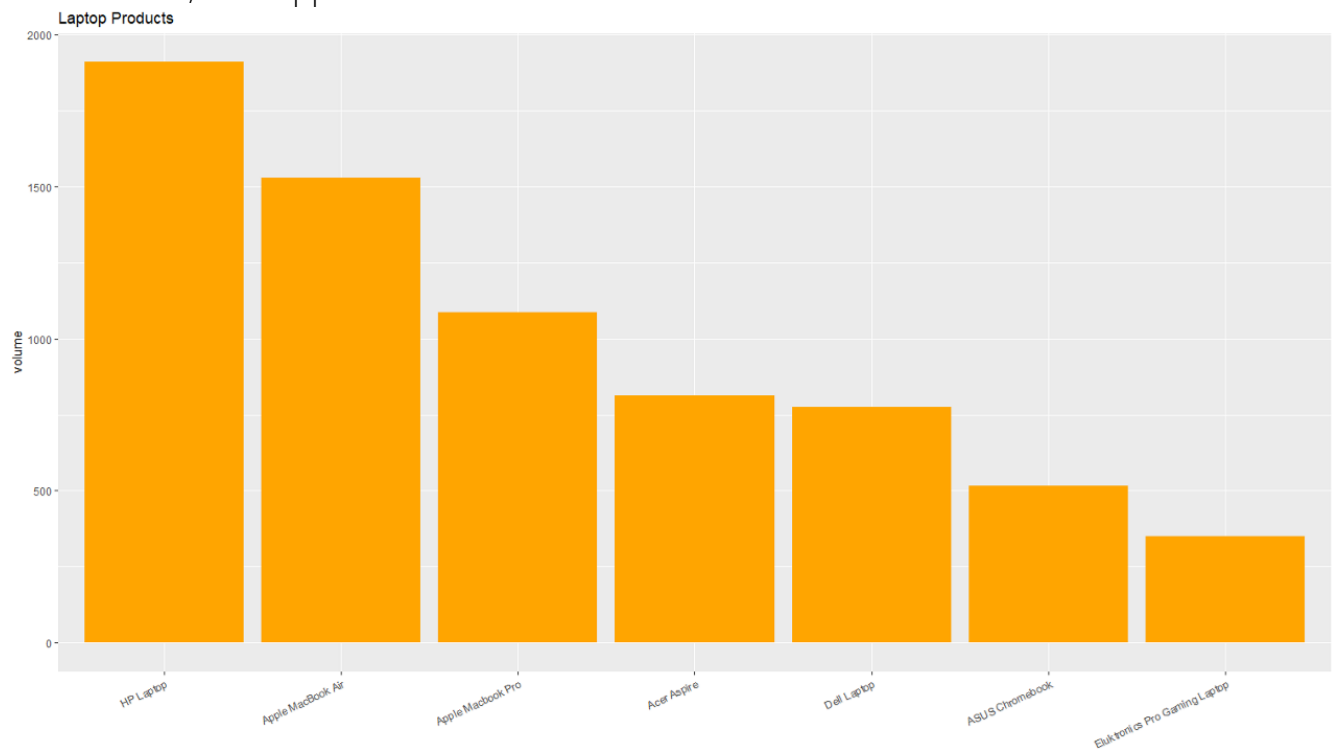
## TOP PRODUCTS IN EACH CATEGORY

The 25 product types in this first block have a frequency as follows:

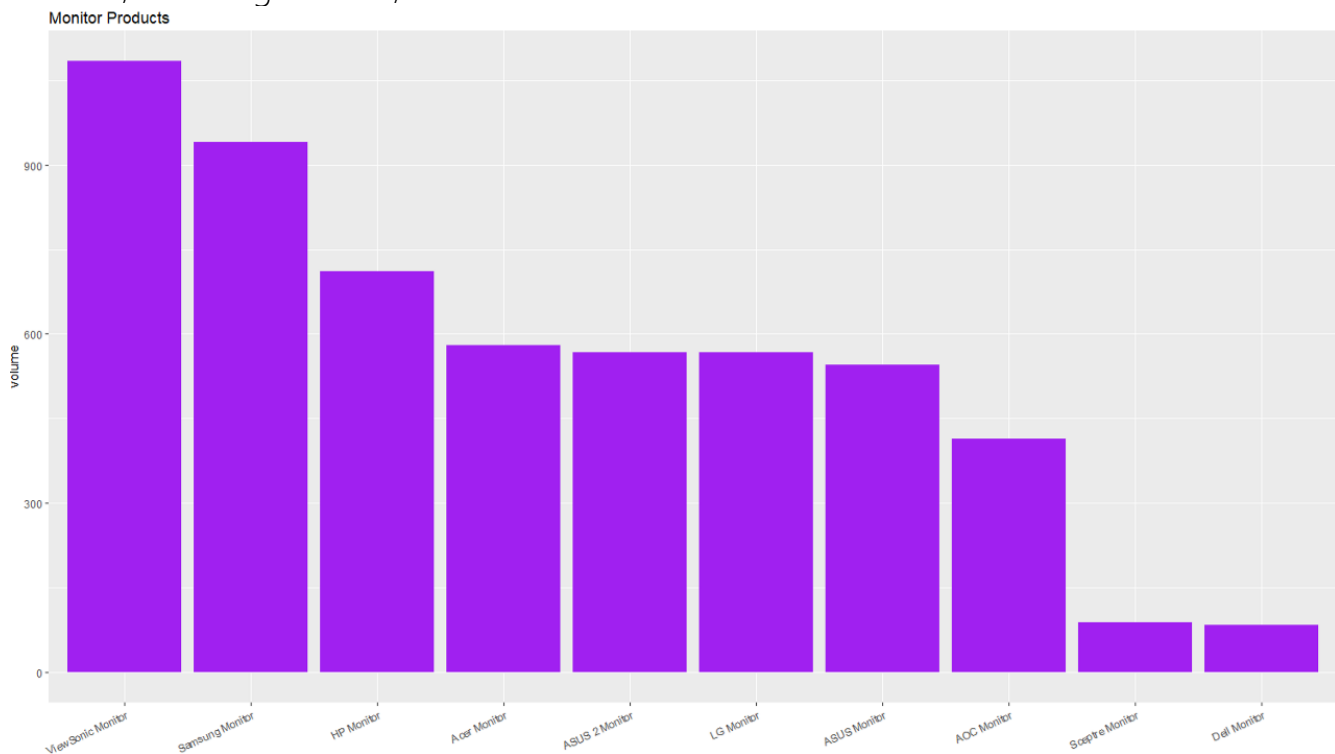
1. Desktop Products total frequency 9,189. And the top three products are iMac, Cyberpower Gamer Desktop, and Lenovo Desktop Computer.



2. Laptop Products total frequency 7,496 and the top three products are HP Laptop, Apple MacBook Air, and Apple MacBook Pro.



3. Monitor Products with total frequency 5,581. And the top three products are View Sonic Monitor, Samsung Monitor, and HP Monitor.



The products from each category can be interesting acquisitions for Blackwell since they show a high interest from their customers. We can furthermore investigate the product relationship of these main products to begin understanding customer behaviour.

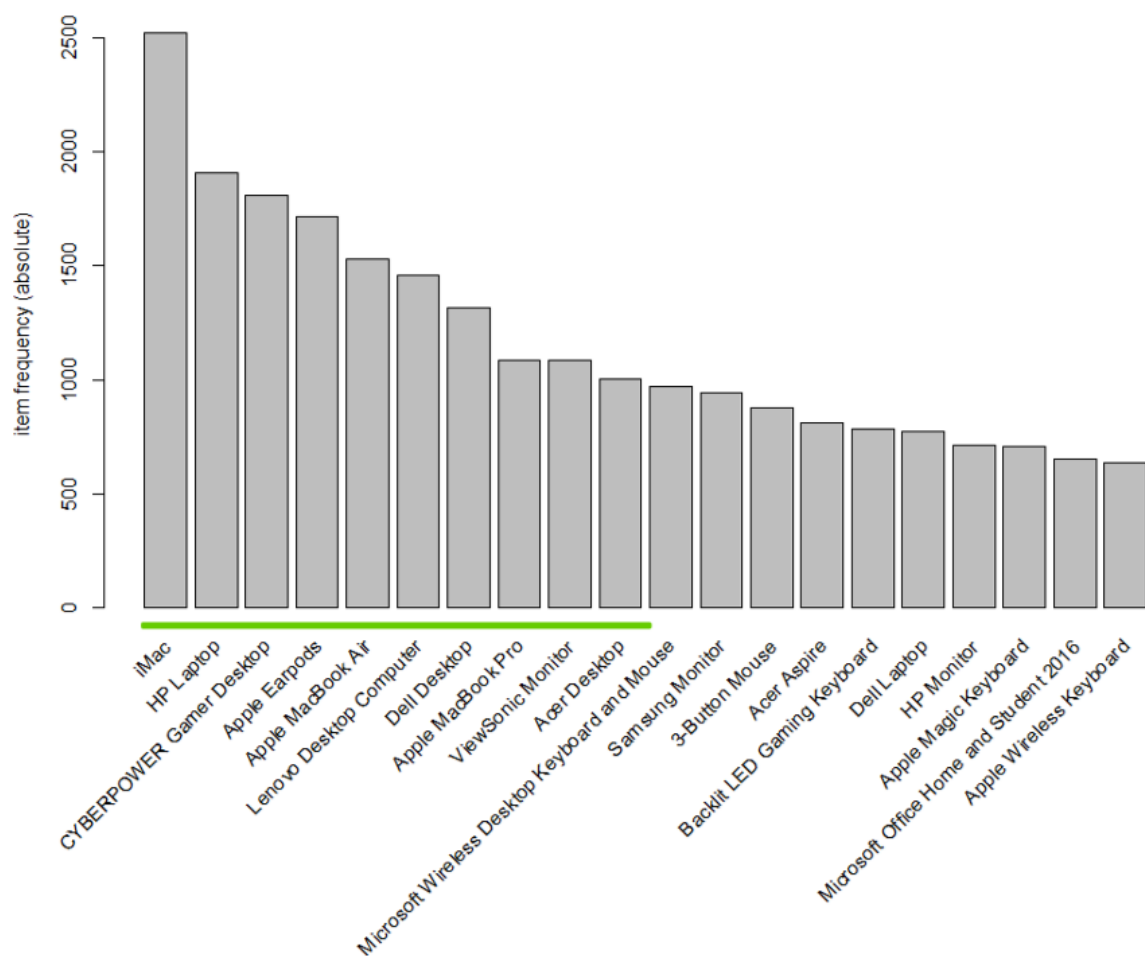
## RELATIONSHIP OF PRODUCTS BETWEEN THE TWO COMPANIES

Blackwell top 10 products in terms of volume sales are:

- 5 accessories, 2 Game Consoles, 2 Software and 1 smartphone but neither of these products are part of Electrodinex top 10
- Additionally, the start-up does not sell neither Game Consoles, Software, nor Smartphones which means they pose no competition to our top selling products.
- Given the results of product frequency, Blackwell can definitely benefit from selling their products.

Electronidex top 20 product types, show the top 10 as the same as those in the first block with the addition of Apple Earpods. Other products in the top 20 that bring attention are the 3-Button Mouse and other products related to Gaming activities. This is interesting considering the second top product sold by Blackwell is a Game Console. This indicates there can be an interesting relationship between these two companies products.

Top 20 products in terms of frequency:



Electronix does not sell Sony products. This is interesting to consider given that earlier recommendations suggested Blackwell should engage in strategic partnership with Sony. But only when taking into consideration the risk of losing 39% of the clients. If Blackwell acquires this startup, keeping Acer is strategically more intelligent considering this brand appears on the top customer preferences – based on one month transactions. And the relationship of products from this brand is highly dependent on others as it will later on be explained.

## PRODUCT RELATIONSHIP WITHIN ELECTRODINEX PRODUCTS

The products that show the highest relationship are found to have a minimum support of 0.009 and a confidence of 60%. This means the following:

- When a customer had in this shopping cart an Acer Aspire and a ViewSonic Monitor, the customer was 3 times more likely to buy Hp Laptop. The relationship of these products show to have appeared 106 times in all transactions and this is confirmed with a confidence of 60%.
- Asus Monitor and a Lenovo Desktop Computer with an iMac. The combination of the first two gives a 2.5 likelihood of adding an iMac. This occurred with a 96 frequency, and a confidence of 63%
- Asus 2 Monitor, Dell Desktop with an iMac. The combination of the first two gives a 2.5 likelihood of adding an iMac. This occurred with a 89 frequency, and a confidence of 63%
- Dell Desktop and a Microsoft Office Home Student 2016 with an iMac. The combination of the first two gives a 2.3 likelihood of adding an iMac. This occurred with a 93 frequency, and a confidence of 60%

This confirms that the most frequently shown products are related to one another, are highly related, and are therefore a wise investment since they also show relationships with other products. For example:

- The data analysis on Apple Earpods shows a customer is more likely to add this item to the shopping cart when looking for other items – backed with a confidence above 60%. On the other hand, when looking at what customers are likely to buy when purchasing this item, the confidence had to be reduced are 10%. Therefore, we can conclude customers seem to add a minimum of two products to their cart before adding the Apple Earpod. If considering how to develop the website strategy, these insights can increase the sales of the company.

A further investigation can look into the Blackwell's accessories to detect the relationship with other products and therefore merge the clients from both companies. For example:

- Looking at the relationship of products to the instances where 3-Button Mouse will appear in the shopping cart show there are 37 product relationships available with a minimum of 2 products before adding this Mouse. What will be the relationship with Blackwell's Game Console? These question and other such as this one will help us better understand the benefits of acquiring this company.

And if interested in more possibilities for product relationships, we can focus the research on block two and three to better understand the interest of the customer as also looking into products whose relationship is not so obvious.

## SUMMARY SUGGESTIONS

1. At first glance it appears Blackwell should acquire Electrodinex considering this company has managed to gain a considerable number of products which are gaining traction by their clients. At the moment the products they sell do not directly interfere with Blackwell top sales, but it is possible the company will do so eventually.
  2. Electrodinex has products that Blackwell has yet to manage such as products from Apple brand where especially the iMac, is appearing most frequently in the transactions.
  3. With this analysis, Blackwell has a better understanding to the question which manufacturer should they establish stronger connections with. And if they acquire this start-up, it will be wise to choose Acer and take advantage of this product's relationship opportunities.
  4. Blackwell's top sales have Game Consoles and Electrodinex has products which can interact very well with the Gaming Industry as we have seen with the 3-Button Mouse example.
  5. There are plenty of opportunities to analyze further product relationships between the two companies. But this can only be done if the product catalog matches since the comparison between products can be done more effectively.
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