Problem 1. Business Strategy Analysis

(i) Pandora competes with broadcast radio providers, including terrestrial and satellite radio providers. List one key success factor and key risk of Pandora's business model relative to the business models of broadcast radio providers. **[4 points]**

1. Key success factor

Ability to create personalized stations

Music Genome Project/Tailoring content to listeners taste

Learn about and share music

2. Significant risk

Higher content acquisition costs

Requires internet access

Risk associated with royalty rates under future content cost agreements (Webcasting IV proceedings)

(ii) Summarize the key financial challenge(s) faced by Pandora in offering its service through mobile devices. **[3 points]**

Currently not able to grow advertising revenue at a rate that exceeds growth in listener hours for mobile. Unless this trend can be reversed, Pandora is unlikely to become profitable. This is a consequence of Ad RPMs being substantially lower for mobile, because display and video advertising is less effective and it is more difficult to generate 'click-throughs'

Problem 2. Accounting Analysis

(i) Summarize the accounting policies used by Pandora in the most recent fiscal year for the recognition of revenue associated with the sale of advertising. **[3 points]**

Recognize revenue based on delivery information from their campaign trafficking systems based on third-party verification systems

Allocate revenue on multi-deliverable 'advertising package' arrangements based on relative selling price, primarily using BESP (best estimate of selling price).

(ii) Assume that instead of using its current accounting policies for the recognition of revenue, Pandora instead recognized revenue when it received the associated cash from customers. Estimate the Loss (income) from operations that Pandora would have reported for the most recent fiscal year. **[6 points]**

Restated loss from operations

= Reported loss from operations – increase in accounts receivable + increase in deferred revenue

= (37,702) + (36,672) + 10,034 = (64,340)

(iii) Summarize the accounting policies that Pandora uses for marketing and sales expenses. **[2 points]**

Expensed as incurred (consistent with GAAP and indicated by absence of any capitalized marketing and sales expenses on the balance sheet). See also the summary of accounting policies on page 81, which indicates that advertising expenses are expensed as incurred.

(iv) Assume that instead of using its current accounting policy for marketing and sales expenditures, Pandora instead capitalized marketing and sales expenditures in the fiscal year in which they were incurred and then amortized them on a straight-line basis over the subsequent two fiscal years. Estimate the Loss (income) from operations that Pandora would have reported for the most recent fiscal year. **[6 points]**

Restated loss from operations

= Reported loss from operations + 2013 M&S Expense – ½ 2012 M&S Expense – ½ 2011 M&S Expense

= (37,702) + 107,715 – ½ 65,010 – ½ 36,250 = 19,383

(v) Which of the above two accounting policies for marketing and sales expenditures do you think better reflects the underlying economics of these expenditures at Pandora? Briefly justify your answer. **[3 points]**

Pandora is investing resources in advertising in order to try and develop an effective and diversified advertising platform (see top of page 20). If successful, this should help to drive future advertising revenue, so some form of capitalization can be justified from an economic perspective. The 2-year amortization seems more appropriate than immediate expensing given the expected stream of future benefits from an effective advertising platform.

Problem 3. Financial Analysis

(i) Compute the Gross Margin ratio for Pandora and Sirius for the most recent fiscal year. **[4 points]**

Gross Margin for Pandora = (**427,145-258,748-32,019)/427,145 = 31.9%**

Gross Margin for Sirius = **(3,402,040 – 551,012 – 278,997 – 294,980 – 72,615 – 31,766)/ 3,402,040 = 63.9%**

(ii) Briefly identify the primary reason(s) for the difference between the gross margins that you computed above? **[4 points]**

Pandora has a substantially lower gross margin primarily because of:

1. Higher content acquisition costs (see p. 7)

2. Lower proportion of subscription-based customers (see revenue breakdown on IS)

3. Sirius is able to generate a higher gross margin to cover the higher invested capital in its satellite broadcast system that provides added convenience, as it does not require an internet connection

(iii) Estimate the average number of days that elapsed between the recognition of content acquisition costs and their subsequent payment for Pandora during the most recent fiscal year (note that you are only asked to do this computation for Pandora and not Sirius). **[4 points]**

Average number of days for Pandora = 365*1/2 *(33,822+53,083)/258,748 = 61.3 days

(iv) In the fiscal year ended January 31 2012, Pandora raised $90.632M in its initial public offering. Identify the main uses of the proceeds of the offering during that fiscal year. **[6 points]**

From SoCF, primary uses are:

31,005 to pay dividends to preferred stockholders

7,596 repayment of debt

66,980 purchase of short-term investments (note that 19,984 proceeds from maturities of short-term investments also contributed to these purchases)

[11,644 purchase of PP&E (note that this is more of a recurring expense and less directly related to IPO)]

Problem 4. Forecasting

(i) The Cowen and Company research report provided in the financial statement booklet forecasts that Pandora's revenue will grow from $427.1M in the most recent fiscal year to $2,824.2M in 2019 (see Exhibit 5 of the report). Evaluate the plausibility of this forecasting assumption. **[4 points]**

Total sales growth from most recent year to 2019 is over 560%.

This seems aggressive because:

1. **Active user base is already at 66M and growth rate is starting to slow. Without significant international expansion, which is currently not happening, population of US will not be large enough to support in excess of 400M users**
2. **Ad RPM is falling with shift to mobile and increased competition**

(ii) The Cowen and Company research report provided in the financial statement booklet forecasts that Pandora's operating margin will grow from (8.8)% in the most recent fiscal year to 32.1% in 2019 (see Exhibit 5 of the report). Identify the key drivers of the improved margin. **[6 points]**

Cost of Revenue-Content Acquisition forecast to drop from 60.6% of revenue to 29.4% of revenue (due to lower royalty rates); +31.2%

Cost of Revenue – Other to fall from 7.5% of revenue to 5.3% of revenue; +2.2%

General and Administrative Expense to drop from 11.3% of revenue to 5.1% of revenue (likely due to economies of scale and slowing growth rate); +6.2%

Also, very minor declines in Product Development and Marketing and Sales as a % of revenue.

(iii) The income statement model in Exhibit 5 of the Cowen and Company research report forecasts that the line item ‘Wtd. Avg. Shares Outstanding’ for ‘Diluted EPS-GAAP’ will increase from 168.3 in the most recent fiscal year to 180.3 in 2019. Briefly evaluate the plausibility of this forecast. **[4 points]**

Not plausible for 2 reasons:

1. **From page 100, we know that there were about 30M dilutive securities (common stock equivalents) at the end of fiscal 2013. These would either be converted to actual shares or be included in the diluted share count once Pandora is profitable.**

2. **The analyst model assumes ongoing stock-based compensation of between 41M and 83M per year. This would require in the order of 2M to 5M shares/year to be granted to employees and would further increase the share count by around 15-30M by 2019**

(iv) The balance sheet model in Exhibit 8 of the Cowen and Company research report forecasts that the line item ‘Accounts Receivable’ will grow from 103.4 in the most recent fiscal year to 429.6 in 2019. Briefly evaluate the plausibility of this forecast. **[5 points]**

This represents a growth rate of (429.6-103.4)/103.4 = 315%. By comparison, the advertising revenue driving the receivables balance is expected to grow at (2,608.8-375.2)/375.2 = 595%. The forecast seems implausible, because it assumes that Pandora will be able to extract much better payment terms from its advertising customers.

Problem 5. Valuation Analysis

(i) The Cowen and Company research report uses a terminal year of 2019 for its DCF valuation analysis (see Exhibit 4). Compute the terminal year 'return on equity' implied by the forecast financial statements in the Cowen and Company Report. **[4 points]**

Net Income / Beginning Equity

= 593.6/752.1 = 78%

Or

Net Income/Average Equity

= 593.6/((752.1+1,345.7)/2) = 57%

(ii) Briefly explain whether the terminal year return on equity is plausible. **[2 points]**

The forecast ROE is much higher than the cost of capital and therefore difficult to reconcile with a competitive equilibrium. If radio internet providers were able to generate such high rates of return, new firms would likely enter the industry and undercut on advertising rates or volumes to draw business from established providers.

(iii) The Cowen and Company research report forecasts significant stock-based compensation expense through the 2019 terminal year. Does the DCF analysis in Exhibit 4 incorporate the economic cost of stock-based compensation? If not, provide a brief qualitative explanation of how you would incorporate this economic cost. **[5 points]**

No. The DCF analysis excludes stock-based compensation costs from free cash flow and uses the number of diluted shares outstanding at the valuation date to compute equity value/share. This computation ignores the additional shares that will be given to employers in perpetuity based on the assumptions in the analyst model. To incorporate the associated economic cost, either:

1. **Factor in the increased share-count associated with each of the future FCF forecasts, OR**
2. **Treat the stock-based comp expense 'as if' it were a cash outflow in order to approximate the economic cost of the stock-based comp awards.**