Written Exam at the Department of Economics summer 2020

Managerial Accounting

Final Exam

Date 28.05.2020

(3-hour open book exam)

Answers only in English.

This exam question consists of 4 pages in total

The paper must be uploaded as <u>one PDF document</u>. The PDF document must be named with exam number only (e.g. '127.pdf') and uploaded to Digital Exam.

This exam has been changed from a written Peter Bangsvej exam to a take-home exam with helping aids. Please read the following text carefully in order to avoid exam cheating.

Be careful not to cheat at exams!
You cheat at an exam, if you during the exam:

- Copy other people's texts without making use of quotation marks and source referencing, so that it may appear to be your own text. This also applies to text from old grading instructions.
- Make your exam answers available for other students to use during the exam
- Communicate with or otherwise receive help from other people
- Use the ideas or thoughts of others without making use of source referencing, so it may appear to be your own idea or your thoughts
- Use parts of a paper/exam answer that you have submitted before and received a passed grade for without making use of source referencing (self plagiarism)

You can read more about the rules on exam cheating on the study information pages in KUnet and in the common part of the curriculum section 4.12.

Exam cheating is always sanctioned with a warning and dispelling from the exam. In most cases, the student is also expelled from the university for one semester.

Exercise 1

The statement of profit or loss for Wire Company for last month is shown below:

In DKK	
Revenue (30,000 units at DKK60)	1,800,000
Less variable expenses	1,260,000
Contribution margin	540,000
Less fixed expenses	360,000
Profit	180,000

The industry in which Wire Company operates is quite sensitive to seasonal changes in the demand of products. Thus, profits vary considerably from season to season. The company has in certain periods a large amount of unused capacity and considers different opportunities for improving profits.

Questions

Q1.

Some new production equipment has come onto the market that would allow Wire Company to automate a part of its operations. Variable costs would be reduced by DKK18 per unit. However, fixed costs would increase to a total of DKK900,000 each month. Prepare two contribution statements of profit or loss, one showing present operations and one showing how operations would appear if the new equipment is purchased. Show an Amount column, a Per Unit column, and a Percentage column on each statement.

Q2

Refer to the statement of profit or loss in Q1 above. For both present operations and the proposed new operations, compute:

- **a.** the degree of operating leverage,
- **b.** the break-even point in DKK, and
- **c.** the margin of safety in both DKK and percentage terms.

Q3

Refer again to the data in Q1 above. What factors would you as a manager take into account in deciding whether to purchase the new equipment instead of keeping the old one? You may assume that enough funds are available to make the purchase.

Q4

Refer to the original data. Rather than purchase new equipment, the president is thinking about changing the company's marketing method. Under the new method, sales would increase by 20% each month and profit would increase by one-third. Fixed costs is then changed to only DKK 192,000 per month. Compute the break-even point for the company after the change in marketing method.

Exercise 2

The manager of Pears Company, Catherine, became confused when she saw the new statement of profit or loss. Despite the fact that the same number of units were sold this year as last year, the profits have more than doubled. The statements to which Catherine was referring are shown below in the absorption-costing format:

In EUR

	Year 1	Year 2
Sales (20,000 units each year)	2,100,000	2,100,000
Less cost of goods sold	1,380,000	1,200,000
Gross margin	720,000	900,000
Less selling and administrative expenses	600,000	600,000
Profit	120,000	300,000

The statements above show the results of the first two years of operation. In the first year, the company produced and sold 20,000 units; in the second year, the company again sold 20,000 units, but it increased production in order to have an inventory (stock) of units on hand, as shown below:

	Year 1	Year 2
Production in units	20,000	25,000
Sales in units	20,000	20,000
Variable production cost per unit	EUR 24	EUR24
Fixed manufacturing overhead costs (total)	EUR900,000	EUR900,000

Pears Company produces a single product and fixed manufacturing overhead costs are applied to the product on the basis of each year's production. It is important to note that a new fixed manufacturing overhead rate is computed each year. Variable selling and administrative expenses are EUR 3 per unit sold.

Questions

Q1
Compute the unit product cost for each year under:

- **a.** Absorption costing.
- **b.** Variable costing.

Q2
Prepare a statement of profit or loss for each year, using the contribution approach with variable costing.

Q3
Reconcile the variable costing and absorption costing profit figures for each year.

Q4
Explain to Catherine why, under absorption costing, the profit for Year 2 was higher than the profit for Year 1, despite the fact that the same number of units was sold in each year.

Q5

- **a.** Explain how operations would have differed in Year 2 if the company had been using JIT inventory (stock) methods.
- **b.** If JIT had been in use during Year 2, what would the company's profit have been under absorption costing? Explain the reason for any difference between this Profit or loss figure and the figure reported by the company in the statements above.

Exercise 3

Q1
Explain the purposes and content of a Balanced Scorecard.

Q2
Explain the purposes and content of a Strategy Map.

Q3
Refer to questions Q1 and Q2 above. How do Balanced Scorecard and Strategy map support each other?

Q4
Explain why companies need non-financial measures in addition to financial measures when controlling a company and measuring its performance.