

BLACKWELL

ELECTRONICS

*Market Basket
Analysis
Report*

 **ubiquum**
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Introduction

This report is about to help Blackwell's board of directors to understand Electronidex's customer buying patterns. If there are any interesting patterns or item relationship between items within Electronidex's transactions, if Blackwell benefits acquiring the start-up company and recommendations for promotion strategies.

Observations between Electronidex's and Blackwell's Sales

The data set of Electronidex was provided includes 9835 transactions including 2 transactions without any item. There are only two details for every transaction:

- The Number of the items have been bought (how many different items were in the basket of every customer).
- The name of every product.
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Observing the data, it was shown that **the most items** that customers purchased per transaction was **30** and **the least 1**, while **the average** number of item per transaction is **4**. Also, visualising the raw data, the following chart shows the Top 10 most sold products within the Electronidex's transactions. **Electronidex Top 10 chart of products includes 4 products of the brand Apple, while the Blackwell has only one product of the same company in her product mix with a low level of sales volume. In general, the laptops and desktops sales of Blackwell is low, while Electronidex the best sold products are mostly Desktops and Laptops.**

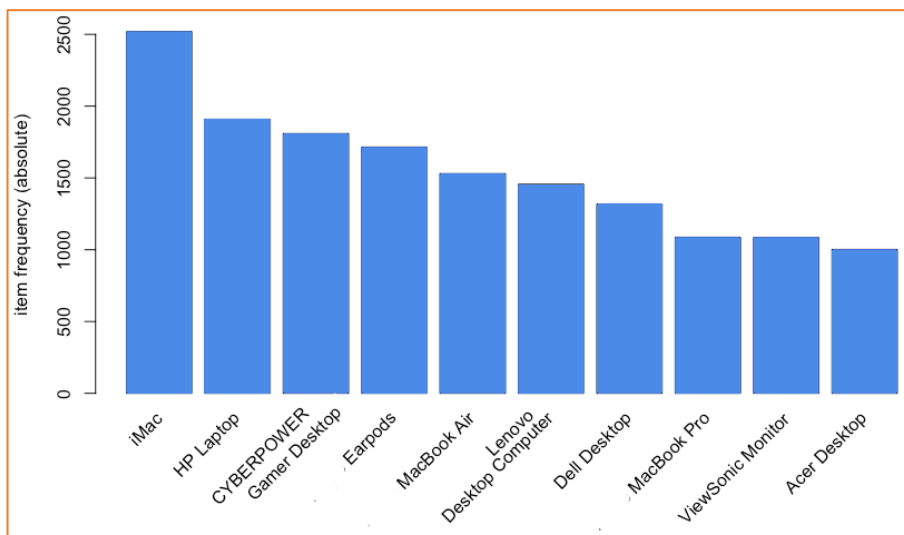


Chart 1:
Electronidex's
Top 10 most
frequent
products.

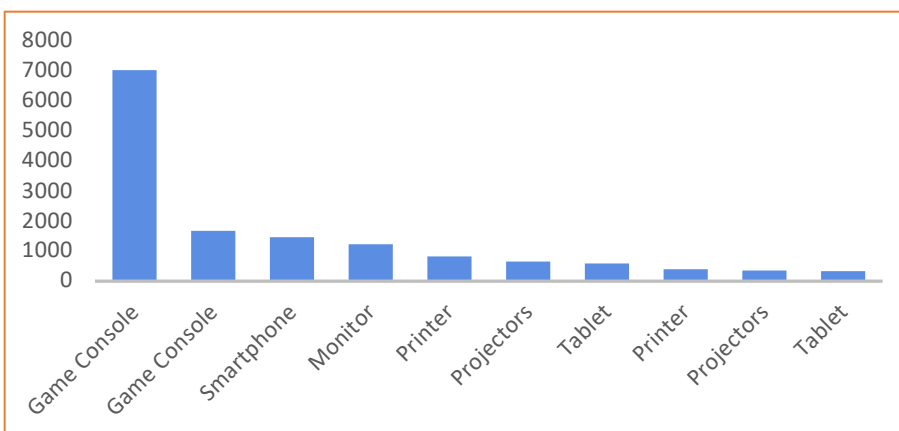


Chart 2:
Blackwell's
Top 10 most
frequent
products.

Electronidex has clients that they do large purchases and small purchases. This can provide important information about the clientele of the company. Observing the 125 items that Electronidex has, with ease,

somebody can see that there are specific products (for instance Apple Earpods, Gamer Desktop, Bluetooth speaker etc.) that only a private customer can buy, but, also, some companies are interesting to buy and resell. To divide the clientele of Electronidex, 4 transaction subsets were created:

- **Potential Private Customers 1** (2163 transactions): Includes transactions that they have only 1 item in the market basket.
- **Potential Private Customers 2** (2933 transactions): Includes transactions with specific items and from 2 to 6 items in the market basket.
- **Potential Companies 1** (2531 transactions): Includes these transactions that they do not include any of the specific items and only 2 to 6 items in the market basket.
- **Potential Companies 2** (2206 transactions): Includes all the transactions that have 7 to 30 items in the market basket.

Summarizing, Electronidex's last month clientele was 5096 or 51,8% Potential Private Customers and 4737 or 48,2% Potential Companies.

The chart below can show the most frequent product which was bought from then **Potential Private customers 1** with only one item in the market basket. It is remarkable that again Apple brand is leading the sale volume and also the sales are focused on desktops and laptops.

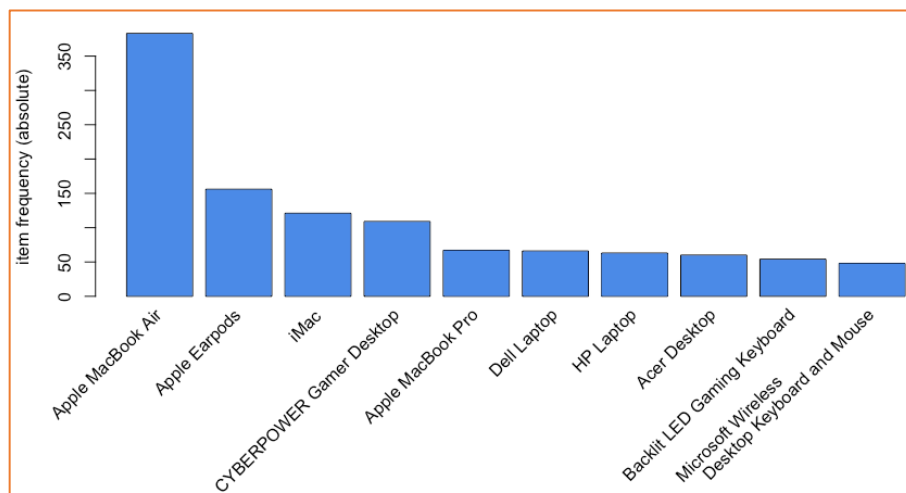


Chart 2: One item transactions' Top 10 most frequent products of Electronidex company.

Yet, for the **Potential Private customers 2** the Top 10 products are almost the same with the CyberPower Gamer Desktop to be the first and the MacBook Air to be 4th. Also, The Potential private customers are shown to buy a lot of Desktops Laptops and Apple accessories, while Blackwell do not provide those products to its customers.

Investigating relationships between the transactions of these two subsets (**Potential Private customers 1 and Potential Private customers 2**) appeared that the private customers' transactions will not influence the BlackWell's sales volume of products.

The Potential Companies (48,2% of the transactions) most sold products are iMac and HP Laptop, which means that Blackwell misses that part of clientele.

Investigating relations between products of every transaction for **Potential Companies 2**, it was found that only 28 transactions out of 2531 include items that BlackWell has in its product mix with a confidence of 80% or more. The impact in BlackWell's existing products will be limited from the companies with short transactions between 2 to 6 items.

For the **large transactions** (7 to 30 items in the market basket) and the **Potential Companies 2**, it is remarkable to show the chart with the top 11 most sold products. In this chart below, 2 products are that BlackWell has in its product mix. In the month of the data, the **Dell Desktop** (which is in the BlackWell's product mix) **appeared in 716 transactions** without to know how many items of the same product the

Potential Companies 2 bought. In addition, the **Acer Aspire appeared in 447 transactions** and likely the Dell Desktop, it is not known how many items of the same products

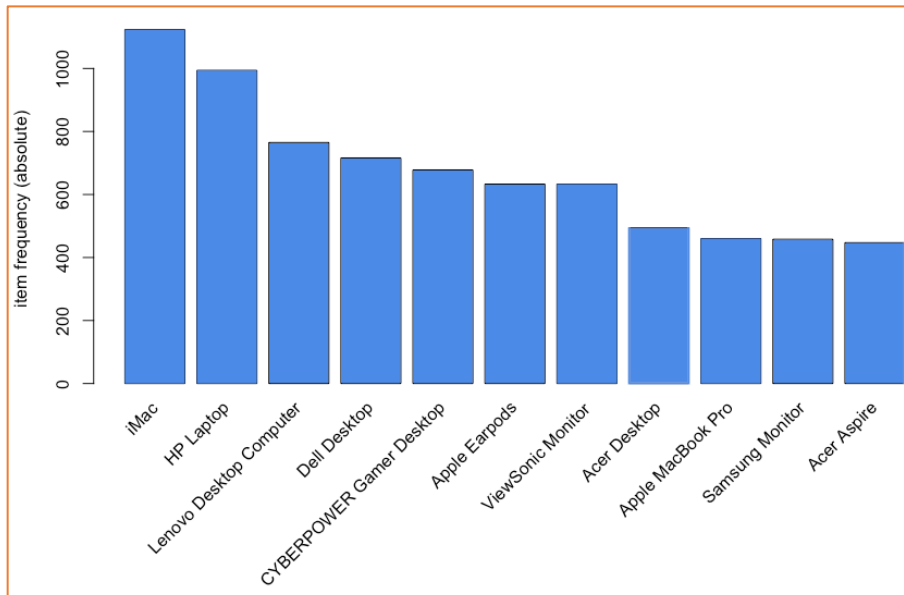


Chart 3: Top 11 sold products of Potential Companies clients of Electronidex.

In addition, investigating relationships between items were purchased from the Potential Companies 2 It seems to be really common that the **Potential Companies 2 buy products that BlackWell has in its product mix and products that only Electronidex offers at the same transactions**. For instance, below, some important rules are shown.

<i>If they buy:</i>	<i>Tend to buy:</i>	<i>Probability</i>
HP Monitor, Koss Home Headphones, iMac	Lenovo Desktop	94%
Dell Desktop, Logitech Keyboard and Mouse, iMac	HP Laptop	92%
Acer Aspire, Dell Desktop, ViewSonic Monitor, iMac	HP Laptop	90%

There are more than 100 important rules that include products from BlackWell's mix. That mean that the company will benefit of them transactions and it is going to increase the sales volume of the, at the moment, existing products.

Conclusions

After discovering the Electronidex's transactions file of one month, it is shown that Blackwell has a different product mix and only some of the products are common. But, Electronidex's product mix has items that Blackwell does not. Blackwell has a lack of Desktops and Laptops in its product mix while Electronidex most sold products are iMac, HP Laptop etc.

Thus, here are **some advantages that Blackwell will have by acquiring Electronidex:**

- will add to its product mix more **profitable items** like expensive desktops and laptops
- will add to her product mix **brands with best seller products in America**
- will increase the sales volume of **extended warranty services for hardware**
- will **increase its clientele** by 9833/month according to the monthly transactions of Electronidex
- will create **stronger cross-selling** products because of the rise of the product mix for private customers.
- will **gain companies clients** that they buy a lot of products so that to resell increasing the sales volume.
- the **profit of the company will increase** because of the new product mix and the sales volume.