Assignment Two: Steps 7 - 10

Adacel Technologies Limited

ACCT11059

Accounting, Learning and Online Communication

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# Step 7

I had many a mixed feeling starting steps 7 to 10 for my assignment, I was procrastinating about even starting because I was a bit nervous and apprehensive about these next steps and wondering how I was going to get it done. I already had a rough idea about the products that Adacel Technologies supplied but wasn’t sure what kind of prices I was looking at per product. I decided to see if I could get some information from the company itself, hoping that I would get a reply. Sadly, since emailing them, I have not had any reply from them. I was really worried about how I was going to guess how much these products and services would cost. I know Martin said not to spend too much time on this step, so I am going to have to guess and estimate what these are going to cost.

**Adacel Technologies Products & Services**

The three products / services that I have identified Adacel Technologies to provide are:

* Aurora Air Traffic Management System
* MaxSim Air Traffic Control Simulation
* AeroDrive Airport Driving Simulation Training

**Aurora Air Traffic Management System**

The Aurora Air Traffic Management System "advanced air traffic management capabilities to improve airspace efficiency and safety while delivering high levels of service to airspace users" (Adacel Technologies Limited, 2019). The system uses 4D flight profiles, electronic flight strips to provide real-time data updates, airspace situation display, medium-term conflict detection, surveillance data processing and enables clearances plus so much more. For such a technological product this would have to be something that is going to cost at least $1million or more. For this purpose, I am going to guess/assume $1.5million to purchase, and install the required equipment needed for such a big task. I am not sure if this is correct, but I am hoping to be somewhere in the ballpark.

For the variable costs of providing and installing this kind of equipment, I think there should be a variable cost of at least 80%. This is because there will be labour to install the software and the required equipment, there will be material costs and freight costs of the required equipment to go with the software. There will also be labour costs for customer service with the software. Therefore, the variable costs will be $1,200,000 which is 80% of $1,500,000.

Contribution margin (CM) = S - VC

CM = $1,500,000 - $1,200,000

CM = $300,000

**MaxSim Air Traffic Control Simulation**

The MaxSim Air Traffic Control Simulation provides training in the Aurora Air Traffic Management system that Adacel also provide. This simulation training ensures that their customers who use this system are well prepared before using the live system (Adacel Technologies Limited, 2019). They offer agile scalability varying from either a 360-degree set up, desktop or mobile system set up. The representation of the airport environment is of high quality and accuracy. The system is easily customised for their clients, whether they are using for military or civilian operations. It also offers a versatile use which means all levels of air traffic controllers are able to use the simulator. I am going to guess that the purchase cost for this product (for the 360-degree set up) is $400,000. I am not entirely sure if this is correct but hoping to be close.

For the variable costs for providing the material and data of the simulator, labour to install, freight of any required equipment for the 360-degree set up, as well as providing support in the form of labour I think there will be at least a 70% variable cost. This will add up to $280,000.

 Contribution margin (CM) = S - VC

CM = $400,000 - $280,000

CM = $120,000

**AeroDrive Airport Driving Simulation Training**

This simulator provides training in airport driving for vehicles such as fuel trucks, Aircraft Rescue and Firefighting, baggage carts, construction vehicles, busses, catering truck and airport operations vehicles. This product provides “enhanced awareness and operational safety” of the airport environment as well as familiarisation of the specific airports that the clients will be using (Adacel Technologies Limited, 2019). It also allows for various conditions, such as weather and day and night driving. For this simulator I am going to estimate a cost of $300,000.

For the variable costs I am going to guess that there will also be a 70% variable cost. I have also chosen 70% for this due to the material and data being provided and labour for set up and support. This will add up to a variable cost of $210,000.

Contribution margin (CM) = S - VC

CM = $300,000 - $210,000

CM = $90,000

**What is the Contribution Margin Showing?**

The contribution margins for the Air Traffic Management System and the two simulators, have been calculated as $300k, $120k and $90k. The contribution margin for each product sold contributes to Adacel’s fixed costs, with the remainder then from the fixed costs then contributing to my company’s profits. I believe that the fixed costs will consist of wages, electricity, rates, insurances, costs related to the various site offices and the various equipment used to support customers and install the software remotely.

From looking at the financial statements for the previous 4 years and comparing with the contribution margin for the 3 selected products, I believe the contribution margin has assisted in creating a profit for my company, except for the latest financial year of 2019 where they suffered a loss of $1.95 million before tax. I found that this was due to cost overruns from developing new software as well as a decrease in revenues. The previous 3 financial years though did have a profit of $9.5 million, $7.8 million and $10.8 million before tax respectively. Because of these profits previously, I believe my variable costs to be relatively accurate for the industry.

**Constraints**

I believe the constraints my company will face would be competition with other flight systems developers in the aviation industry, in both civil aviation and military aviation. I also believe there will be a constraint with the current global COVID-19 pandemic with preventing air travel, that will have some impact towards the company for this financial year and most likely next financial year. I found through the annual report for FY 2019 that Adacel did suffer from the occasional funding constraints faced by aviation authorities. These funding constraints I found affect Adacel’s “ability to forecast accurately the timing and quantum of both new and on-going business activity” (Adacel Technologies Limited, 2019). I couldn’t find anywhere in the annual report where they faced any resource constraints.

# Step 8

Ratio calculations are found in attached spreadsheet

**Profitability Ratios:**

The net profit margin is the comparison of net profit to revenue / sales, this ratio shows how much we are turning into net profit for every dollar of sales. Companies would ideally like to have a high net profit margin but is not always possible in the real world. For my company Adacel Technologies, the latest ratio for 2019 was unfortunately in the negative at -4%, while the previous 3 years were relatively high at 16%, 20% and 19%. I was not surprised to see that 2017 had the highest net profit margin at 20% out of all four years, considering my company’s best year of profit was 2017 at $9,279,000. I was also not surprised to see that 2019 had a negative profit margin a -4%, from knowing that my company did suffer a significant loss.

The return on assets (ROA) ratio is the comparison of net profit to total assets, which means that we are trying to understand what return we will be gaining for investing our money into the company’s assets. It shows that for every dollar of our assets, how much are we turning into profit. Again, I am seeing the same trend with 2019 being the worst year at -6.1%, 2018 and 2017 are both at an equal 22.6% and 2016 was the highest at 28.2%. I found this to be because 2016 had the highest total comprehensive income (CI) out of all 4 years at $9,088,000.

**Efficiency Ratios:**

The days of inventory ratio shows us how long it is taking to sell items in our inventory from when we purchased it. I was a little unsure with calculating this ratio because I did have an item in my balance sheet that listed WIP and inventories, however I had a little trouble finding where that transitioned to within the income statement. I read through the notes of the financial statements and found that the items under WIP and inventories were costs associated with work-in-progress on contracts. From another note within the financial statement I found that these costs comprised of direct materials and direct labour and would be charged as these expenses when the revenue was recognised. The problem I then had was that I had 2 separate line items for material and labour expenses, after checking with Martin he advised adding both expenses together and using that figure to work out my days of inventory ratio. I found by adding these two expenses together made for a very quick selling turnover, which made me think that perhaps this was way too quick, and my company could be overworking their assets which is not sustainable. But I also found that that my costs in WIP and inventories under the Balance Sheet were not very high costs compared to the material and labour expenses listed in the income statement and wondered if this is why inventory appears to be selling quite fast.

The total asset turnover ratio shows how efficiently our company is using their assets to generate sales. Companies would generally like to see their sales generated quite fast. My company to me appears to have a low total asset turnover ratio, I compared my ratios to that of Cassie Phillips in the exemplar and mine appear to be much better than hers was for her company. I researched what the software development and programming industry average asset turnover ratio was and found that it was around 0.53 cents for 2019, so Adacel Technologies in this regard appears to be doing well.

**Liquidity Ratios:**

The current ratio compares current assets to current liabilities and shows how much our company is paying in assets for every dollar of liabilities. Companies would like to see that current assets and current liabilities match $1 for $1 at least so that they can show they have enough current assets to pay their current liabilities. My company’s current ratio appears to be doing relatively well when I compare to Cassie Phillips exemplar. 2017 as I expected was the highest current ratio at 3.26%, which was their best year out of all 4. The lowest again I expected was 2019 due to the loss they received in this year.

**Financial Structure Ratios:**

The debt equity ratio compares the company’s current assets and current liabilities by comparing debt to equity. This ratio shows that for every dollar of equity, how much is being put towards the company’s debt. My company from looking through their financial statements has a higher value of total assets than it does total liabilities. 2019 appears to have the highest debt equity ratio from all 4 years at 108.1% which I believe was due to my company having fewer total assets, most likely due to the loss my company had suffered that year. 2017 had the lowest debt equity ratio at 45.3%, which was again their best year of profit.

The equity ratio shows how much is funded in assets by the owners while the debt ratio shows how much is funded by the banks in loans, when both of these are added together it should equal 100% in which case mine does. 2016 – 2018 shows that my company was mainly funded by the owners in equity, apart from 2019 which shows that my company was funded more in liabilities at 51.95%.

**Market Ratios:**

The share price I was unable to find in my financial statements, so I researched what the share price was for each financial year.

The earnings per share ratio shows me how much my company has earnt for each share. This ratio also shows how much my company could have actually paid out per share if the profit had been split. My earnings per share do not look great to me at all with 2019 being in the negatives at -$0.02, 2018 and 2017 being $0.11 and 2016 being $0.12.

The dividend per share ratio shows how much my company actually paid out from their earnings. I found that even though 2019’s earnings per share ratio was -$0.02, they still would have paid out $0.09 per share considering there was a major loss this year. In 2018 the dividend per share ratio was the highest out of all 4 fours at $0.11 which I found confusing as 2017 originally had the best year with profit and only had a ratio of $0.04.

The price earnings ratio measures the inflation of the share and basically shows how long it would take to be paid back for the investment of that share. For 2019 I was not at all surprised to see that this was in the negative at -26.30, again 2018 had the best ratio at 14.33, but 2017 was a better year. So I was a little unsure as to why this would have occurred.

**Restated Ratios:**

The return on equity ratio shows how much return we are generating for our shareholders and where we would ideally like to see a higher ratio. Again, I was not surprised to see that 2019 was in the negative with their loss they had suffered at -12.79%, but the remainder 3 years did look quite high and, in my opinion, relatively good in comparison to Cassie’s from the exemplar. I found that 2016 had the highest return on equity ratio at 44.87% which was the result of a higher total CI than the other years.

The return on NOA ratio shows the return for the use of my company’s assets. This means that is it showing me what we my company is generating on profit for every dollar of their assets. As expected, 2019 was again in the negatives at -14.11%, while the remainder 4 years were quite high with 2016 being the highest ratio at 169.57%. I found that the reason for 2016 being this high was that it had the lowest NOA at 5,478.2 and with the highest OI (operating income) at 9,290. In comparison to my ROA, 2016 still had the best year in terms of ROA at 28.2%, with this calculating the total assets not just the net operating assets.

The profit margin ratio is the comparison of the operating income to sales. These ratios almost exactly matched the net profit margin under my profitability ratios. This ratio shows how much was turned into operating profit from each dollar of sales.

The net borrowing cost ratio shows how much interest has been paid in comparison to how much has been borrowed. In my company’s instance, Adacel Technologies had Net Financial Assets (NFA) rather than Net Financial Obligations (NFO) for all 4 years. So, my net borrowing cost was quite low in comparison Cassie’s from the exemplar. 2019 did have the highest ratio at 4.20% but I believe this to do with the loss received that year as well as having the highest NFA.

The asset turnover ratio shows how efficiently my company is using their net operating assets, by detailing how much of my company’s sales is being generated from their operating assets. In comparison to the total asset turnover ratio under the efficiency ratios, my ATO is a lot higher, with 2016 being the highest at 8.75. This shows that my net operating assets provide a higher ratio than that of the total asset turnover.

**Economic Profit:**