Dear Danielle,

Please see our finding below with regards to Market Basket analysis of Electronidex inquired earlier:

* Please note, this analysis is based on 30 days of provided transaction data consisting of 9835 total transactions and 125 electronic products.

Analysis: IMAC with 2519 purchases is the first, HP laptop with 1909 purchases is the second and CYBERPOWER Gamer Desktop is third most popular items bought by costumers, please see the figure below:

Chart

Description automatically generated

arules library has been used to perform market basket analysis. The two main parameters have been used are Support(frequency of the rules) = 0.001 and confidence(reliability of the rule )=0.9. The combinations generated 197 rules.

The table below indicates, the top 3 most frequently purchased items are very scattered over the rules., therefore, there is a possibility that these item are not correlated to other items

|  |  |
| --- | --- |
| **Top 3 Frequently Purchased** | **Number of Rules** |
| iMac | 148 |
| HP Laptop | 103 |
| CYBERPOWER Gamer Desktop | 125 |

The Scatter plot below shows that majority of rules leaning toward very low support.

A picture containing calendar

Description automatically generated

Conclusion:

It is recommended to keep stock for most frequent purchases; iMac, HP Laptops and CYBERPOWER Gamer Desktop. However, they are very much pervasive over rules, and they are not strongly conditioned to the purchase of other items.

The table below shows top 10 highest lift (most reliable rules) meaning the customers most likely to purchase the rhs columns if they purchase lhs .

Graphical user interface, application

Description automatically generated

The figure also visualizes the top 5 most reliable rules with associated lift and support.

Chart, radar chart

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