Antoine Rocha T.I.M
105
HW#2

T.I.M 105 MOT 1: Homework 2

1. **Structured Problem-Solving**

WorkSchedule:

2 hours-
Read lecture notes on Competitive strategies in Technology Management

1.5 Hours-
Read Disk Drive Industry

1.5 Hours-
Read Intel Case Study

2 Hours-
Work on problems

Total time expected: 9 Hours

---

1. Disk Drive Industry

1. **Define** The problem
   Gain a better understanding of the disk drive industry to figure out why some firms succeed and why some firms fail. Also analyze its charts and graphs in order to figure out how much a disk drive manufacturer would charge for 1MB of memory in the year 2016
2. **Plan** the Treatment
   i. skim over the packet, focus on the key arguments of each section.
   Ii. Read the packet, Highlight important details (ie date, names, companies, results, context) and keep in mind of the "problem" that must be answered.
   Iii. Re-read sections that did not make sense to better understand the argument put forth also go over key sections.
   Iv. Do additional research by going online to look for info regarding the industry in the past and present. Additional research regarding inflation.
3. **Execute** the plan
   I. After reading the hanout on the disk drive industry I learned a lot about the growth and expansion of the Disk Drive Industry. There have been many repercussions that have stunted its growth for some periods of time due to enhancement of technology.
   II. **Figure 1.3- Disk Drive Price Experience Curve**
      1) *What is the meaning and significance of the map ?*
         By gathering data from Disk/Trend RePort, we can use this graph to compare the price megabyte with the cumulative terabytes produced. This is significant because companies can predict the forecast and direction of production based on the previous years.
      2) *How would a disk drive company use this map ?*
         A Disk Drive company could use this functional map to predict how much revenue they could produce from the given amount of terabytes that could be production in time. In addition, this information could also provide the company with target and possible profits in the future.
      3) *What high level-conclusions can be drawn from the map?*

By looking at graph, we can conclude that ever since 1977, the dick industry price per MB has exponentially fallen ever since its high point of $8,000 per megabyte to roughly $0.50 per megabyte in 1994. In addition, the decline of price works in correlation with the amount of terabytes produces. In other words as the price of memory drops the amount of terabytes produced is cheaper and thus, more of its produced.

iii) **Figure 1.4- Impact of New Read-write Heard Technologies …**

1) *What is the meaning and significance of the map ?*

The significance of this graph focuses of the data representing areal recording density between the years 1975 and 1995. To be specific, these multiple curves represents the different types of technologies used for recording and as we can see, it has been significantly better than the inferior technology and has a very linear path of density of recordings to each passing year.

2) *How would a disk drive company use this map ?*

A company would use this graph and decide which technology to invest in when creating their read writes heads.

3) *What high level-conclusions can be drawn from the map?*

Though analyzing the graph, we can conclude that there is a clear division of efficiency between the different types of read write head technologies. Although there is almost an overlapping point in efficiency for two technologies (thin film heads and mag resistive heads) we can see that mag res heads improve at a faster rate than thin film heads.

iv) **Figure 1.5- Sustaining impact of the Winchester Architecture …**

1) *What is the meaning and significance of the map ?*

Similar to figure 1.4, this graph shows the aerial recording density but instead of read-write heads, it focuses on disk drives

2) How would a disk drive company use this map ?

A disk drive company could use this graph to select which disk drive they would concentrate all of their products on . Although there are only two choices, the data definitely shoes which one has more density than the other.

3) What high level-conclusions can be drawn from the map?

The significance of this graph lines on the face that it shows the growth of the disk drives and also the failures. We can see that the removable disk have high and low peaks during the 70's. We can also see how stable Winchester drive has been.

V. **Figure 1.7- Intersecting Trajectories of Capacity ..**

1) *What is the meaning and significance of the map ?*

Despite the multiple curves on this graph, it shows the demand for its respective technology at each point in time. At most points the technology supersede the demand for the technology.

2) How would a disk drive company use this map ?

A disk company would use this graph to determine which path it should take, The graph shows technologies outgrow their demand, however the demand of certain products switches to new innovative technologies instead. As a result companies should focus and decide which technology to focus on.

3) What high level-conclusions can be drawn from the map?

The trend has been leaning towards smaller and smaller hardware. Although this demand requires a smaller capacity, it has become less demanding since technology continues to supersede each of its respective technologies every single time.

vi) judging by figure 1-3, I can predict that the nominal price that a disk drive manufacturer would charge for 1MB of memory in the year 2016 would be about .0002975 per MB in 2016.

d) check your work

i) Although there are numerous methods of readings and analyzing texts, I believe that the method was effective as i came up with solutions for the problem. The results correlate with the figures in the test and the solutions are similar to those of the market today. Therefore, my assumptions are reasonable and make sense.

e) Learn and generalize

i) By using an alternative method of solving the problem and reading, I was able to gain a higher knowledge of the content in ways that was unable to do before. Simply, planning out the procedures and methods have a better understanding. I was able to analyze the graphs and create high level conclusions about graphs.

2. Intel:

a) Define the problem

i) By using the provide resources, learn more about intel's business and to look out for its competitive position compared to its competitors and other factors. To be specific, map and analyze Intel's Industry/market landscaping using Porter five (six) forces model and determine how its strategies compare to its competitor's ever since the company's inception in 1968 to 1997.

b) Plan the treatment of the problem

i) Define the goals and objectives for my analysis

ii) Skim through the case study to pick up main points and the general idea of sections or the entire reading.

iii) Read the case study

iv) structure the information that you have gathered in the case study to better organize the data for the future reference and analysis.

v) perform any necessary analysis

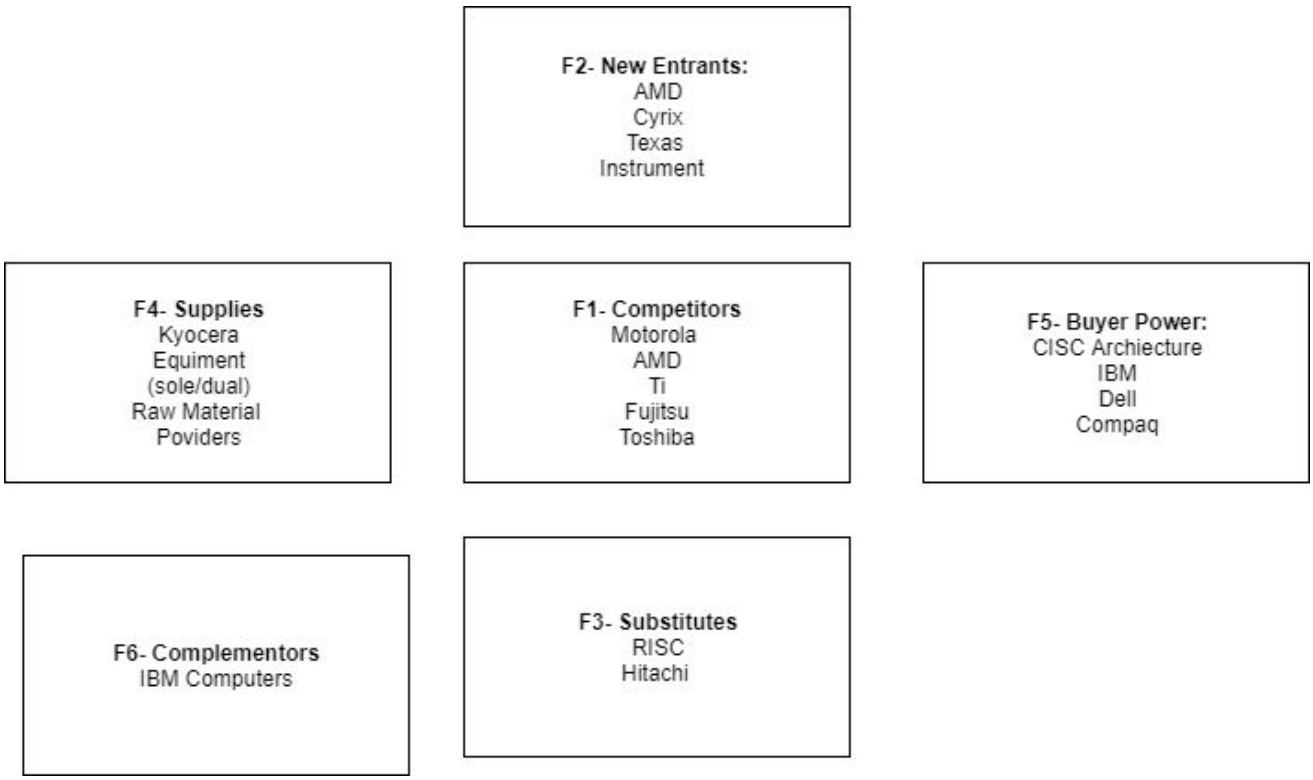
vi) draw conclusions.

c) Execute

i) you need to understand what problems that you need solve so you can find a way to approach it and answer the problem.

1) Follow Intel's growth and development over the years. Make sure to analyze how it approach its challenge with other companies as one of the top competitors.
2) After reading the case study, it was actually very enlightening to see how Intel's approach all of their obstacles despite being the fact that they were #1 in their field.I also found changing industries due to competitive forces fascinating takes leadership to change industries.

1) It was interesting to see how Intel was basically the creator of personal computer but did not take advantage of it the time and eventually lost the to apple Microsoft which turn out to be one the biggest industustries today.
2)



- New Entrants: Naturally, the threat of new competition always poses a threat onto Intel's market. Especially' due to the fact that the DRAM business had so much potential, it brought out numerous firms to race to the benefits. Similar to the new entrants, Intel had actually taken advantage of the fact that it was easy to have a start up business in the silicon valley and used this benefit the company we know today.
- Supplies: although Intel produces very specific microchips that also comes with a price; Intel must pair up with a producer that can supply it necessary parts in order for the company to function as it should. This actually gives Intel suppliers thus giving it more leeway in its expenses.
- Competitors: the most obvious a company can only gain competitive advantage through either cost or niche; a niche being a trait that can be differentiated from that of its competitors.
- Buyers: As Intel is a public company that sells businesses, that means that the business plan affects everyone down the line, To be specific, after IBM began to partner up with intel, everything changed. Intel was able to leverage after aiding IBM to produce its microprocessors and even

more so after the compaq decided to pair up as well. Eventually, Intel gained political advantage over its products through patents, thus finally securing its advantage over its competitors and ultimately its buyers.

- Complements: As a processor making company, its easy to say that these processors would be worthless if it weren't for the other parts that we use our final product, the computer. However, this works vice versa as well. Therereo compliments don't have bargaining power when it comes to Intel's products.
- Substitutes: Similar to competition, Intel has always had to deal with substitute products from its rival companies ever since it was created. At first, its competition did not have any niches and Intel was able to keep its spot until competitors gained the niche and used that to take over and match Intel.

d) check your work

1. Im positive that while I followed a structured problem solving structure i'm sure that there are some mistakes, but I would admit that i did do the work to the best of my ability. After reading the case study, I believe that my assumptions about the questions were relatively reasonable and my charts depicting the pressure other firms put on Intel is logical.

e) Learn and Generalize

1. After researching online about Intel, and reading the case study, and finally answering the questions I was given, I was given, I realized the struggles start up companies face.
2. i) The results have provided numerous details on how i could potentially run a startup. IN addition, I believe that I could take my data to act upon it if a similar case were to arise in any other company that falls into the same spectrum.