EXAMINATION QUESTION PAPER - Written examination

EXC 21221
Strategic Management Accounting

Department of Accounting, Auditing and Business Analytics

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Re-sit	Last re-sit examination

Part one – Financial Planning (50%)

Exercise 1 (25%)

The company Alpha Omega Inc. has estimated its balance sheet to look as follows per 31 December 2019:

Fixed assets	120 000 000
Inventory	35 100 000
Accounts receivable	23 976 000
Bank deposits	5 214 000
Total assets	**184 290 000**

Share capital	36 000 000
Premium fund	7 200 000
Retained earnings	8 400 000
Long-term liabilities	78 000 000
Short-term liabilities	18 432 000
Overdraft bank account (1)	13 980 000
Payable taxes	1 560 000
Accounts payable	11 400 000
Unpaid share holder dividend	3 600 000
Other short-term liabilities	5 718 000
Total equity and liabilities	**184 290 000**

The budgeted income statement for year 2020 looks as follows:

Sales income	336 000 000
Gain from sales of fixed assets	2 000 000
Costs of goods sold	172 000 000
Salaries and other personnel costs	120 000 000
Depreciation	8 000 000
Other operational costs	24 000 000
Operating profit (EBIT)	**14 000 000**
Interest income	120 000
Interest costs	5 600 000
Profit before taxes	8 520 000
Corporate tax (2)	2 385 600
Profit after taxes	**6 134 400**

(1) This a bank account where the bank allows the company to have a balance in the bank's favor. The limit of this credit is currently 16 000 000.
(2) The corporate taxes are 100% payable; to be paid the year after they are accrued for, no deferred taxes

There is additional information pertaining to the budgets for 2020, as follows:

1. You may disregard the effect of sales tax or value added taxes

2. You may assume that the sales are evenly distributed over the year and that all months have 30 days.

3. Sales income: Credit customers account for 90% of the sales, the rest is paid cash. Of the credit customers, 20% pay in the same month that the sales are registered, 70% the month after and the remaining 10% two months after.

4. Costs of goods sold: All purchases of goods are against credit. On average 30% is paid in the month of purchase, 50% the month after and the remaining 20% two months after.

5. Inventory: The company plans to reduce the value of the inventory by 4 000 000, during 2020.

6. Other operational expenses: You may assume that these are payable costs and that they are paid the same month they occur.

7. Salaries: Payable salaries per 31 December 2019 is estimated to be 360 000, which is expected to increase to 440 000 by the end of 2020. This is placed among other short-term liabilities.

8. Interest costs: Payable interests per 31 December 2019 is estimated to be 1 440 000, which is expected to decrease to 1 280 000 by the end of 2020. These are also placed under short-term liabilities.

9. Fixed assets: The company plans to buy and pay for investments in fixed assets of 32 000 000 during 2020. The company also plans to sell some of their existing fixed assets, which at the time of sales are expected to have a book value of 6 000 000.

10. Emission of new shares: It is expected to be paid 22 000 000 from new investors during 2020, of which 6 000 000 is a share premium

11. Long-term loan: The company plans to borrow 20 000 000 from their bank in 2020. The short-term loan of 18 432 000 will be paid in full and there will be installments on existing bank loans amounting to 10 000 000 in 2020.

12. Dividend: You may assume that the accrued dividend per 31 December 2019 will be paid early in 2020 and you should make a new accrual of 4 800 000 at the end of the year. The remaining profits should be off-set against retained earnings.

13. Bank accounts: The ordinary bank account is estimated to increase its balance from 5 214 000 to 7 214 000 in 2020. The balance of the overdraft account at the end of 2020 will be determined by the other balance sheet accounts (the rest amount on the equity and liability side of the balance)

<u>Question 1 a) (15%)</u>
Present the expected balance sheet of Alpha Omega Inc. at the end of year 2020.

<u>Question 1 b) (10%)</u>
Explain the difference between the budgeted profit and the expected net cash flow for 2020, using a suitable model that specifies the sources of this difference.

Exercise 2 (25%)

The company King Arthur Inc. uses Activity Based Costing (ABC) for its product calculation. In the tables below you will find information related to the four products Marcus, Matthew, Lucas and Brutus, for the budget year 2020.
The company manufactures the products by carrying out a number of activities that can we can group in four different activity groups. Each of the activities in each group share the same cost driver type, but there are also facility-based costs without a known cost driver.

Activity group	Fixed indirect costs 2020	Cost driver type	Available capacity in units	Budgeted capacity utilization in units
Group 1	6 000 000	Volume-based	10 000	8 000
Group 2	2 000 000	Volume-based	4 000	3 000
Group 3	800 000	Product-based	8 000	6 000
Group 4	4 000 000	Series-based	20 000	16 000
Facility-based activities	5 000 000	Not available		
Total	17 800 000			

Product	Direct cost per unit	Production volume, units	Budgeted in Group 1	Budgeted in Group 2	Budgeted in Group 3	Budgeted in Group 4
Marcus	2 000	2 000	600	400	400	1 200
Matthew	3 000	1 600	1 400	800	2 000	800
Lucas	4 000	1 200	4 000	200	2 000	8 000
Brutus	8 000	400	2 000	1 600	1 600	6 000
Total			8 000	3 000	6 000	16 000

Question 2 a) (10%)
Present costing models for the four products where you include all costs that are relevant in an ABC-based costing model.

Question 2 b) (5%)
Calculate the costs for the excess capacity in 2020, specified for each activity group, based on the information above.

Assume now that the company has the possibility to additionally deliver 800 units of product Matthew, increasing the production volume from 1 600 to 2 400 units.
This additional order will increase the activity frequency in all of the four activity groups and that the budgeted activity will be as follows for product Matthew:

- Activity group 1: 2 100
- Activity group 2: 1 200
- Activity group 3: 3 000
- Activity group 4: 1 200

Question 2 c) (10%)
If King Arthur Inc. wants to have a profit contribution of 400 000 from this new order, what is the offered price per unit? Calculate also the change in costs of utilized capacity if this order is accepted.

Part two – Value Creation and Financial Performance Management (50%)

You may recognize Case Empatia Medical Center AS from class, here is the case text:

Two well-known Norwegian investors are currently planning a new privately owned medical center in Oslo. Empatia Medical Center AS will offer a wide variety of medical services, organized as a membership organization where members pay an annual fee that gives them quick access to both general practitioners as well as specialists. The members pay an additional fee for the consultations needed.

This is Empatia Medical Center AS

- Opens August 1st, 2019
- Investment 500 mill NOK in buildings, equipment and start-up
- Vision: Patient first!
- Will hire 100 medical doctors in full and half time positions
- In addition, 100 assistants, nurses and administrative personnel
- General practice, 24-hour emergency, specialists
- Cardiologists, gynecologists, ophthalmologists, dermatologists, stomach and intestinal specialists, plastic surgery, neurologists, psychologists and more.
- Personal or company memberships

The investors have, together with a well-reputed Norwegian consulting firm, developed a strategy plan for the period until end of year 2023, and here is a copy of the *summary of this strategy*:

Empatia Medical Center AS – a summary of the strategy for 2018-2023

Although the Norwegian public health care system has improved in recent years, it often takes a long time before a patient receives the necessary treatment from a specialist. The majority of the general practitioners have a limited capacity to follow up the patients sufficiently. In addition, employer-based health check subscriptions, where the workforce is offered regular check-ups are often not thorough enough to secure good healthcare in practice.
We think that many Norwegians have a willingness to pay for quick and professional treatments and to be followed up thoroughly after these treatments.

Medical consultation and treatment is an individual and person dependent experience and it is important to recruit and train our personnel in the possible way. Equally important is it to attract and keep unique medical competence. Our goal is to offer positions attractive enough to ensure that the best medical doctors want to work with us, rather than anywhere else.
The customers are offered two main products. One is a membership that gives access to our menu of various services, the other is a membership that contains one or two annual medical check-ups. This latter is also a product that will be offered as an occupational health service package to employers.

Our initial investment can be grouped in six investment areas:

- Purchase of land, planning and building new premises: 180 mill NOK
- Furnishings and fixtures and parking garage: 60 mill NOK
- Medical and laboratory equipment, MR-scanning/X-Ray: 85 mill NOK
- IT-applications for patient information and medical protocols: 15 mill NOK
- Marketing, recruiting personnel and other costs that occur before opening: 30 mill NOK
- Funding of operational loss 1st August 2019 – 31st December 2020: 80 mill NOK

We expect that the cash flow from the operational activities will be positive from 2021 onwards and a target for the Return on Assets (ROA) is 18 per cent in year 2023.
It is of utmost importance to design a management control model capable of following up the financial targets and providing good management reports that give relevant management information. There are also a number of non-financial value drivers that require continuous focus. The IT systems must ensure effective and secure handling of patient data and there is a need to tailor make applications for this. In addition, written procedures for all types of standard medical consultations is necessary for a quality control system that is also able to report variances along the way. The goal is to have a certified quality control system according to the ISO 9001 standard by early 2021.

Empatia Medical Center AS expects monthly operating costs of approximately 20 mill NOK from the start-up in August 2019, of which 60 per cent are salaries and other personnel costs. With such a large portion of the resources tied up in our own personnel, it is of utmost importance to our success that we are able to develop an organizational culture where all employees feel highly appreciated and are motivated to continuously develop the company. In this respect it is also important to succeed in getting three different cultures to work hand in hand; medicine, administration and commercial activities.
The handling of health personnel is resource demanding, because of legal requirements as well as the continuous focus on both the individual and joint responsibility for maximum compliance in this respect. Good reputation and low patient risk will only be secured as a result of long-term and determined activities in all processes and at every level. A code of conduct will be established; containing both general regulations concerning all employees, as well as more specified ethical codes for the various types of work carried out.
We will quickly need to build a large membership base that actively uses our services and that are loyal enough to recommend us to others. Our overall market target is to be recognized as the best private supplier of health care services in Norway. To succeed with this, we need to focus on market and media activities as well as the presence on important medical seminars and congresses, both domestically and international. A close co-operation with the pharmacy industry as well as with suppliers of technical equipment is very important, but we must at the same time maintain a high degree of integrity and neutrality towards these parties, to secure our own basis for making the best judgements on behalf of the patients at all time.

Together we shall take on the social mission to build an even better health care system in Norway, by offering good solutions, parallel with the public services in this area. At the same time, we must maintain a continuous focus on creating financial values in a capital and labor-intensive business, a value creation both for our people in the organization and those who have invested in it.

Empatia is currently developing a balanced scorecard system and the company's management has identified altogether 18 critical success factors. They are here presented in a random order:

1. Cost-efficient operations
2. High level of quality, as perceived by the customers
3. Routines that secure a high degree of patient security, for instance with regards to secure data protection (GDPR)
4. Efficient processes for handling patients
5. Effective support function for information and data systems (ICT)
6. High reputation in the private market for health care services
7. High level of employee competence

8. High revenue growth rate
9. Standardized procedures for treating patients
10. Lowest possible rate of wrong medical diagnoses
11. Well-functioning organizational culture
12. Positive and increasing financial value creation
13. Good relations to customers
14. Stable income base
15. Good routines for personnel training
16. An increasing number of new customers
17. High ethical level of medical personnel
18. Good relations to medical academic and research partners

Exercise 3 (15%)

Group the above 18 success factors in each of the four strategic perspectives commonly used in The Balanced Scorecard.

Exercise 4 (10%)

Design a strategy map for Emaptia. To save space you may refer to the number of each critical success factor instead of writing the full text (you may for instance write 18 instead of "good relations to medical academic and research partners")

Exercise 5 (15%)

Explain, by using relevant cause and effect relations, how Empatia can gain control over the following four success factors:

12 Positive and increasing financial value creation
2 High level of quality, as perceived by the customers
10 Lowest possible rate of wrong medical diagnoses
9 Standardized procedures for treating patients

Exercise 6 (10%)

Suggest two Key Performance Indicators for each of the four success factors:

12 Positive and increasing financial value creation
2 High level of quality, as perceived by the customers
10 Lowest possible rate of wrong medical diagnoses
9 Standardized procedures for treating patients

In each area, the first KPI should be a lead-indicator and the second a lag-indicator, so you altogether present four lead and four lag indicators relevant to the above four success factors.