

Antoine Rocha

T.I.M 125

Homework 1

Homework 1

Plan

Friday review homework

Saturday – Monday do homework problems

Tuesday review and submit problems

1. SCM Software Vendors

Define

- a) How large (\$, % annual growth rate) is the SCM enterprise-software market?
- b) Do a competitive analysis of the business landscape for SCM enterprise-software using Porter five (six) forces homework.
- c) Then, characterize the competitive strategy of the major firms competing in this space.
- d) if you were to enter this space, i.e., be a “new entrant”, what would your strategy be? Explain.

2. Plan

What information is available for solving the problem?

- Class notes
- Porter five forces model

What assumptions need to be made to make the solution process manageable?

- I need to do more research about SCM enterprise-software market
- I need to use competitive strategy to see major firms that are competition

3. Execute the plan

- a) How large (\$, % annual growth rate) is the SCM enterprise-software market?

Top five SCM software Vendors by Total Software Revenue, Worldwide (Millions of Dollars)

Table 1. Worldwide SCM Revenue Market Share, 2016-2017 (Millions of U.S. Dollars)

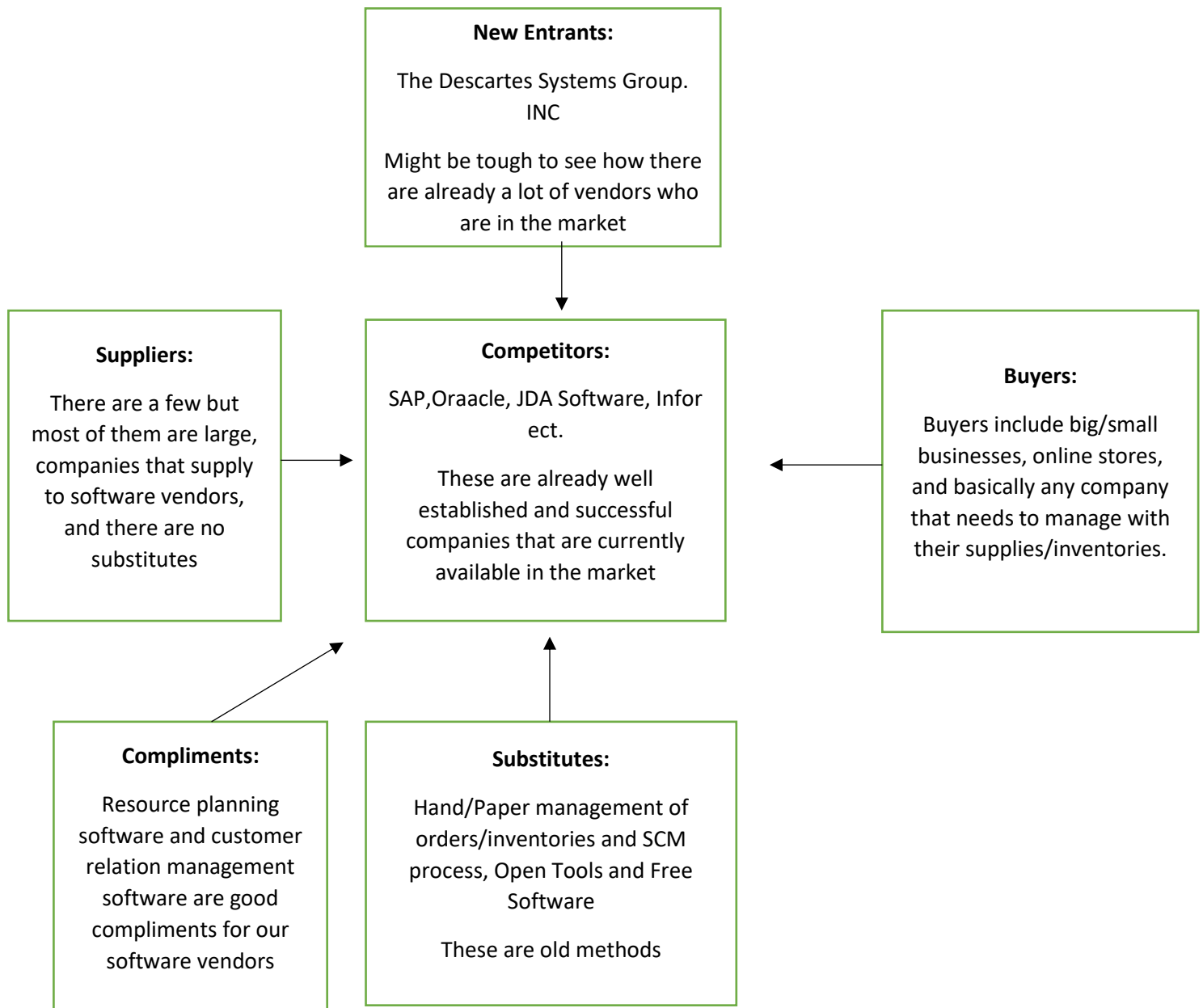
Company	2016 Revenue	2017 Revenue	2016-2017 Growth (%)	2017 Market Share (%)
SAP	2,930	3,257	11.2	26.6
Oracle	1,553	1,679	8.1	13.7
JDA	476	544	14.3	4.4
Infor	243	286	17.4	2.3
Manhattan Associates	219	225	2.8	1.8
Other Vendors	5,334	6,256	17.3	51.1
Total	10,755	12,246	13.9	100.0

Source: Gartner (July 2018)

Source: <https://www.gartner.com/newsroom/id/3882873> (Feb,2018)

This chart was found online and was copied and pasted through the websire above. Baed on the chart above from www.gartner.com/, it shows that the total revenue for 2011 was 12.246 million. This gives a growth of 1,491 million. (12,246-10,755). Then as you can see, the annual growth rate is about 13.8% $(12,246-10,755)/10,755 * 100$.

b) Porter's Five Forces Framework



New Entrants: weak

There are already many companies of the same field that are currently available in the market, meaning that having another entrant to the market will not cause as much of an effect. However, unless the new entrants is a very good and unique company then there would be a slight effect on the market. Also, there are a lot of firms who already offer similar products.

Competitors: strong

From the table presented in part a), one can see that there are many firms that currently growing with the market. One can also notice that there are two main firms, who already hold a big amount of the market. One can also notice that there are two main firms who already hold a big amount of the market share. This simply shows that there are good amounts of competition within the market.

Substitutes: Weak

There are not a lot well-known or even yet, good products that can be used as alternative for the SCM software. This means that having substitutes for the SCM software will not cause much effect to the companies, seeing how they are not as efficient.

Suppliers: moderate

There are not a lot suppliers that are available for the market which makes them somewhat needed. There are still choices that companies can have when picking who to use as their own suppliers.

Buyers: Moderate

Most companies need software to help keep their company's inventories organized, however, not all companies would need to purchase the software. Some companies can create their own versions of the software to keep in use but the majority of companies do not wish to have to create them. Most companies, especially those that are bigger and much more advanced in product would need a much more efficient system to rely on.

Compliments: Weak

A lot of the current compliments that are availed for the SCM software are not necessarily required which makes the idea of having compliments weak. It would definitely help, but it's at the same time, not necessary.

C) Competitive Strategy

**Target
market**

Market Wide

Low Cost

Unique product

Cost leadership JDA software & Indor	Differentiation Oracle & SAP
Focus: Manhattan Associates	

Focused Segment

Cost Leadership: JDA Software

From the groups that I have researched it seemed more like JDA software were most towards Cost leadership sector in which they provide consumers with optimal prices for their demands in whatever products that is available for the market.

Differentiation: Oracle and SAP

Oracle and SAP definitely seem to be great at their differentiations. They both try to be the first and utmost innovated companies in the market which causes them to have unique products; such that of combining with different companies to create a better and different product.

Focus: Manhattan Associates

This company has recently won an award for Best IT Supply chain solution provider in Asia, which implies that they are focused on creating the best IT supply chain solution provider in Asian. A possibility of this result can be because of China's rapid growth in technology over the last decades in their acceptance to the WTO.

D) Entering the Market as a "New Entrant"

Using the competitive strategy diagram a new entrant company would start by focusing on only in one field of the strategy, rather than having a combination of let's say, both cost leadership and differentiation. Start small then expand. A start up company will not be able to handle both areas of cost leadership and differentiation.

With that in mind, the company will begin as a focused firm with a narrow group of audience. This way, they can get to know the market better and of course, their product better. Once the product is ready and in a good path, the company later decides to expand into different groups of targets of even different fields of focus. However, we can also slightly focus on cost leadership using attractive prices to get people to take notice of the company.

It will be difficult to being in the differentiation sector because of the being a new entrant. Not all companies are willing to risk their reputation and money on a company that they are unfamiliar with. This then, makes differentiation hard for new entrants. However, as we build up our reputation within the SCM software market, then we can decide on the differentiation of the company.

Check work

I have checked all my work and it seems accurate and reasonable. I have completed the four questions that were asked above with detail. Any images or tables used were labeled and explained.

Learn and Generalize

The SCM software network generates a lot of revenue due to the fact that each of the different systems is sold at a high cost. This Potentially speaks for the bigger companies who are. Able to afford such software. These companies need to use the SCM software too.

From what I understand of the SCM software market, I feel as though one would don't need much capital to become a start up in this market. A lot of the designs are based off simple software designs, not a lot of capital. One must have a good understanding of how to run a business for the company and its products in order to make the business of success. Big inventions can definitely lead to big success as long as one knows how to work the system.

2. Supply chain Strategy for Digital Camera Manufactures

Define Problem

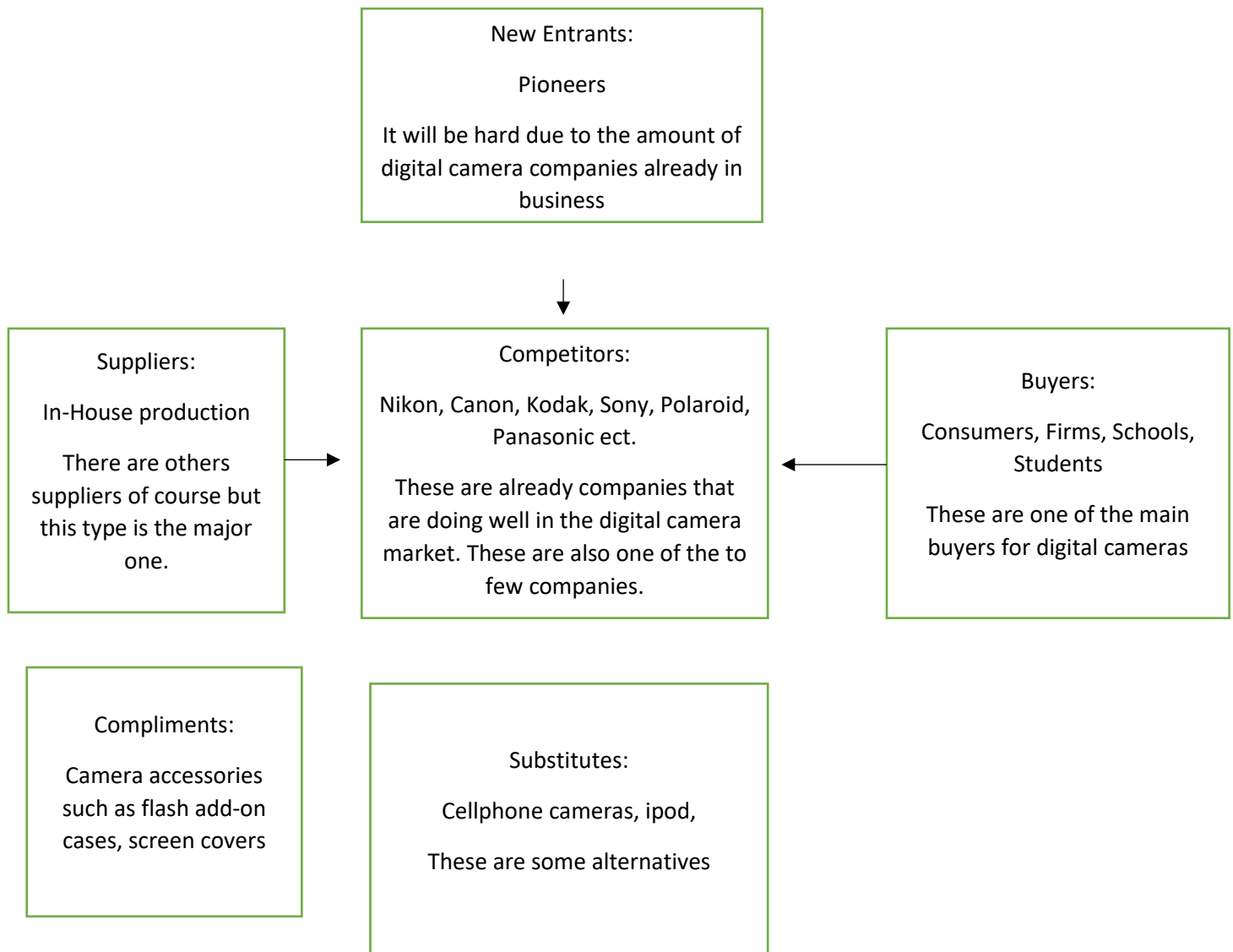
- a) Do a competitive analysis of the business landscape for digital cameras using Porter's five (six) forces framework.
- b) Then, characterize the competitive strategy of the major players using the 2x2 grid of "strategic target" and "source of competitive advantage"
- c) What should the corresponding supply chain strategy of each player be in order to achieve the "right" fit with the player's competitive strategy?
- d) Develop a supply chain network for a digital camera.

Plan

- Use the homework #1 handout
- Review the notes from TIM 105 and TIM 125
- Create the Porter's five (six) forces model framework
- Create a competitive strategy using the 2x2 grid
- Find the corresponding supply chain that best fits the player
- Create a supply chain network for a digital camera
- Use the structured problem-solving method

Execute

a) porter six forces model



New entrants: Weak

There are already a lot of firms that are currently quite successful in this market. Therefore, being a new entrant to the market, it will be because it will take a lot to get notified.

Competitors: Moderate

Even though there are competitors, the effects of each company will not cause a dramatic effect to other companies. This is because each firm is unique in some ways. But of course, some companies definitely have a bigger name than some other.

Substitutes: Strong

Cell-phone cameras are actually becoming more popular when it comes to taking a photo digitally. Cameras imbedded in the cell-phones are more convenient which makes it much more popular; people rather have one item to hold on to than two.

Suppliers: weak

Many companies actually develop their own parts for the camera which are known as in-house production. There are not a lot of manufacturers to go to anyways.

Buyers: Strong

Since each company has some factors that are unique in their way makes it harder for buyers to have bargaining power. But due to cameras imbedded within smart phones, it is defiantly something that can be argued upon.

Compliments: Weak

There are many different accessories that camera users can buy in order to increase looks for the camera. However, having compliments does not have much effect on the camera because it will not increase the efficiency or quality of pictures/quality.

B) Competitive Strategy**Cost leadership: Kodak**

Kodak is not as high up in the market than other companies such as Sony or Canon. However, Kodak did use to make camera films for film cameras but as time went by, many users converted into digital camera users.

Differentiation: Nikon, Canon, Sony

These few companies create many different types of cameras such as regular digital cameras and DSLR cameras. These companies also create ones that in-between the two types of cameras. They create products to fill professional photographers or just those who love taking pictures.

Focus: Polaroid, Panasonic

Polaroid has digital cameras but their main product that they focus on are those that can print the picture right away, known as the polaroid. Their digital cameras are low cost while the old fashion is not.

C) Corresponding Supply Chain Strategy

Efficiency/Responsiveness: Differentiation

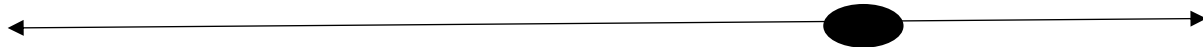
Highly Efficient SC Somewhat Efficient SC Somewhat Responsive Responsive SC Highly Responsive SC



This allows us to see what type of firms are generally in the digital camera industry, no cameras are made to be ordered and customized like Dell's PC's meaning they would unlikely be a highly responsive firm. It would not be a highly efficient SC as well because technology constantly changes and it makes it harder if a firm is going to mass produce electronics and a competitor may come out with a more innovative product. I would say that digital firms would have a somewhat responsive SC because there is a large variety and they can manufacture big sales batch.

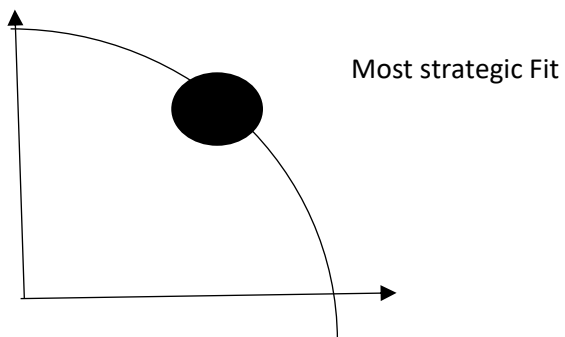
IDU: Differentiation

Low IDU somewhat certain IDU Somewhat uncertain IDU High IDU



Since the differentiated products are somewhat different and more innovative to the industry I see their products being in a somewhat uncertain IDU. With all the products releases there is always the uncertain whether customers will like it or not. The same applies to these differentiated products, they may be unique but there is always the uncertainty

Responsiveness/ Efficiency



IDU and responsiveness displays the combination of the two spectrums and we can see the middle as the zone of best fit. I would assume that it is harder to achieve the goal if high efficiency and certain demand with their strategy, but the best SC chain fit would be best fitted with a somewhat responsive SC and somewhat uncertain IDU.

Efficiency/ Responsiveness Spectrum: Cost leadership

Highly Efficient SC Somewhat Efficient SC Somewhat Responsive SC Highly Responsive SC



For cost leadership firms they need to be efficient in order to have their costs stay low because if the company is not efficient in managing their inventory or their transportation costs, they will increase. As those prices increase, it will lead to a lower profit margin, decreasing their efficiency.

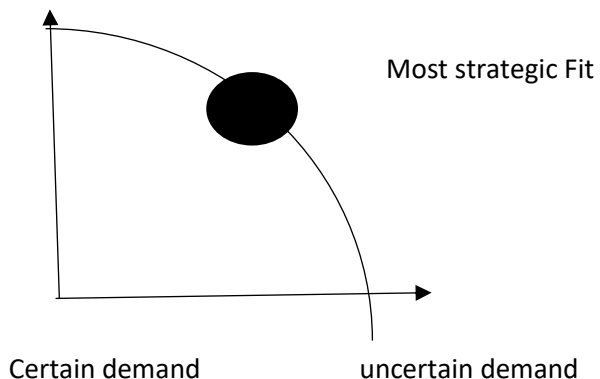
IDU spectrum: Cost leadership

Low IDU somewhat certain IdU Somewhat uncertain IDU High IDU



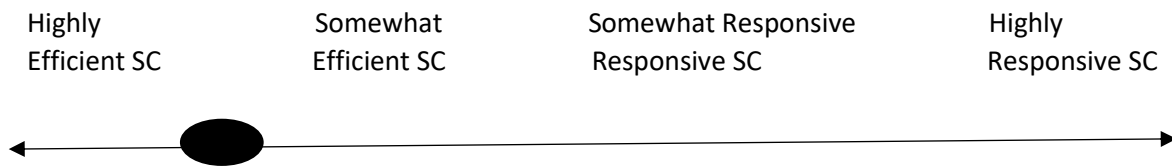
With cost leadership, customers purchase the product because of price. Regardless there is always going to be some sort of demand. I would not say that there is constant demand due to continual changes in technology.

Responsiveness/Efficiency



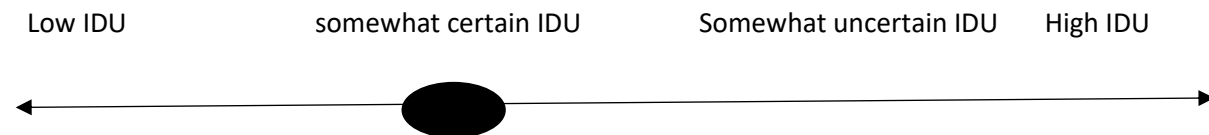
This is supposed to be ideally where the firm is with their strategic firm with high efficiency, which a cost-leadership must have in order to keep their cost low, but I do not feel that there is a certain demand there yet for technological products, so the graph depicts where a cost leadership firm would be.

Efficiently/Responsiveness spectrum: Focus

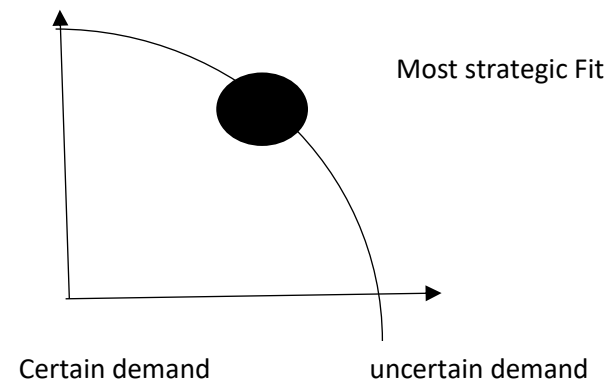


For a focus strategy, I feel that the firm would be somewhere between efficient SC and responsive SC, because the firm understands what their customers want and what they need, so if their target market wanted low cost products, they would have to be efficient.

IDU Focus



With a focus stranger the IDU is also uncertain because a firm focuses on a certain target group. Its easier to manage since it is smaller group and you are not trying to sell to an entire market.



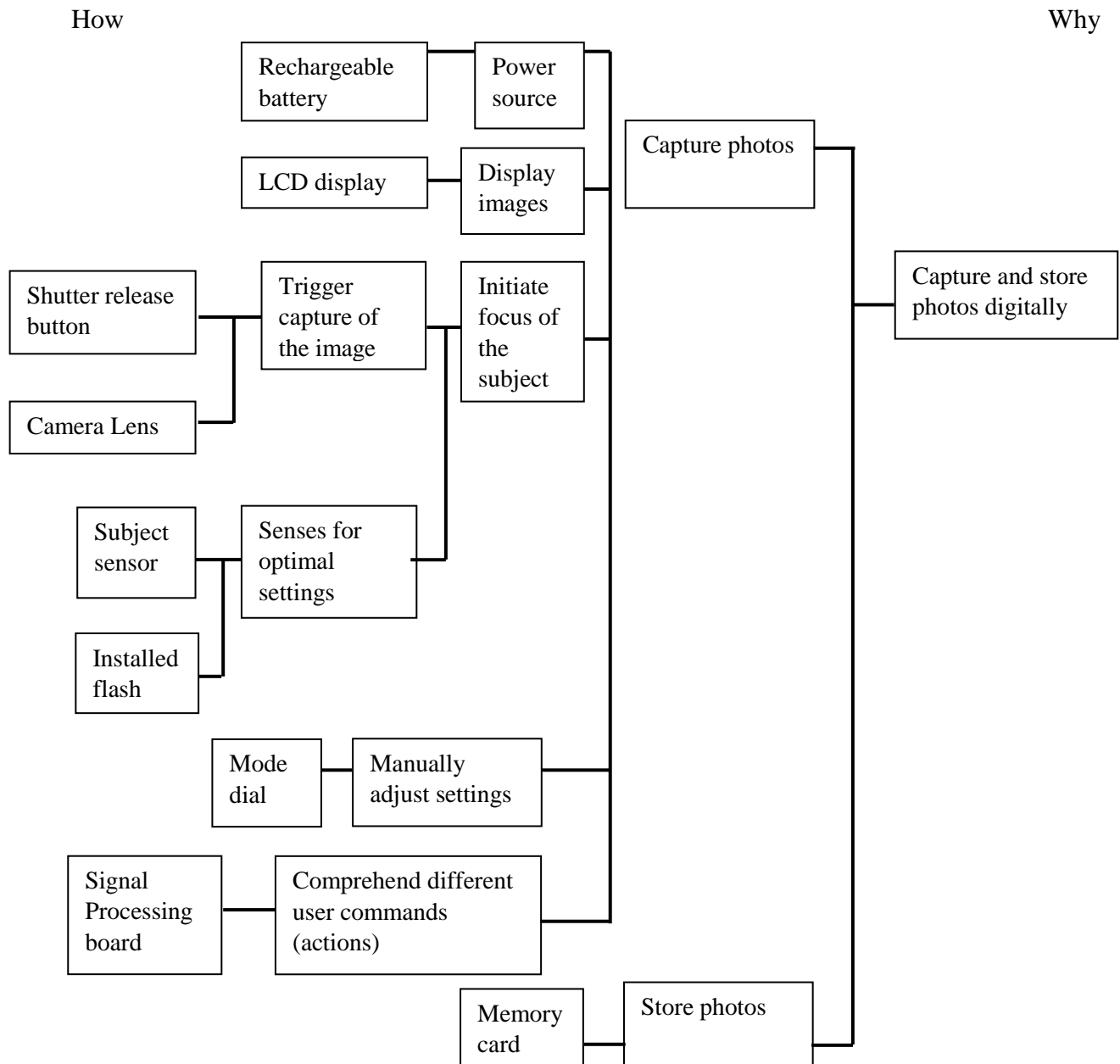
For these strategic companies to move towards a highly efficient SC and certain demand, it would depend who the target consumers are since it wool demand on what their consumers desired. <ore innovative and new products cannot achieve a certain demand and there is always uncertainty associated with it, and more “safe” products may have a higher demand by the life cycle.

Develop a Supply chain Strategy:

1. understand how the product works

The main functions of a digital camera would be to capture the image, and then have it be processed and stored on a memory card allowing for further processing or upload of the image. The next step with the F.A.S.T. diagram will show a more thorough break down of the digital camera and the different parts and sub-components of it.

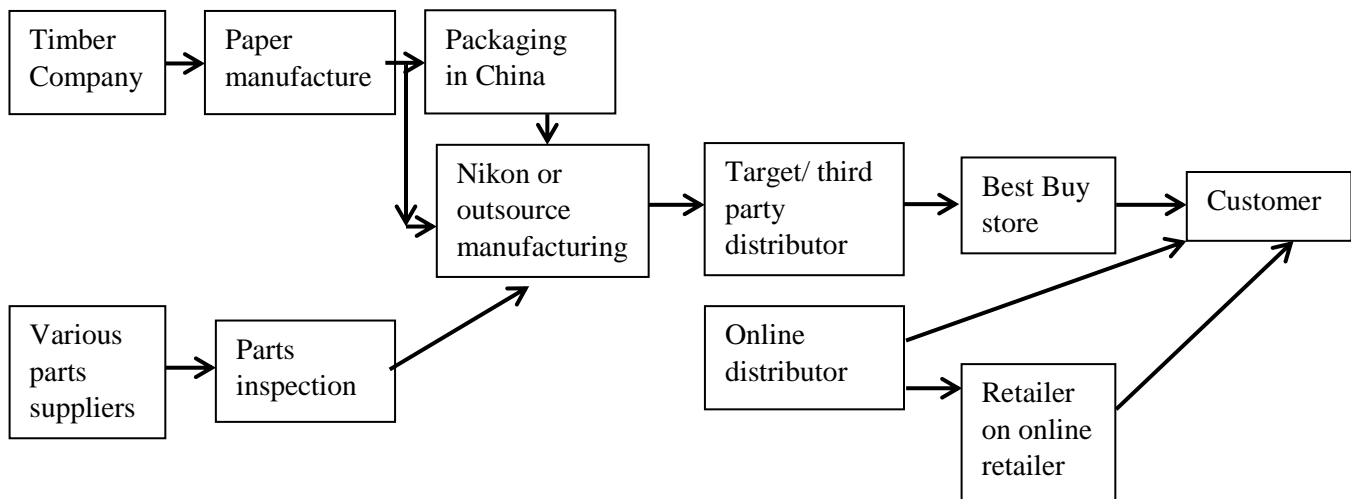
2. Dissect the product



3. Extract all of the key components and sub-systems as well as an approximate sense how they produce the final product.

Key Components & Sub-System	Function
Rechargeable battery	Allows the user the camera and provides a source of power
LCD Display	Shows the image after picture is taken
Camera lens	Captures image
Flash	Allows to take photos in low light conditions
Processing board	Control panel of the camera, all processes must go through this part of the camera to function.

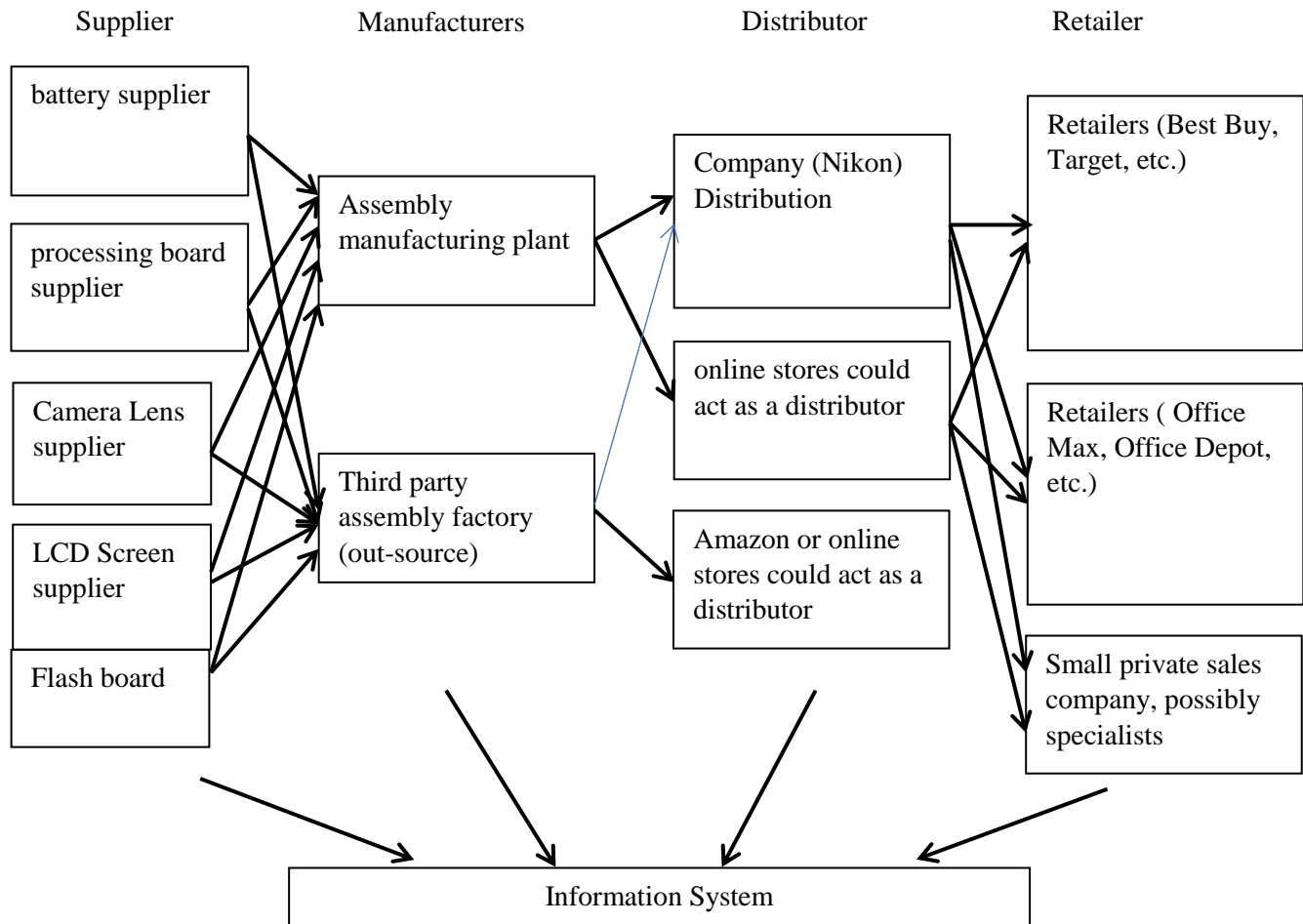
4. Create a high-level stage description of the SC for the product



Shows the process of packaging and inspection of camera parts leading up to the distribution and manufacturing of the product. A lot of companies manufacture from another country with the parts inspected before delivering it to the manufacture to beefing assembly. After the product is finished it is sent to distributors to the relators or directly sent to retailers. All of the process up instill the customer placing an order, it is a push process.

5. Combine step 3&4 to produce a specific supply chain network for the product.

We could design this for a digital camera for Cannon:



Check your work

I followed class notes and researched supply chains for cameras

Learn and Generalize

Form the porter analysis we can see that this industry is in somewhat of a trouble with an increase in the use of smartphone users, which have installed cameras that can replace the hassle of bringing a digital camera.

3. D1.2 Why should a Firm like Dell take into account total supply chain profitability when making decisions?

The ultimate goal of the supply chain profitability, which makes it all the more important, especially with a firm like Dell, they have a high responsive supply chain, meaning that they have a lower efficiency. The total supply chain profitability is the goal that these firms want to maximize, and all of the stages, flows and operations are supposed to maximize that. If firms did not take that into consideration, they would have no need to use the supply chain.

4)

D1.5 Consider the supply chain involved when a customer orders a book from Amazon. Identify the push/pull boundary and two processes each in the push and pull phases.

The push/pull boundary in this case would be similar to Dell because the books are already made and stored in inventory anticipating the customer needs for the book, which is the push cycle, and the pull cycle would be when all of the process after an actual order is placed for the book.

The two processes for the push cycle would contain the procurement cycle and the replacement cycle since the manufacturing cycle would happen at Barnes and Nobles and Amazon would also just act as a distributor while the pull cycle would consist of the customer order cycle. Amazon serves as the middle man.

D 1.6: In what way do supply chain flows affect the success or failure of a firm like Amazon? List two supply chain decisions that have a significant impact on supply chain profitability.

Amazon deals with a lot of items that they sell and they should have more than one warehouse that has these items, but an important thing they need to control would probably be the amount of inventory that they do carry. Amazon receives a lot of orders for different consumers, and at the same time they have to account for how their other vendors and Amazon selling the same items they are will affect their sales. Textbooks, Amazon sells new and used textbooks. Amazon has to keep control of their inventory and how their vendors' sales might affect theirs, so inventory control is a very important factor in their success.

Another supply chain decision that will affect the success of Amazon would be their warehouse locations. Amazon offers their prime members free two-day shipping. And even one-day shipping at the price of 3.99 per item. A lot of people would purchase from them because they ship fast and last minute. So warehouses' locations will affect their transportation cost of goods which is also another factor the need to keep good control over since all of their items are shipped out from warehouses and there aren't any walk-in stores.

5) Developing intermediate -level Microsoft Excel Skills

Define

- What is the NPV of the Expected Profit for the Base Case scenario? Explain your work.
- What is the maximum development cost which makes NPV = 0
- Explain the Trade -off law for NPC versus development cost.
- Explain the trade-off law for NPV versus sales volume
- Create a graph of the trade-off law relationship for the change in NPV versus change in Development Cost. What is the equation of the Regressed tredline?
- Create a graph of the trade-off law relationship for the to change in NPV versus Change in sales volume. What is the equation of the equatin of the regressed tredline?
- If there is a 10% increase in development cost, by how much does the sales volume need to increase, to compensate for the drop in NPV?

Plan

What information is available for solving the problem?

- Excel tutorial
- Getting started in Excel
- Lecture notes

Execute

- What is the NPV of the Expected Profit for the Base Case scenario? Explain your work.

	A	B
1	Scenario Input Paramenters	
2	Sales & production	75,000
3	Deveolpment cost	15,000,000
4	unit price	2,500
5	unit production cost	2,000
6	ramp up cost	2,500,000
7	marketing & support cos	2,400,000
8	annual discount factor	8
9		
10		
11	Base-Case NPV	61,888

NPV of the base Case scenario is 61,888k. I used the Excel sheet tutorial handout to produce the answer. I typed the given parameters and the result base-Case NPV is 61,888k

2) What is the maximum development cost which makes NPV =0()

	A	B
1	Scenario Input Parameters	
2	Sales & production	75,000
3	Deveolpment cost	78,738,155
4	unit price	2,500
5	unit production cost	2,000
6	ramp up cost	2,500,000
7	marketing & support cost	2,400,000
8	annual discount factor	8
9		
10		
11	Base-Case NPV	0

Max development cost is 78,738,155.15.

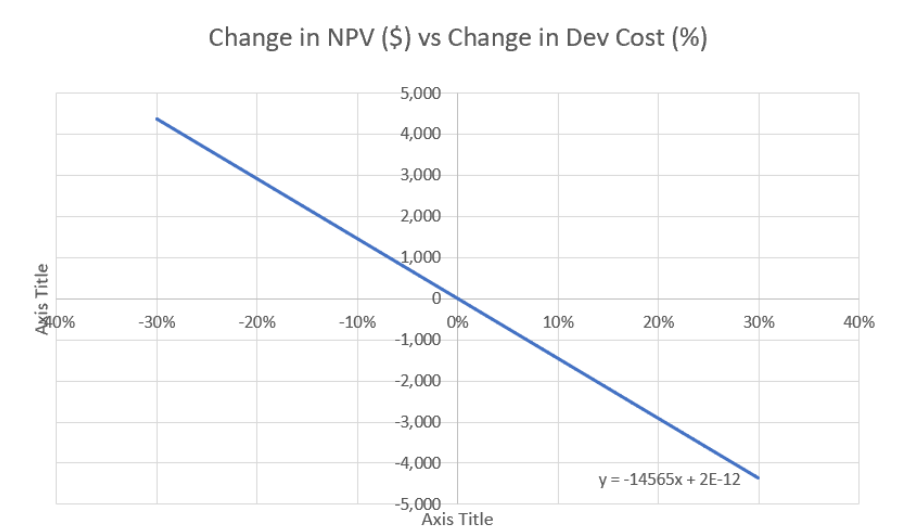
3) Explain the Trade -off law for NPC versus development cost.

The trade-off law for NPV and Development cost have inverse relationships. If NPV were to increase, Development Cost would decrease. If development cost increase, NPV would go down.

4) explain the tradeoff law for NPV versus sales volume.

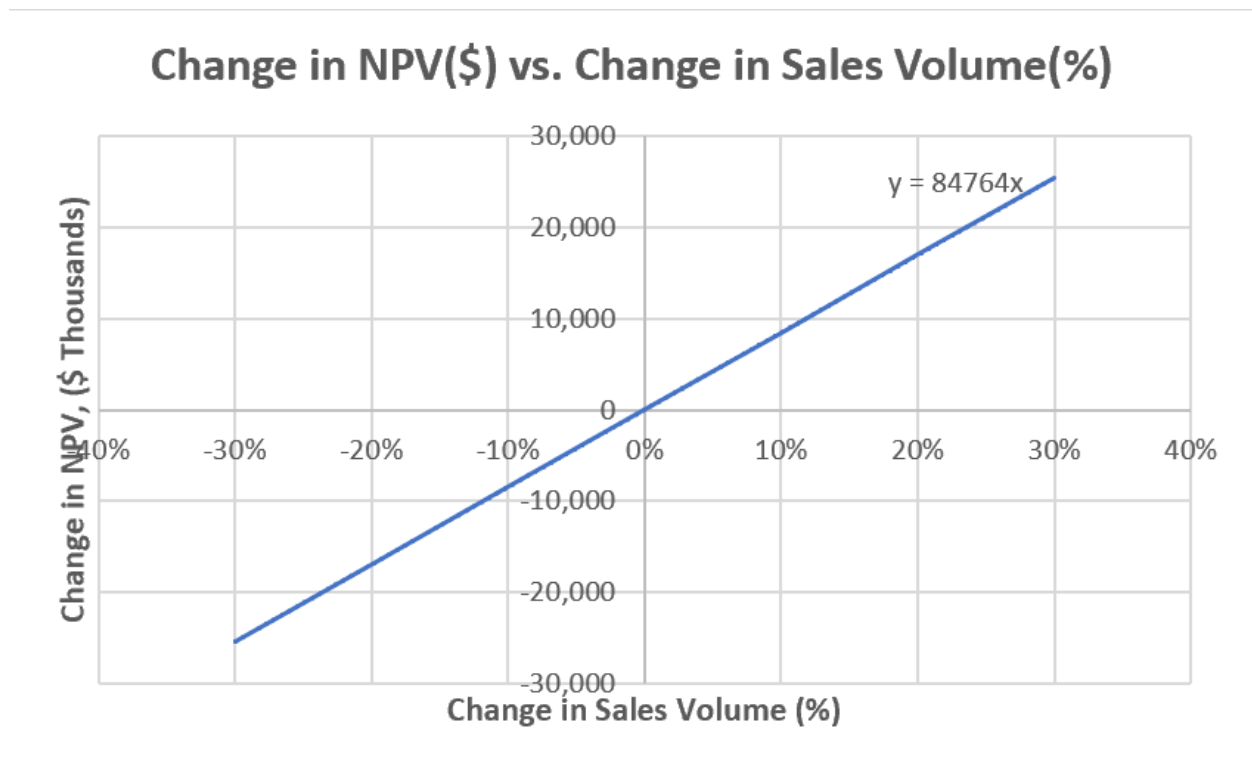
If Sales volume increases, so will NPV. If sales Volume decreases, The NPV would also decrease. This is because the firm will be generating more revenue since cost are the same.

5) Create a graph of the Trade-off law relationship for the change in NPV versus change in development. What is the equation of the regressed trendline?



The Equation of the line above is $y = -14,565x$. There is a 10% increase in the development Cost, so that NPV will decrease by the equation

6) create a graph of the Trade-off law relationship for the change in NPV versus Change in Sales Volume. What is the equation of the Regressed trendline?



The equation of the regressed line is $y=84764x$. I plotted the graph using the tutorial guidelines and displayed the equation.

7) if there is a 10% increase in development cost, by how much does the sales volume need to increase, to compensate for the drop in NPV?

Unsure of the answer but if there is a 10% increase in development cost it would take around 5% change in NPV for Development cost Sensitivity and 15% for sales Volume Sensitivity.

Check your work

I have checked my work by looking through the excel file and making sure the inputs are correct. I then checked with the questions and checked if the solution matched the solution provided

Learn and Generalize

Microsoft Excel is a useful tool in summing up data. I will continue to use Excel thought the quarter and hopefully throughout my career