

# ANALYZING THE CONSUMPTION MARKET AND PRODUCTS' PROFITABILITIES THROUGH FISCAL YEARS

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*\*Notes: Because the dataset was obtained from Kaggle for analysis, it can only be used for research and simulation purposes and has no commercial value. There will be errors; please forgive the shortcomings.*



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# **CHAPTER 1: INTRODUCTION**

## **1.1. Context:**

The Covid 19 pandemic has brought a slump and restrained the global economy. However, it also created lots of opportunities for business which can make use of its potential context. Especially for product and manufactory business, the isolation during social distancing had changed their operations and selling methods to adapt with online demands. On top of that, the impacts of pandemic gave rises to an unfamiliar trend in sale activities and left some insights for business to adjust its vision and plans, which indeed data analysis to determine the next move and development.

## **1.2. Objective:**

Taking the advantages of data mining and analysis, the report aims to observe and figure out the fluctuation in the period of given fiscal year (2018 – 2022) of the company, which occurred from September 2017 to the same point time in 2021. Plus, this report evaluated the efficient status of distributor channel and its main customers in each platform (detail in analyze session) to outstanding the potential components and recognize new trends in end-customers behaviors and habits. On top of that, the report also measured the profitability that each product could gain and customer's favors during and after the pandemic.

## **1.3. Main questions:**

Q1: How was general business efficiency through fiscal year? Were there any noticed fluctuations?

Q2: How were efficient status of market distributions? Which market distributions made the major impacts in business sales? Were there any outstanding components in detail?

Q3: Which countries contributed the highest and lowest revenues during the given period? Analyzing the contexts and reasons behind the results

Q4: Which customer plays the most important role in each platform, also explore their favorite products and purchasing behaviors?

Q5: Which products generate the most/least revenue for the company and their sale frequencies throughout the years?

Q6: What trends and adoption that each product show during and after the pandemic?

## CHAPTER 2: DASHBOARD INSIGHTS'S ANALYTICS

### 2.1. General business efficiency through fiscal year (2018 – 2022)

According to statistics, business activity in brick & mortal and e-commerce methods peaked in the fiscal year 2019 (real-time falls from early September 2018 to September 2019), recording growth of about 335% compared to fiscal year 2018.

Revenue	COGS	Gross Profit	Discount
91,7bn	27,3bn	64,5bn	1,5M
70,7bn 335,5%	21,0bn 335,6%	49,7bn 335,5%	806,8K 115,2%

Figure 2.1 The sale performances from fiscal year 2018 to 2019 / Source: Power BI

#### ❖ Explain this significant trend:

- Global economic growth: High worldwide economic growth is expected in 2019, particularly in developed nations like the United States, China, and Europe. As a result, demand for electronic components rises, which is necessary for the growth of electronics manufacturing businesses globally.
- New technologies introduced: 2019 will be the year of numerous new technologies, including 5G, artificial intelligence (AI), and the Internet of Things (IoT). These technologies require the creation of electronic components to facilitate the production and deployment of products.
- Increasing demand for electronic items: With the development of technologies such as AI and IoT, demand for electronic products such as smartphones, tablets, laptops, smart TVs, etc. is rising. This has led to an increase in the demand for electrical components from electronics makers.
- Adjustment in the Supply Chain: 2019 is the year many electronics manufacturers have adjusted in their supply chain to optimize production processes and reduce production costs. This leads to increased demand for electronic components from electronic component suppliers.

However, the Covid 19 pandemic that began in late 2019 has caused many negative effects on this growth, disrupting supply chains and production due to the suspension order. Nevertheless, some people are not much affected by the pandemic at the beginning, plus being isolated at home, which makes the demand for shopping high, especially for technology products such as laptops, tablets, and gaming devices during this time.

Taking advantage of that opportunity, the discounting effort increased, expressed in the total discount spending increased to 76.7% and continued to rise sharply over the subsequent fiscal years, which helped keep the company's revenue up to 183% in the fiscal year of 2020.

Revenue	COGS	Gross Profit	Discount
508,8bn	151,6bn	357,2bn	5,8M
250,0bn 96,6%	74,5bn 96,5%	175,5bn 96,7%	2,8M 89,7%

Figure 2.2 The sale performances from fiscal year 2019 to 2012 / Source: Power BI

Especially in 2022, in the context of Covid 19 pandemic went up and down several times. That is, citizens' jobs are unstable, which lead to lower demands and difficult in economy. In consequence, the company's revenue dropped significantly at 50% after efforts of discounts for competitive.

Revenue	COGS	Gross Profit	Discount
222,3bn	65,8bn	156,5bn	9,1M
-286,4... -56,3%	-85,8bn -56,6%	-200,7bn -56,2%	3,3M 57,3%

Figure 2.3 The sale performances from fiscal year 2018 to 2019 / Source: Power BI

## 2.2. Efficient status of market's distributions:

Although suffering a lot of impacts from the pandemic, these periods had come down to great opportunities and visions for company about its potential products and markets when the demands had shapely surged in the first period of Covid 19 pandemic.

### 2.2.1. Proportion of market distributions

The main distributions of the company were retail channel, accounted for around 56% of total, exposure into 5 major market, including India, America, Canada, England and French.



Figure 2.4 The retail channel and its markets / Source: Power BI



Followed by direct channel, not only remained in two biggest markets as India and America, but also appear in South Korea, Indonesia and Australia.



Figure 2.5 The direct channel and its markets / Source: Power BI

And finally, the distributor channel took the lowest contribution with market in South Korea, Philippines and China, represented nearly 1% of company's total revenue.

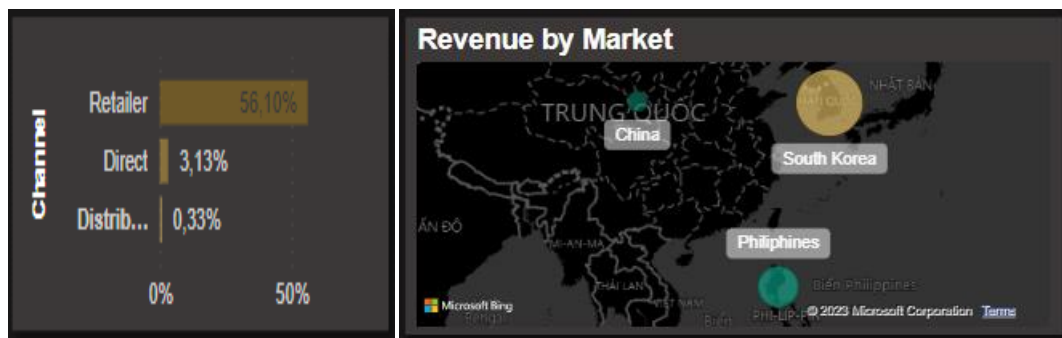


Figure 2.6 The distributor channel and its markets / Source: Power BI

### 2.2.2. Deeper analysis

#### ❖ Why couldn't the company thrive in three major markets: South Korea, China and the Philippines?

- There are numerous significant electronics manufacturers, including Samsung, LG, SK Hynix, Huawei, and Xiaomi, in South Korea and China, two important economies. For their goods, these businesses self-supply a sizable quantity of electronic components. To reduce reliance on other nations, they have also made significant investments in closed supply chains, electronic component production, and research and development of new technologies. However, they continue to import the components from our company to guarantee quality and low production costs due to a small domestic market share.
- The Philippines is also a growing country, and there are a large number of companies manufacturing electronics, however, compared to the United States, China and South Korea, the Philippines has not many large companies and has high electronics manufacturing capacity.

❖ **America and India were the two most potential components for direct and retail distributions of the company:**

For both in-store and e-commerce platforms, the most vibrant markets remained in the United States and India, with revenues accounting for more than 5% to 15% of the company's total revenue

Although the two countries have many major technology companies such as Apple, Google, Microsoft in the US and Tata Consultancy Services, Infosys, Wipro in India. However, these companies often produced only a small fraction of electronic components and mostly focused on manufacturing high-end products such as smartphones, laptops, servers, etc., which made them import components from other countries to ensure high quality and lower production costs. Although those are very competitive markets, it is also the target market that the company should aim for in the future.

Rank of Market	Revenue	Rank of Market	Revenue
India	14,04%	India	6,53%
USA	6,55%	USA	4,59%
Canada	1,55%	South Korea	3,61%
South Korea	1,23%	Indonesia	3,05%
United Kingdom	1,07%	Australia	2,23%
Total	100,00%	Total	100,00%

Figure 2.7 Ranking of markets for direct and retail distributions / Source: Power BI

❖ **The reasons for Sweden, Chile, Columbia and Austria represented as the lowest revenue markets gained of the company:**



Figure 2.8 The lowest revenue markets gained of the company / Source: Power BI



The similar points were marked during these countries:

**Economic size:** In the whole, these countries have smaller economies in comparison, so the production and use of electronic components may not be as their main needed.

**Consumer markets:** These countries have smaller consumer electronics markets than other countries, so the demand for electronic components imports is also less.

**Tax policies and import management:** These countries may have stricter import tax policies and regulations than other countries, resulting in more difficult imports of electronic components.

Further study of the product lifecycle in each customer to have timely incentives and promotional policies to stabilize product growth for as long as possible.

### **2.3. Customers' lists that lay an important role in each platform and their favorite products**

#### **2.3.1. For brick & mortal platform:**

##### **❖ Atliq Exclusive**

One of the company's most potential customers is presented in both India and the United States, as well as in Australia, South Korea and Indonesia as direct customers. The revenue generated by this customer accounts for 2% of the company's total revenue each year regardless of the impact of the epidemic and specifically represents 55.31% of total contribution in brick & mortal platform.

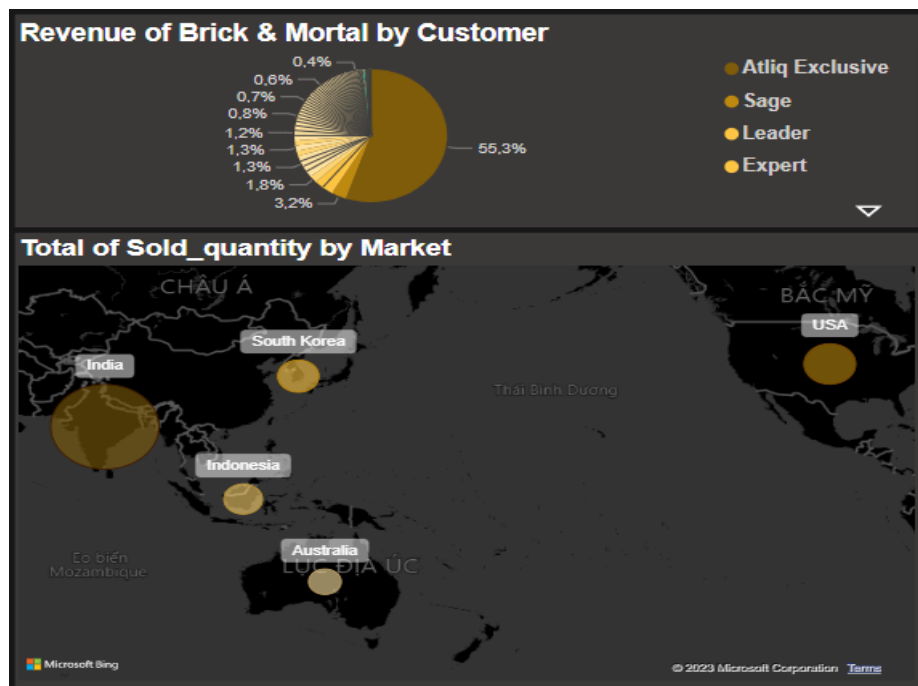


Figure 2.9 Atliq Exclusive contribution and markets / Source: Power BI

### Products' trending:

The refer products of this customer were the AQ Mforce Gen X graphics card and the AQ Dracula HDD hard drive, these two products are consistently placed in high output during the period before 2020 and have a mild decline phenomenon from 2020, signaling the product life line is preparing for the depression phase, so the company should propose early discount policies and incentives for these lines to maintain more stable growth.

Two types of internal hard drives, AQ Werewoft and AQ Zion Saga, have seen significant growth from 2018 and 2019 and beyond, showing the level of adaptation to user needs in the context of being isolated at home because of pandemic, so the company should consider bringing the product to many other markets to optimize product revenue if demand still grow in the near future.

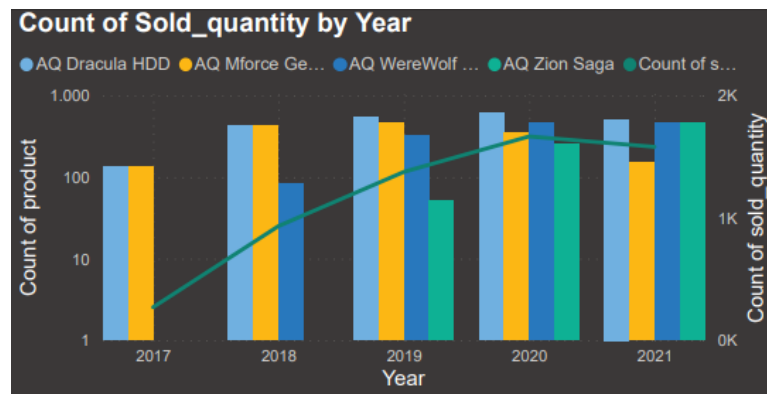


Figure 2.10 Atliq Exclusive's products' trending/ Source: Power BI

### Purchasing habits:

From the chart you can see, the company's highest number of imports was in the fourth quarter and the lowest in the second quarter. The highest volumn appeared in the five years period was in the fourth quarter of 2021, which showed the company had a strong recovery and the trend is predicted to continually rose in the coming years.

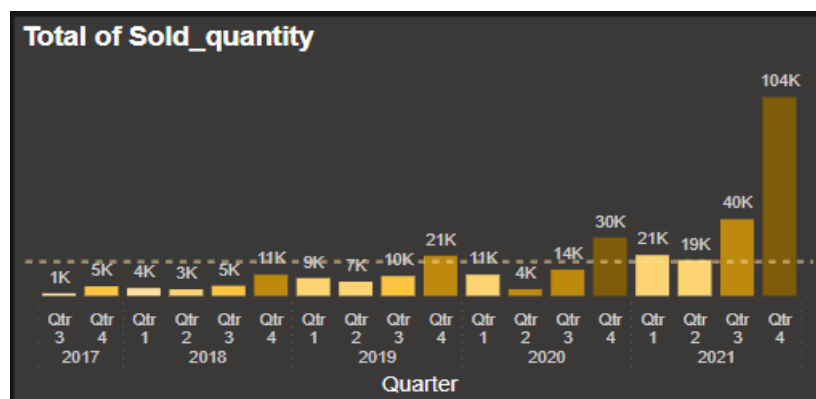


Figure 2.11 Atliq Exclusive purchasing habits / Source: Power BI

### 2.3.2. For E-commerce platform:

#### ❖ Amazon:

Presence in major markets such as India, America, Canada, Indonesia and South Korea. Amazon currently accounts for the largest share of the company's revenue (21-23%) and among e-commerce customers (more than 63%).



Figure 2.12 Amazon contribution and markets / Source: Power BI

#### Products' trending:

Due to the influence of the Covid epidemic, consumer purchasing trends have changed significantly from direct shopping in the store to online shopping on e-commerce sites. Production of the products of growth is steady and continuous in the context of the epidemic.

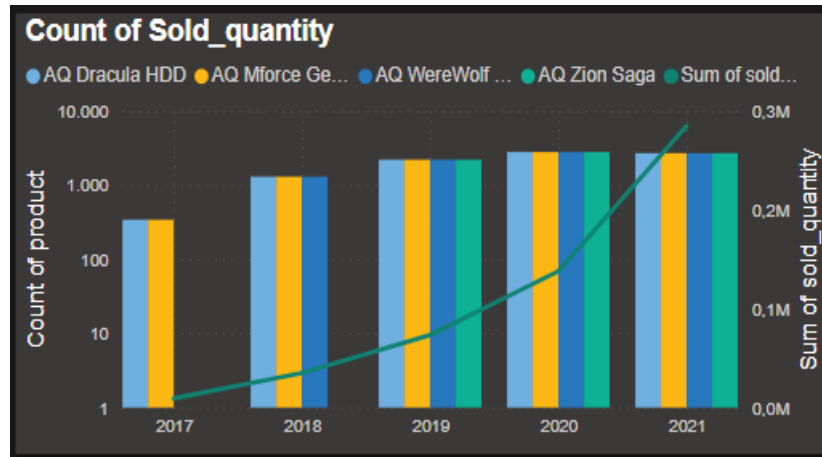


Figure 2.13 Amazon's products' trending / Source: Power BI

### Purchasing's habits:

The company's pre-epidemic buying habits tended to be the same in the first three quarters and increased between 100% and 200% in the second quarter. However, during the outbreak phase in 2020, this upward trend appeared early in the second quarter and continued to rise by another 60% in the last quarter.

The change in people's shopping habits is demonstrated in 2021 when output in the last quarter of this year increased by 300% compared to output of the first three quarters.

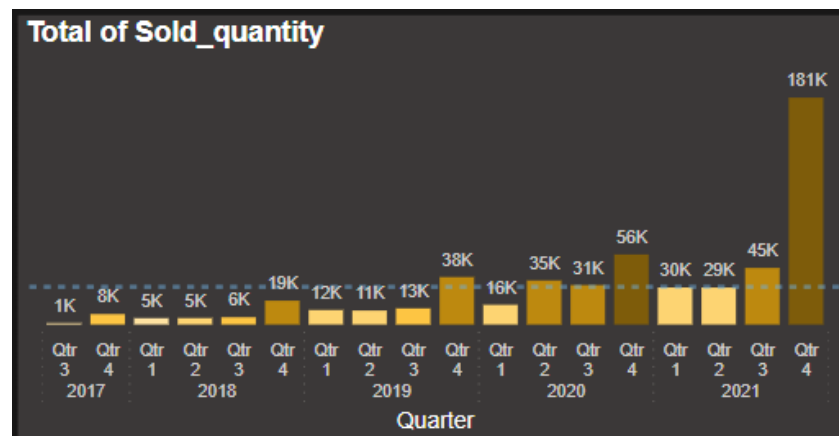


Figure 2.14 Amazon purchasing habits / Source: Power BI

## 2.4. Analysis of trends and profitable value of the products:

### 2.4.1. Efficient sales of products.

While from January to August the products show the quantity consumed at a balanced level by the distributors. The upward trend is noticeable during the last fourth quarter of the year, and this growth can range from 100% to more than 600% depending on the popularity of the product.

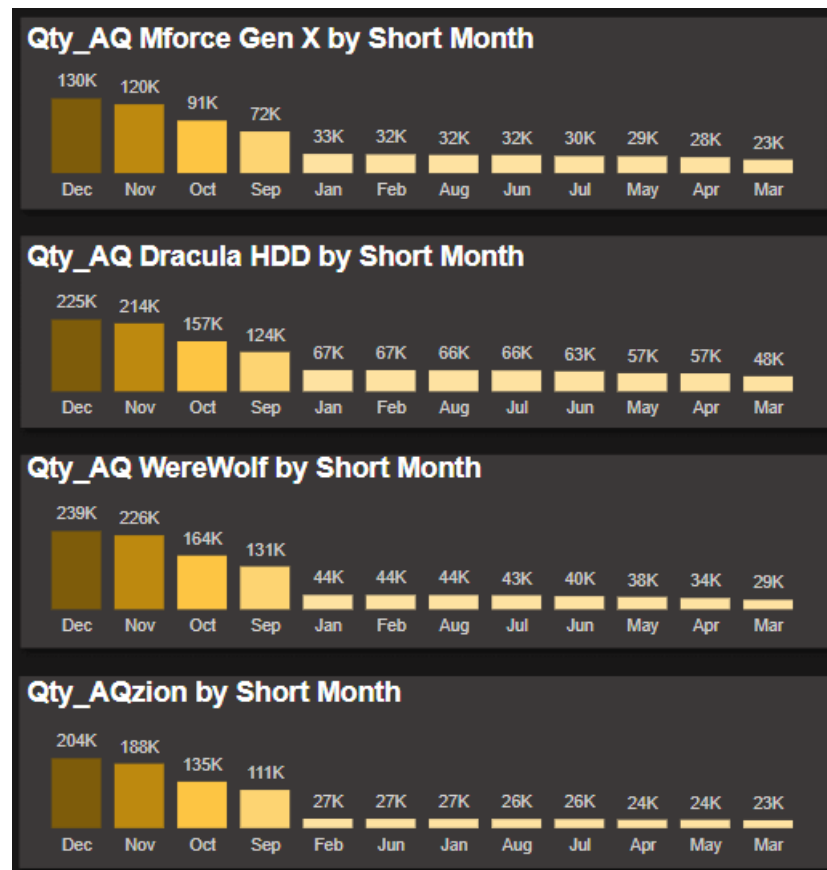


Figure 2.15 Efficient sales of products throughout years./ Source: Power BI

❖ When learning about the popularity of each product, we have the following analysis:

Products such as AQ Dracula, AQ Werewoft and AQ Zion Saga show increasing popularity in the market, with high profit growth ranging from 60-200% from 2018 to the end of 2019. This trend increases sharply from 2020 with the most consumed AQ Zion Saga product despite the highest production costs and value compared to other products.

The AQ Mforce Gen X product is a product in the company's low-market segment where the cost of production and price are cheaper than the rest of the products. In addition, sales statistics show that the volatility of demand for this product in the

market, which is clearly reflected in the unnecessary increase in the field during the evaluation period.

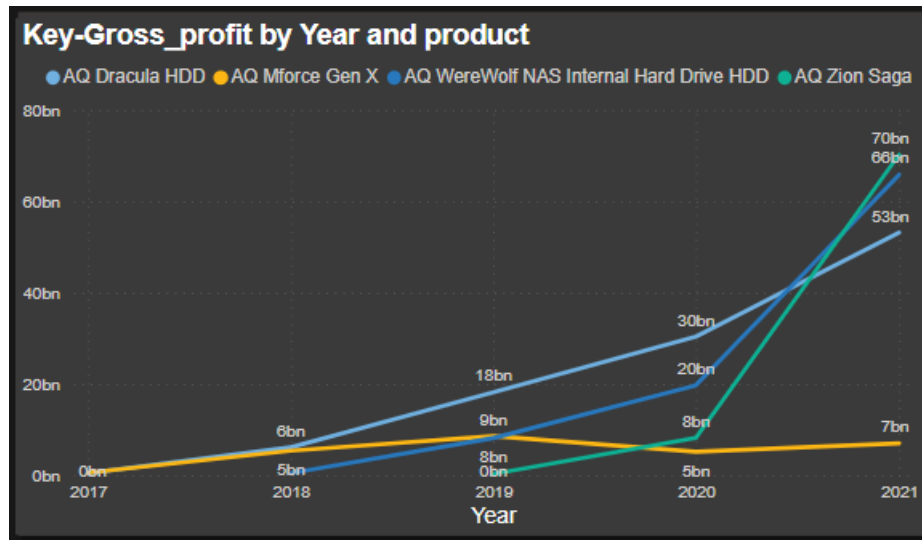


Figure 2.16 Profitability of products throughout years./ Source: Power BI

#### 2.4.2. Analysis of products that bring high profitable value:

The chart above shows that the two products, AQ Werewoft and AQ Zion Saga, despite having the highest product price and production cost, they were the most popular among consumers, bringing the highest profitable value. This shows that for the electronic component segment, consumers rated the product by quality worthy of the amount they spend. On top of that, these were products that can be used for a long time, the high quality of the product compared to other products with the same price were the top choice.

However, another product that was equally promising in terms of success and profitability for the company was AQ Dracula. This was a product that costs less than the previous two products but was very popular and tends to continue to grow in the future.

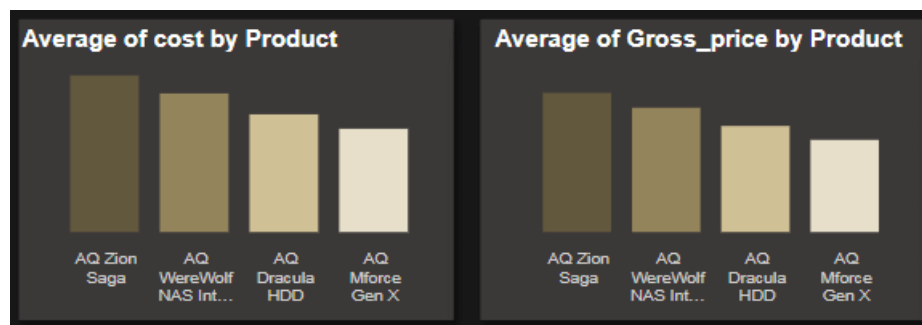


Figure 2.17 Ranking costs and profitability of products / Source: Power BI



## **CHAPTER 3: CONCLUSION AND SOLUTION**

### **3.1. Summarize the insights and their solutions:**

#### **3.1.1. Taking full use of new technologies launch trending:**

The launch of new technologies or breakthroughs in electronics are gold opportunities for the company in the expansion of the market as well as enhancing production and distribution cooperation to occupy more market share as the demand of people increases strongly, at the same time the updating of the new technologies have an impact on the vast majority of users, especially on social networks will help the company to see the opportunities and actively develop new technologies, components to meet new market needs.

##### Solution:

- Monitor technological news and deal with new updates if possible.
- Apply marketing campaigns for customer's awareness about company adaptation.
- Research and analysis of new technologies for improving competitiveness, not imitate them.

#### **3.1.2. Exploiting small markets to expand company's markets:**

Markets that involve renowned technology companies such as China and South Korea will be more difficult to reach, but we can still exploit a portion of this market through the international community of users in those countries or companies that are not strong enough to supply the components themselves and rely on our company's electronic components to produce their products.

##### Solution:

- Special discounts bass on regions and conditions
- Support brand marketing in these countries to increate demands

#### **3.1.3. Enhancing competitive in big markets**

The U.S. and India are retail and direct markets full of potential for the company's future due to the dependency and electronics components of major technology companies in the United States and India.

##### Solutions:

- Special discounts and incentive for top customers and specific region
- Negotiate and make long terms statements with big companys

#### **3.1.4. Prior development in E-commerce platform and online purchasing**

There has been a marked change in the context of the Covid 19 pandemic of consumer habits, showing that e-commerce companies are dominating the purchase market due to changes in consumer purchasing behavior after periods of isolation at home due to the epidemic. The company should have a policy of incentives and further develop with more e-commerce companies in countries to better exploit consumer markets.

Solutions:

- Develop marketing in multiple channels and social medias
- Improve customer services and experiences online

**3.1.5. Building models for product's trending prediction**

The current consumption trend of electronic component products is the value of the product corresponding to the amount of money spent, or those products are rated as the best market segment. The company should follow up on the growth and sales situation of the product to provide a predictive model of how products will become trends in the future.