

November 2023 and February 2024
Operational Case Study
2019 CGMA Professional Qualification
Full post exam support materials

Below are the full post-exam supporting materials for the Operational Case Study Exam. Use the links on this page to jump to the documents required.

Pre-seen material

November 2023 and February 2024 Operational Case Study [pre-seen](#).

Examiner's report

The November 2023 and February 2024 [examiner's report](#).

Exam variants

- [Variant 1](#)
- [Variant 2](#)
- [Variant 3](#)
- [Variant 4](#)
- [Variant 5](#)
- [Variant 6](#)

Suggested solutions

- [Suggested solutions for variant 1](#)
- [Suggested solutions for variant 2](#)
- [Suggested solutions for variant 3](#)
- [Suggested solutions for variant 4](#)
- [Suggested solutions for variant 5](#)
- [Suggested solutions for variant 6](#)

Marking Guidance

- [Marking guidance for variant 1](#)
- [Marking guidance for variant 2](#)
- [Marking guidance for variant 3](#)
- [Marking guidance for variant 4](#)
- [Marking guidance for variant 5](#)
- [Marking guidance for variant 6](#)

If you need any further information please [contact us](#).



Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	3	(a) 32% (b) 32% (c) 36%
2	45	1	3	(a) 52% (b) 24% (c) 24%
3	45	1	3	(a) 48% (b) 24% (c) 28%
4	45	1	2	(a) 64% (b) 36%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2023. Work on the PB Protein Biscuit Production Department is progressing well and on schedule for the product launch in mid-April.

You receive the following email:

From: Akida Agu, Finance Manager

To: Finance Officer

Subject: PB Protein Biscuit Production Department costs and key performance indicators (KPIs)

There is a Senior Management Team (SMT) meeting next week and I need your help preparing for it. I have produced a table of information (Table 1, attached) for the oven that was purchased today for the Protein Biscuit Production Department.

Please prepare briefing notes for the SMT which explain:

- How the oven will be classified and initially measured in our financial statements. Please also explain the impact of the oven on our reported profit for the year ending 30 June 2024.

(sub-task (a) = 32%)

I have also attached a table (Table 2) that details the lease agreement for the wrapping and packing equipment needed for the Protein Biscuit Production Department.

Please include in your briefing notes an explanation of:

- How the lease for the wrapping and packing equipment will be initially recorded and subsequently measured in our financial statements for the year ending 30 June 2024.

(sub-task (b) = 32%)

We also need to develop some performance measures for the Protein Biscuit Production Department, and I would like your thoughts on this.

Please include in your briefing notes:

- Suggestions of three KPIs that are appropriate to monitor the performance of the Protein Biscuit Production Department when it starts. Please explain how each KPI would be measured and why it would be appropriate.

(sub-task (c) = 36%)

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Protein Biscuit Production Department oven information

The oven (which includes an oven housing and separate heating elements) was purchased on 1 December 2023. The purchase price for the oven housing was C\$80,000, and the purchase price for its heating elements was C\$20,000.

The oven will be installed in January 2024 by the supplier which will charge C\$1,000 for installing the oven housing and C\$500 for installing the heating elements.

All relevant employees will be trained to operate the oven in January by the supplier which will charge a total of C\$900. Without this training, PB will not be able to use the oven.

We expect the oven to be available for use in production on 1 February 2024.

We expect to use the oven housing for 20 years. The heating elements will need to be replaced every 5 years.

Table 2: Lease for the wrapping and packing equipment

Lease commencement	1 January 2024
First payment due	1 January 2024
Lease arrangement fee	C\$4,000
Annual lease payment, payable on 1 January each year	C\$30,000
Number of annual lease payments	8
Interest rate implicit in the lease	10%
Useful life of the wrapping and packing equipment	10 years
Ownership of the underlying asset at the end of the lease term	Lessee

Note:

- The wrapping and packing equipment will be installed during January and will be available for use on 1 February 2024.

Reference Material

Pre-seen

Write the briefing notes requested by Akida Agu in the box below.

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Reference Material

Pre-seen

A week later, Ben Morales, Production Director, and Penny Sanchez, Sales & Marketing Director, have returned from a course detailing how digital costing systems are revolutionising the food industry.

You receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: Digital costing systems and zero based budgeting

Ben Morales and Penny Sanchez are both keen to investigate the possibility that PB could benefit from adopting a digital costing system across the business, especially now our new product ranges mean that we will be increasing the number of suppliers we deal with. They have sent me some industry data from the course they recently attended, and I have added PB's information. This is included in Table 1 (attached).

They want us to prepare information for an upcoming Senior Management Team (SMT) meeting.

Please prepare a briefing paper for the SMT which explains:

- How the features of a digital costing system could benefit our business, using the information in Table 1 to support your explanation.
(sub-task (a) = 52%)

We plan to launch the PB protein biscuit mid-April 2024. Although Penny Sanchez has, to date, managed all our marketing campaigns in-house, the protein biscuit is aimed at a wider market than our existing customer base and she thinks it might be better to employ an external company. She has researched the cost of potential marketing campaigns, using either in-house resources or an external company (Table 2 attached). As finances are limited, Julia Matthews, Finance Director, wants to use a zero based budgeting (ZBB) approach to establish the marketing budget for the protein biscuit range.

Please include in the briefing paper an explanation of:

- How to use a ZBB approach to determine the marketing budget for our protein biscuits. Please use the information in Table 2 to support your explanation.
(sub-task (b) = 24%)
- The potential limitations of using a ZBB approach to determine all of our discretionary budgets across the business each year.
(sub-task (c) = 24%)

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Comparison of PB with industry average data for companies using digital costing systems and non-digital costing systems

	PB (non-digital costing system)	Industry average (digital costing systems)	Industry average (non-digital costing systems)
Number of suppliers per company	89	198	117
Supplier lead time	9 days	2 days	6 days
Supplier automated links	No	Yes	No
Food waste	3.7%	2.9%	3.6%
System integration (linking internal departments)	No	Yes	No
Artificial intelligence (AI) tracking customer buying patterns	No	Yes	No

Notes:

1. The average cost of implementing a digital costing system is C\$1,000,000.
2. Average cost savings for digital costing are C\$200,000 a year.



Table 2: Cost of potential marketing campaigns for the protein biscuit

	In-house marketing costs C\$	External marketing company costs C\$
Basic campaign	210,000	290,000
Optional package – web page advertisements	60,000	50,000
Optional package - Diet Divas endorsement	Not available	150,000

Notes:

1. The external marketing company's optional packages are only available if the basic package is also purchased.
2. Diet Divas is the second largest slimming club in Ceeland.



Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Reference Material

Pre-seen

It is now January 2024 and the choice of marketing campaign for the protein biscuit is still being decided. The opportunity to employ an alternative external marketing company presented itself in the last week, and the choice is now between two external companies and an internal campaign. You receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: Marketing campaign options for the protein biscuit

The choice of marketing campaign will be made in the next Senior Management Team (SMT) meeting. I have presented the options for the decision in the attached decision tree (Chart 1).

Please prepare a briefing paper for the SMT which explains:

- How to use the decision tree shown in Chart 1 to decide which marketing option should be chosen, assuming that the SMT has a risk neutral attitude. Please also explain any limitations of the data used to compile the decision tree.

(sub-task (a) = 48%)

I have also calculated the following, based on the net expected values of the three marketing campaign options:

	Company 1	Company 2	Internal Campaign
Standard deviation (C\$)	774,039	939,428	283,480
Coefficient of variation (%)	18.48	18.12	5.50

Using this information and information from the decision tree, where appropriate, please include in your briefing paper an explanation of:

- How a decision maker with either a risk averse or risk seeking attitude would use this information. Please state which marketing campaign would be chosen by each type of decision maker.

(sub-task (b) = 24%)

Before making the final decision about the marketing campaign, the SMT wants to understand the financial stability of both external marketing companies, based on how each manages its working capital. Table 1 (attached) includes financial information about each company.

Please include in your briefing paper an explanation of:

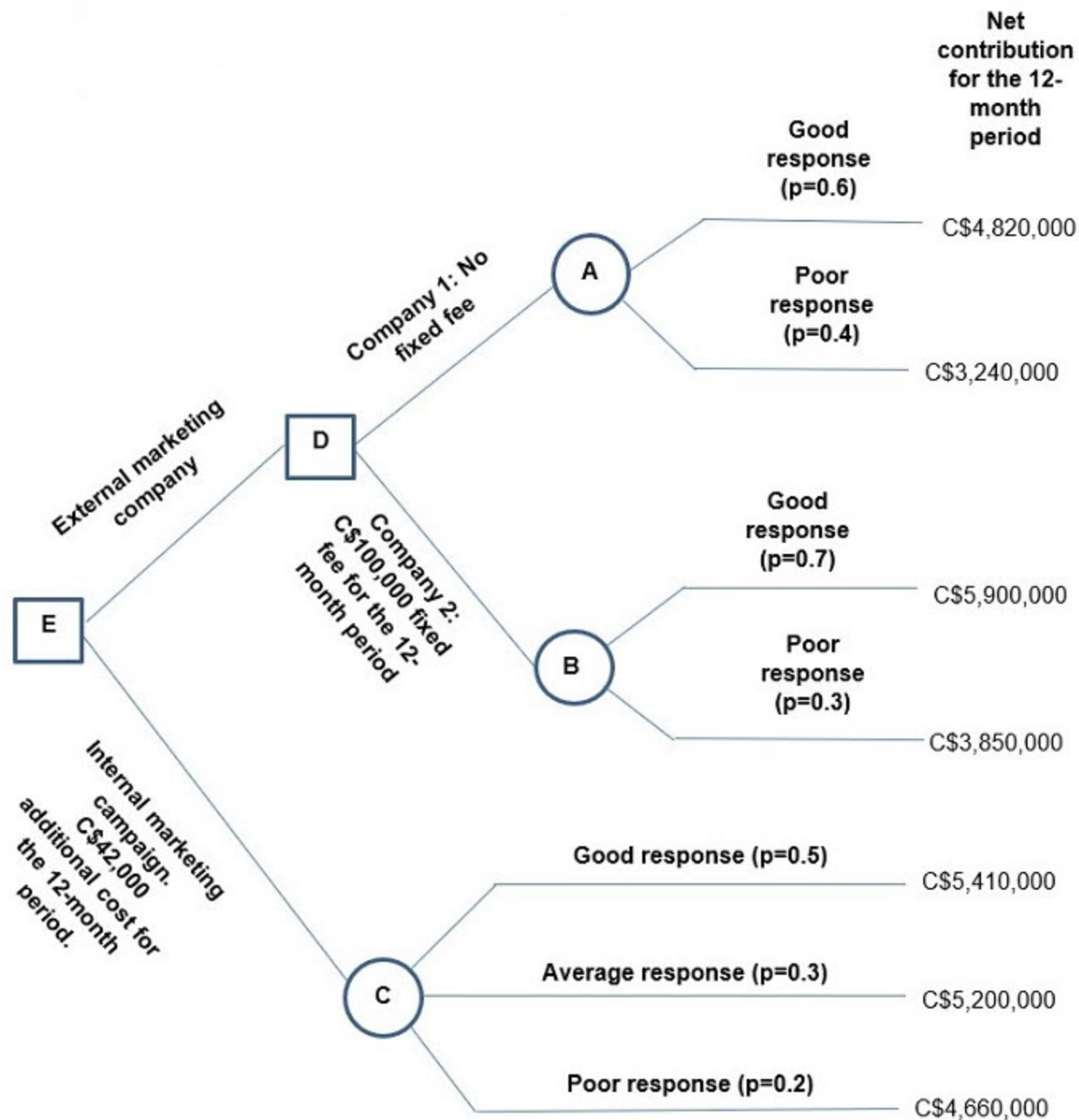
- How the management of working capital differs between Company 1 and Company 2. Please use the information in Table 1 to illustrate.

(sub-task (c) = 28%)

Akida Agu
 Finance Manager
 PB

The attachments to the email can be found by clicking on the Reference Material button above.

Chart 1: Decision Tree

**Notes:**

1. Net contribution is after deduction of variable marketing costs.
2. The expected values at point A, B and C shown above are C\$4,188,000, C\$5,285,000 and C\$5,197,000, respectively.
3. The additional C\$42,000 cost required if PB conduct the marketing campaign in-house is for a part-time marketing assistant who will work exclusively on this project.
4. An external consultant provided PB with all the probabilities used on the decision tree.

Table 1: Information about the external marketing companies

	Industry average	Company 1	Company 2
Cash balance	C\$1.4 million	C\$1.8 million	C\$0.04 million
Receivable days	40 days	21 days	50 days
Inventory days	4 days	2 days	4 days
Payable days	36 days	43 days	14 days
Revenue	C\$180 million	C\$310 million	C\$50 million
% change in revenue from previous year	+3%	+3.5%	+9%
Number of years trading	6	14	2



Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Reference Material

Pre-seen

It is now mid-June 2024, and Akida Agu, Finance Manager, says the following to you:

“Although we have been manufacturing protein biscuits since February, ready for the mid-April launch, May was our first complete month of sales. The Senior Management Team (SMT) wants us to prepare a performance analysis for the new protein biscuit range, and I have calculated the variances for May and prepared some notes. I would like you to prepare the commentary for some of these variances. I have included the variances that I would like you to comment on in Schedule 1, which I will pass to you in a moment.

Please prepare a briefing paper for the SMT which explains:

- What each of the variances shown in Schedule 1 means and possible reasons for their occurrence.

(sub-task (a) = 64%)

The SMT wants as much information as possible in order to control the costs and revenues of this new Protein Biscuit Production Department. I need to present an explanation of how we can improve our performance by using feedforward control as well as feedback control.

Please include in your briefing paper an explanation of both:

- Feedback and feedforward control and how each could be used to improve our performance. Please use the variance information in Schedule 1 to illustrate your explanations.”

(sub-task (b) = 36%)

Akida Agu hands you Schedule 1, which can be found by clicking on the Reference Material button above.

Schedule 1: Extract from the Protein Biscuit variance report for May 2024

Variance	Chocolate chip C\$	Coconut C\$	Peanut C\$	Total C\$
Sales price	5,400 F	40,000 F	11,700 F	57,100 F
Sales mix profit	1,066 F	6,059 A	1,476 A	6,469 A
Sales quantity profit				39,949 F

Variance	C\$
Material price	5,788 A
Material usage	2,841 A
Direct labour rate	200 A
Direct labour efficiency	8,412 A

Notes:

- The standard selling prices include a special introductory discount that was not actually offered during May.
- The sales mix variances are calculated using the weighted average method. The weighted average profit margin per unit is C\$0.19, and individual profit margins per unit are:
 - Chocolate chip = C\$0.18
 - Coconut = C\$0.15
 - Peanut = C\$0.22
- Total demand for Coconut biscuits was much higher than expected (in proportion to the other flavours and in absolute terms) and emergency supplies of desiccated coconut had to be sourced at very short notice in order to meet demand.
- The external marketing company we chose to manage the product launch secured us a glowing five-page article in the May edition of the influential Diet Divas magazine.
- During May, the oven timer's thermostat malfunctioned repeatedly, and several batches of biscuits were overbaked before the manufacturer was called to fix the fault. The oven was out of use for an entire day while the engineer repaired the fault, and we had to work overtime to make up the lost production.
- The direct labour efficiency variance has been calculated using actual hours paid.

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Thank you for completing the Operational Case Study Exam.

Before you leave, don't forget to collect your printed confirmation of attendance.

Please click the End Exam (E) button before leaving the testing room quietly.



Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.



This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
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2	45	1	2	(a) 36% (b) 64%
3	45	1	3	(a) 32% (b) 36% (c) 32%
4	45	1	3	(a) 28% (b) 36% (c) 36%

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This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2023. The peanut supplier has gone out of business. Work is underway to find a replacement supplier.

You receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: Peanut inventory and supplier

Lisa Ward, Head of Procurement, has shortlisted two local peanut suppliers and wants us to investigate the benefits and drawbacks of both for a presentation at the Senior Management Team (SMT) meeting tomorrow. Supplier 1 will supply us using a Just-In-Time (JIT) methodology. If we choose Supplier 2, we will continue to use the economic order quantity (EOQ) model. Lisa has summarised the supplier information in Schedule 1 (attached).

Please prepare briefing notes for the SMT which explain:

- The assumptions underlying the EOQ model used for Supplier 2 and whether these reduce its suitability as a method of determining order sizes for peanuts. Please refer to the information in Schedule 1 in your explanation. **(sub-task (a) = 28%)**
- How the choice of suppliers would affect PB's working capital level, assuming that if Supplier 2 was used, we continued to use the EOQ model to determine order size. **(sub-task (b) = 24%)**

Ben Morales, Production Director, recently attended a course about the CGMA cost transformation model. He believes he has already given serious consideration to many of the model's principles. He wants us to write briefing notes that demonstrate how three specific areas of the model are applied in the Peanut Butter Department.

The three areas are:

- Generating maximum value through new products
- Engendering a cost-conscious culture
- Incorporating sustainability to optimise profits

Ben wants us to include some of the points discussed at the SMT meeting held on 6 November 2023. I know that you have already read extracts from the minutes of this meeting but I have also attached a copy of them to this email.

Please include in the briefing notes for the SMT an explanation of:

- The three areas of the CGMA cost transformation model identified above and how these apply to our Peanut Butter Department. Please use points discussed at the SMT meeting held on 6 November 2023 in your explanation. **(sub-task (c) = 48%)**

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

Schedule 1 Extract from SMT meeting minutes

Schedule 1: Comparison of peanut suppliers

	Supplier 1 (JIT) (note 1)	Supplier 2 (EOQ)
Credit terms offered	30 days	7 days
Bulk discount offered	No	Yes 0.5% on orders over 20,000kg (note 2)
PB estimated average peanut inventory level (at cost of purchase)	C\$1,200	C\$14,500
Annual estimated purchase cost (before discount)	C\$257,000	C\$255,000
Lead time	1 day	Between 3 and 9 days

Notes:

1. Supplier 1 will monitor our production schedule using their own system and raise our daily purchase order automatically. Therefore, ordering costs will be slightly lower than for Supplier 2.
2. 20,000kg is higher than the EOQ.
3. Both suppliers' purchase costs are for the same quantity of peanuts.

Extracts from Senior Management Team meeting minutes 6 November 2023

- a. Ben stated that due to the age and inefficiencies of the machinery, the Peanut Butter Department was a drain on profit. He praised Lyn Pike for introducing weekly “cost-crunching” team meetings, where all members of the department compete for the 3PB award (Personal Best’s Peanut Butter Profit Brainbox), but stated that this was not enough.
- b. Ben said that the only way the department could add to the profitability of the business is to invest in new machinery and start selling peanut butter as a stand-alone product. He stated that, if the finance needed to buy new machinery could not be found, the only alternative was to close the Peanut Butter Department and buy-in peanut butter.
- c. Ben presented key facts as follows:
 - o The “cost-crunching” ideas implemented saved 1.5% of yearly cost.
 - o The variable cost to make peanut butter in-house remains slightly more expensive than the cheapest buy-in option.
 - o 94% of our customers rank sustainability in the top 3 reasons they buy PB products.
 - o Further key facts were used to explain the cost drivers and inefficiencies within this department to prove that the current operation is not viable in the medium to long term.
- d. Penny reported on the survey she undertook last month, at the request of the SMT. It revealed that 74% of PB’s consumers would buy single serving sachets of peanut butter. This percentage increased to 91% when consumers were told that the innovative packaging for the sachets would be made from compostable plastic and waxed paper. Only 29% of PB’s consumers thought they would buy PB peanut butter in a traditional 340g jar size, although this increased to 40% if the jars were made from glass. Penny also added that one of the consumers in the survey ran a guest house and thought the single serving sachets would be ideal for that business. Penny revealed the price points peanut butter would sell for in jars and sachets.
- e. Julia confirmed that Ben’s financial presentations were correct (having collaborated to help him produce them).
- f. Julia also stated that selling the peanut butter in 30g sachets at the price point Penny suggested would be 10 times more profitable than selling it in jars.
- g. Julia added that, although selling peanut butter in sachets alone would generate enough margin to match the investment in new machinery within 5 years, financing for the investment is not available at this time.
- h. It was agreed that: manufacturing peanut butter in-house was a valued USP and the department should not be closed, that the SMT would revisit the plan to sell peanut butter in 6 months time and that in the meantime Ben would continue to try and find more cost savings.

Reference Material

Pre-seen

Write the briefing notes requested by Akida Agu in the box below.

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Reference Material

Pre-seen

It is now February 2024. The grinding machine in the Peanut Butter Department broke down during a production run in early January. PB's Maintenance Department was unable to repair it and production was halted for 2 days while awaiting a specialist repair company. The Senior Management Team (SMT) is now considering taking out a maintenance contract for the grinding machine.

You receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: Maintenance contract

Lyn Pike, Head of Peanut Butter Production, has selected three potential contracts for the maintenance of the grinding machine. She does not know how many times the machine will breakdown in a year, but each contract guarantees immediate attendance to repair it. The SMT will make the final decision this week, and I have produced payoff and regret matrix tables (Tables 1 and 2 attached) to help with this.

Please prepare a briefing paper for the SMT which explains:

- How the maximin, maximax and minimax regret decision criteria would be used to select the maintenance contract. Please state the contract that would be chosen under each criterion.

(sub-task (a) = 36%)

The repairs to the machine in early January were extremely expensive, but Lyn says that since then the machine is working faster and better than it has in years. The SMT wants to understand the full implications of the machine breakdown, and I need your help with this too. I have prepared the variance report for January and have used it to prepare an exception report together with supporting notes (Table 3 attached).

Please include in the briefing paper an explanation of:

- What each of the variances in the exception report mean and possible reasons why the grinding machine breakdown caused them to occur.

(sub-task (b) = 64%)

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Payoff table – annual maintenance contract cost for the peanut grinding machine

Number of breakdowns	Contract 1 C\$	Contract 2 C\$	Contract 3 C\$
Low	8,720	4,200	6,780
Medium	9,440	8,400	9,060
High	10,880	16,800	13,620

Table 2: Regret matrix

Number of breakdowns	Contract 1 C\$	Contract 2 C\$	Contract 3 C\$
Low	4,520	0	2,580
Medium	1,040	0	660
High	0	5,920	2,740

Table 3: Peanut Butter Department exception report for January 2024

Variance	C\$	
Fixed overhead expenditure	9,133	Adverse
Fixed overhead efficiency	2,671	Favourable
Fixed overhead capacity	5,144	Adverse
Raw material usage	2,611	Adverse
Direct labour rate	2,540	Adverse
Direct labour efficiency	4,847	Adverse
Variable overhead expenditure	1,422	Adverse

Notes:

1. Fixed overheads in the Peanut Butter Department are absorbed on the basis of machine hours.
2. To make up for lost production time, a significant amount of overtime was worked during January.
3. In addition to the overtime, supervisors from the warehouse were diverted to the Peanut Butter Department for a week to work as direct labour.
4. Any idle time incurred is included within the direct labour efficiency variance.



Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Reference Material

Pre-seen

It is May 2024, and the Senior Management Team (SMT) has decided to sell peanut butter in single serving sachets from July onwards. This decision requires investment in new machinery for the Peanut Butter Department.

You receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: Peanut Butter Department changes

As the new production equipment in the Peanut Butter Department will be installed next month, we will need to dispose of the old machinery. Lyn Pike, Head of Peanut Butter Production, believes that the roasting oven can be sold for a profit. The SMT agree and the oven is currently being advertised for sale. I have combined all relevant details in Table 1 (attached).

Please prepare a briefing paper for the SMT which explains:

- How the old roasting oven will be presented in our financial statements for the year ending 30 June 2024.

(sub-task (a) = 32%)

We need to prepare budgets for the Peanut Butter Department that include the revenues for sales of peanut butter. Lyn has found historical sales data for a company that started selling peanut butter in January 2021. She thinks these could be useful as a base for our sales forecast. I have used two methods for calculating the trend and have shown these on charts together with some notes in Schedule 1 (attached).

Please include in your briefing paper an explanation of:

- The method used to determine each trend line in Schedule 1 and which of the two methods is the most accurate. Please also include two reasons why even the most accurate trend line based on this data may not be suitable as the basis of our sales forecast.

(sub-task (b) = 36%)

As peanut butter sales are a new venture, we face a level of uncertainty. I think we should consider using rolling budgets rather than our usual approach.

Please also include in your briefing paper an explanation of:

- What a rolling budget is and the potential benefits of using rolling budgets for the Peanut Butter Department.

(sub-task (c) = 32%)

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

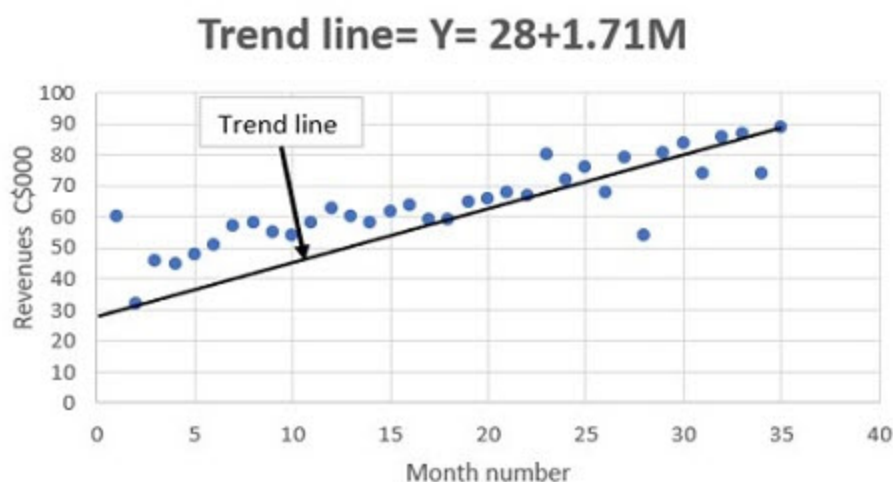
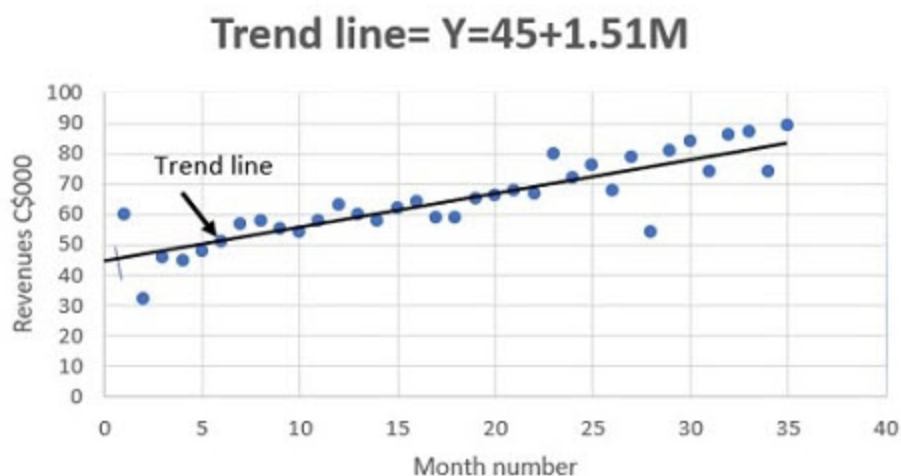
Table 1 Schedule 1

Table 1: Roasting oven details

Carrying amount on 1 July 2023	C\$40,000
Monthly depreciation	C\$1,000
Date to be decommissioned	20 June 2024
Expected selling price	C\$39,000

Notes:

1. As this is a niche machine, Lyn had to register on a specialist website to sell it. The listing fee was C\$1,000 and there is already a lot of interest from potential buyers. The expert who runs the website is confident that the roasting oven will sell within 6 months at the expected selling price.
2. The roasting oven will have to be fully serviced before the sale; this will cost C\$6,000 and will be completed on 30 June 2024.

Schedule 1: Trend lines on actual sales data for peanut butter sales since January 2021**Chart 1****Chart 2****Key to trend lines:**

Y= Revenues in a month in C\$000

M = The month number (where M=0 is January 2021)

Notes:

- The Chart 1 trend line is determined using the high low method, and the trend line on Chart 2 is a line of "best fit".
- Both charts are identical except for the position of the trend line.
- The company on which the trend line is based is a discount food retailer in North Europe. It sells peanut butter in 340g plastic tubs.

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Reference Material

Pre-seen

It is now late July 2024 and the individual sachets of peanut butter have been selling since late June. However, in July, two faults were discovered: incorrectly sealed sachets and spoiled peanut butter.

Akida Agu, Finance Manager, says the following to you:

"Some of the sachets of peanut butter made since 1 July have not been sealed properly. Any incorrectly sealed sachets are unsaleable and will need to be disposed of. In addition, all peanut butter made on 29 and 30 June was inedible due to the peanuts being roasted for too long. All of this spoiled peanut butter was included in the inventory valuation at year end and was disposed of on July 7, when the fault was noticed. Both of these issues were caused by inappropriate operation of the new machinery.

I have to report to the Senior Management Team (SMT) detailing the consequences of these errors and I also need to finalise the financial statements for the year ended 30 June 2024. I would like your help with this.

Please prepare a briefing paper for the SMT which explains, with appropriate justification:

- How each inventory issue should be treated in our financial statements for the year ended 30 June 2024.

(sub-task (a) = 28%)

I am now considering whether it is worth checking every sachet of peanut butter in inventory for sealing faults. I have used estimates of the cost of customer dissatisfaction (replacement costs, goodwill gestures, dealing with complaints, lost custom and so on) and probabilities of the level of faults, to help us make a decision. The expected values are detailed in the two tables in Schedule 1, which I will give you shortly.

Please include in the briefing paper an explanation of:

- What the expected values shown in Schedule 1 mean and how they can be used to make a decision on whether to check every sachet for faults. Please also explain the limitations of using this information to make the decision.

(sub-task (b) = 36%)

These errors in the manufacturing process show that we need to monitor performance in the Peanut Butter Department more closely. Schedule 2 includes some information about the production processes in the department, which I will give you in a moment.

Using the information above and in Schedule 2 where appropriate, please include in your briefing paper:

- For each of the three different manufacturing processes within the Peanut Butter Department, a suggestion for a KPI suitable to monitor performance. Please explain how each could be measured and why it would be appropriate."

(sub-task (c) = 36%)

Akida Agu hands you Schedules 1 and 2, which can be found by clicking on the Reference Material button above.

Schedule 1**Table 1: Remedial costs resulting from a decision to check for sealing faults (excluding the cost of carrying out the checks)**

Predicted outcome	Cost C\$	Probability	Expected value C\$
Many errors found	25,000	0.05	1,250
Some errors found	7,000	0.60	4,200
Few errors found	1,000	0.35	350
Expected value			5,800

Table 2: Remedial costs resulting from a decision not to check for sealing faults

Predicted outcome	Cost C\$	Probability	Expected value C\$
Many errors present	240,000	0.05	12,000
Some errors present	40,000	0.60	24,000
Few errors present	4,000	0.35	1,400
Expected value			37,400

Notes:

1. The total cost of carrying out the checks (not included in the above figures) will be C\$5,000.
2. The probabilities are based on information provided by an organic ketchup company that purchased the same machinery last year.

Schedule 2: Additional information about the Peanut Butter production processes

Process	Additional Information
Blanching	Expected loss (kg) during this process = 1%
Roasting	Quality control check needed for each completed batch, includes a detailed assessment of the colour, texture and taste of the roasted nuts.
Sealing	Machine warranty states 99% sachets successfully sealed.

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

Rich text editor toolbar with icons for: Undo, Redo, Bold, Italic, Underline, Strikethrough, Subscript, Superscript, Text Color, Paragraph, Table, Bulleted List, Numbered List, Indent Left, Indent Right, Decrease Indent, Increase Indent.



Thank you for completing the Operational Case Study Exam.

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Please click the End Exam (E) button before leaving the testing room quietly.



Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	3	(a) 36% (b) 28% (c) 36%
2	45	1	4	(a) 24% (b) 28% (c) 28% (d) 20%
3	45	1	3	(a) 52% (b) 24% (c) 24%
4	45	1	3	(a) 44% (b) 20% (c) 36%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2023. Given the intention to establish a presence in Meland, the Senior Management Team (SMT) has recently established a Distribution Centre and Regional Head Office there. All manufacturing will remain in Ceeland, but it is expected that Meland will generate a significant proportion of PB's total sales quickly.

You receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: Sales manager budget guidance

The sales managers assigned to the Meland operation have been working there for a few weeks now, networking with a range of potential retailers. They are all experienced and excellent at their jobs, but they have little understanding of financial matters. Julia Mathews, Finance Director, wants each of the sales managers to prepare sales and sales expenditure budgets for their own territory in Meland, for the period January to June 2024. They are unhappy about this, and Julia wants us to educate them about the importance of accurate sales budgets. I have a list of questions from the Meland sales managers (Schedule 1), which I will give you shortly.

Please prepare briefing notes for the Meland sales managers which explain:

- The importance of sales budgets for the purpose of control, co-ordination and authorisation at PB. Within your explanations, please ensure that you address the questions in Schedule 1.
(sub-task (a) = 36%)
- The potential advantages and disadvantages to the Meland sales managers of a participative approach to budget setting.
(sub-task (b) = 28%)

To help the sales managers understand the relationship between costs, selling prices and volume, I have drawn up a multi-product profit-volume chart for the sales in Meland for the period January to June 2024 (Chart 1 attached). As we have no sales forecast yet, I have estimated sales volumes. The sales managers believe that if we run a television promotional campaign in Meland, the PB brand would benefit. This would mean they could reduce the sales discounts they currently intend to offer Meland retailers. I have added this information to the chart and think we can use it to explain some key points.

Please include in your briefing notes an explanation of:

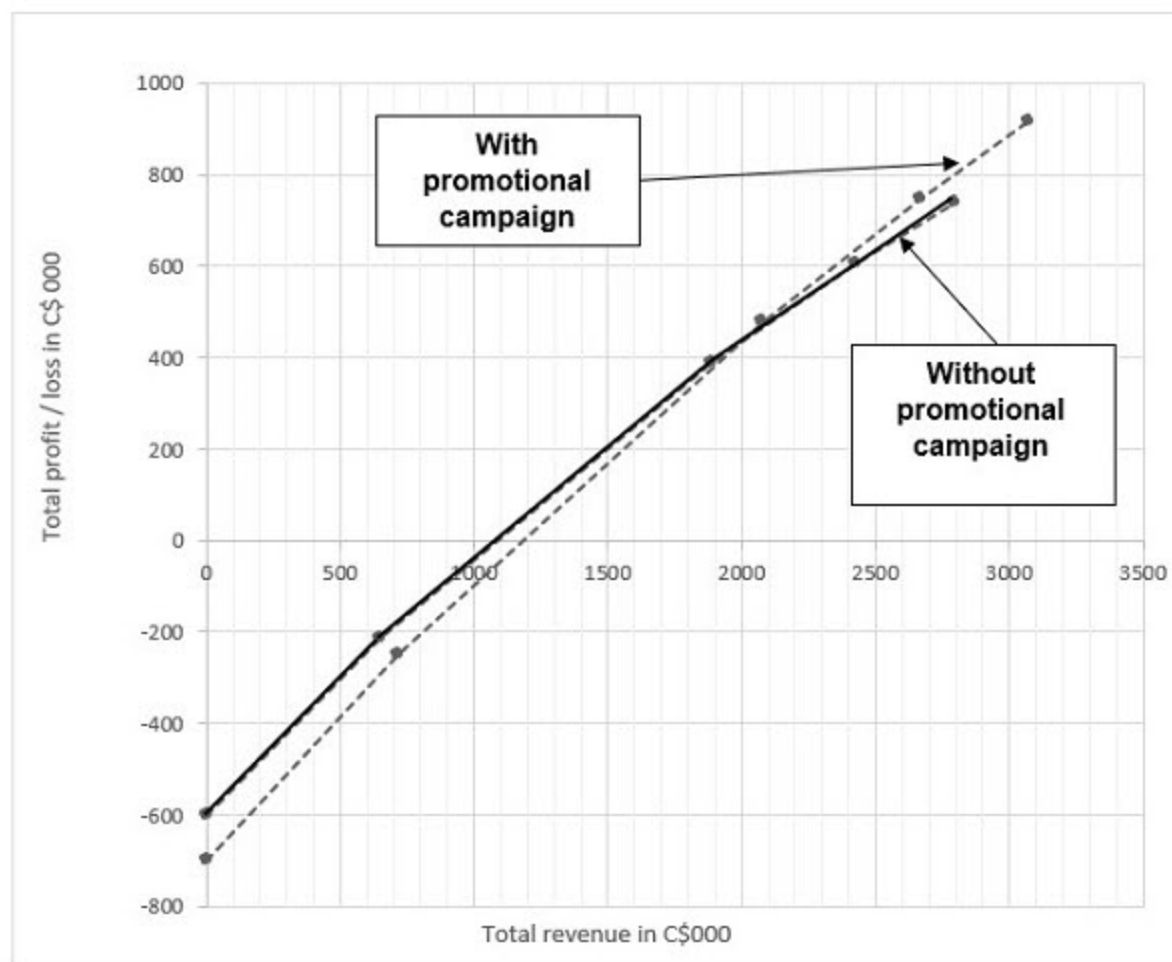
- What Chart 1 indicates about the effect the promotional campaign would have on costs, revenues, profit and risk. Please also explain the importance of accurate sales forecasts in interpreting the chart.
(sub-task (c) = 36%)

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

Schedule 1: sales managers' questions

1. I have an idea of likely sales for the next few months, but I cannot be 100% accurate. Wouldn't it be better to start budgeting next July instead of now?
2. I have just signed a major gym chain and the sales will be huge. That's my job and what I should focus on, so why do I need to get involved with budgets?
3. If I become a budget holder, how will this affect my ability to purchase promotional stands, arrange to stay overnight in hotels and offer appropriate discounts?

Chart 1: Multi-product profit-volume chart for the Meland market January-June 2024**Other information**

- The contribution to sales ratios used in the above chart are as follows:

	Expected c/s ratios without the promotional campaign	Expected c/s ratios with the promotional campaign
Protein powder	0.43	0.49
Bars - Peanut	0.37	0.42
- Almond	0.34	0.40
- Cashew	0.29	0.36

- Variable cost per unit remains unchanged by the promotional campaign.
- The "without promotional campaign" fixed cost reflected in the chart is the cost of running the Distribution Centre and Regional Head Office in Meland.
- The assumption reflected in the chart is that if the promotional campaign is undertaken and the planned sales discounts are reduced, sales volumes will be unchanged.

[Scratch Pad](#) [Calculator](#)[Reference Material](#)[Pre-seen](#)

Write the briefing notes requested by Akida Agu in the box below.

Reference Material

Pre-seen

It is three weeks later. You receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: Senior Management Team (SMT) meeting

The Meland sales managers have submitted their sales budgets and I have used them to compile a draft budget and then two alternatives using different assumptions. As there is uncertainty about marketing costs and sales volumes, I have prepared a "what-if" analysis (Table 1 attached) to present to the SMT.

Please prepare a briefing paper for the SMT which explains:

- The "what-if" information shown in Table 1 and the potential financial impact of each draft budget.

(sub-task (a) = 24%)

If the SMT approves the C\$100,000 television promotional campaign, we will have to pay in advance, and this will contribute to a C\$150,000 total cash deficit that we forecast for January 2024. Julia Matthews, Finance Director, wants the other SMT members to consider three short-term financing options that are available that would cover the cash deficit in January.

Please include in the briefing paper an explanation of:

- The benefits of using either: (1) a bank loan, (2) an overdraft or (3) invoice discounting, to finance the expected cash deficit. Please also explain which of the three you would consider the most appropriate given that we expect PB to return to a cash surplus in February.

(sub-task (b) = 28%)

Julia is considering whether presenting the management accounts using marginal costing principles rather than absorption costing principles would be useful going forward, but needs our help explaining the principles involved to the other members of the SMT. I have prepared a comparison of both methods over a 2-week period for the Protein Powder Department (Table 2 attached).

Please include in the briefing paper, using the figures in Table 2, explanations of:

- The differences in the cost of sales and profit figures using absorption costing and marginal costing. Please also explain how the profit figures can be reconciled.

(sub-task (c) = 28%)

- The overabsorption figures in the absorption costing profit statements and why these are not included in the marginal costing profit statements.

(sub-task (d) = 20%)

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: "What-if" analysis for the first 6 months trading in Meland

	Draft budget	Alternative 1	% change	Alternative 2	% change
	C\$000	C\$000		C\$000	
Revenue	2,800	3,080	+10.0%	2,660	- 5.0%
Variable costs	(1,456)	(1,456)	0%	(1,383)	-5.0%
Contribution	1,344	1,624	+20.8%	1,277	-5.0%
Fixed costs	(600)	(700)	+16.7%	(600)	0%
Profit	744	924	+24.2%	677	-9.0%

Notes:

1. Alternative 1 is the draft budget assuming an additional C\$100,000 is spent on the TV promotional campaign and there is a reduction in the level of sales discounts granted.
2. Alternative 2 is the draft budget assuming a 5% decrease in sales volume.



Table 2: Protein powder profit statements for Weeks 22 and 23 using standard absorption and marginal costing.

	Week 22 C\$	Week 23 C\$
Revenue	142,120	138,890
Cost of sales	(83,644)	(81,743)
Overabsorption	440	1,024
Gross profit	58,916	58,171
Revenue	142,120	138,890
Cost of sales	(48,620)	(47,515)
Contribution	93,500	91,375
Fixed costs	(31,400)	(34,000)
Gross profit	62,100	57,375

Note:

The fixed overhead absorption rate per kg of protein powder is C\$7.96



Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Reference Material

Pre-seen

It is now 17 June 2024 and sales in Meland are growing. Unfortunately, the Meland Distribution Centre (DC) was broken into and vandalised two nights ago.

You receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: Meland break-in damage

We have just received the complete list of damage to equipment and inventory in the Meland DC (Schedule 1, attached). The Senior Management Team (SMT) wants to know how the damage should be treated in the financial statements.

Please prepare a briefing paper for the SMT which explains:

- How each of the items in Schedule 1 will be reflected in our financial statements for the year ending 30 June 2024. Please also explain any impact on profit.

(sub-task (a) = 52%)

We need to replace the protein bars that were destroyed at the Meland DC. Unfortunately, we currently hold low inventory levels of both protein bars and whey powder in Ceeland. This means that we cannot make enough protein bars to meet maximum demand this week.

Given the shortage of whey powder, I have produced an emergency production schedule for this week, together with accompanying notes. One of our suppliers can deliver whey powder to us but at a high price. All details are set out in Schedule 2 (attached).

Please include in your briefing paper an explanation of:

- The principles behind the production schedule and how it has been used to determine the number of boxes we should make of each of the three types of protein bars.

(sub-task (b) = 24%)

- If, from both a financial and non-financial perspective, it is worth buying the extra whey powder at the higher price.

(sub-task (c) = 24%)

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

Schedule 1: Items damaged in the Meland DC break-in 15/06/24

Item	Value before break-in	Remedial information
Fork-lift truck	Purchase price on 1 January 2024 was C\$6,000. Depreciation is charged at C\$200 a month.	<ul style="list-style-type: none">• Could be sold for C\$400 scrap immediately.• Could be repaired by the end of June at a cost of C\$3,000, after which time its value-in-use (excluding these repair costs) will be C\$6,500.
Protein bar inventory	Cost of C\$63,000.	<ul style="list-style-type: none">• This was delivered to the DC on the day of the break-in. All bars were destroyed during the break-in.
Protein powder inventory	Half of the powders were untouched. The other half is undamaged except for the packaging that has traces of spray paint. Cost of all inventories is C\$2,400.	<ul style="list-style-type: none">• We are going to sell the inventory with spray paint on the packaging to a discount store in July for C\$500.• It will cost us C\$100 to block out the PB landmark on the packaging.

Note:

- Our insurance policy is inadequate and only covers the protein bar inventory. The insurers have confirmed they will reimburse us with the cost value (less a C\$3,000 excess charge) in early August.

Schedule 2: Emergency production schedule

Type of Protein bar	Peanut	Almond	Cashew	Whey powder available balance (kg)
Boxes needed to meet maximum demand	13,000	5,000	4,500	
Boxes needed for priority orders (included in the maximum demand total)	6,000	3,000	2,000	
Average contribution per box	C\$9.33	C\$7.54	C\$6.96	
Whey powder needed per box (kg)	0.3	0.28	0.25	
Contribution per kg of whey powder	C\$31.10	C\$26.93	C\$27.84	
Ranking	1	3	2	
Production schedule				6,000
Whey powder needed to make priority orders (kg)	(6,000 X 0.3) =1,800	(3,000 X 0.28) =840	(2,000 X 0.25) =500	2,860
Whey powder allocated after making priority orders (kg)	(7,000 X 0.3) =2,100	(482 X 0.28) =135	(2,500 X 0.25) =625	0
Total boxes scheduled	13,000	3,482	4,500	

Notes:

- We need an extra 425kg of whey powder to meet maximum demand.
- Our supplier can supply 500kg of whey powder for C\$1,200. This is almost double the C\$1.25/kg standard cost.

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Reference Material

Pre-seen

It is July 2024 and a performance-review of the Meland-operation is due later this week.

Akida Agu, Finance Manager, says the following to you:

"I would like you to prepare some explanatory notes for the Meland-operation Senior Management Team (SMT) meeting. I have calculated sales variances for June, together with workings and notes in Table 1, which I will give you in a moment.

Please prepare a briefing paper for the SMT which explains:

- What the sales variances in Table 1 mean and possible reasons for their occurrence.

(sub-task (a) = 44%)

One area of concern is receivable days which are currently 15 days higher than the Ceeland receivables. There is evidence that there is likely to be more irrecoverable debt too. This is unexpected as we offer the same credit terms and manage all receivables in the same Credit Control Department.

Please include in your briefing paper reasons that could explain:

- The differences in both the receivable days and levels of irrecoverable debt in Meland compared to Ceeland. Please include in your explanations one action the Credit Control Department could take to improve each difference.

(sub-task (b) = 20%)

Please also include in your briefing paper:

- Suggestions of three KPIs that are appropriate to monitor the performance of the Credit Control Department for the Meland operation. Please explain how each KPI would be measured and justify why it would be appropriate."

(sub-task (c) = 36%)

Akida Agu gives you Table 1, which can be found by clicking on the Reference Material button above.

Table 1: Meland sales variances for June 2024

Variance	Peanut Box C\$	Almond Box C\$	Cashew Box C\$	Protein Powder 500g C\$	Protein Powder 1kg C\$	Total C\$
Sales price	4,480 F	830 A	560 A	0	44,800 A	41,710 A
Sales mix profit	17,200 F	6,740 F	6,810 F	16,830 F	2,830 F	50,410 F
Sales quantity profit						51,350 F

Notes:

- Due to a disruption in supply during the month, we experienced shortages of almond and cashew bars.
- A Meland influencer praised the Peanut Protein Bar frequently during June, and we were able to reduce the level of discounts we expected to offer on this product.
- A website error priced the 1kg protein powder at the same price as the 500g protein powder. It was several days before the mistake was spotted and rectified.
- Workings for the mix variance:

Product	AQSM	AQAM	Difference	Standard profit less weighted average profit C\$	Variances C\$000
Peanut	20.16	22.40	2.24	7.68	17.20
Almond	9.21	8.30	-0.91	-7.41	6.74
Cashew	6.40	5.60	-0.80	-8.51	6.81
Protein Powder 500g	6.50	3.40	-3.10	-5.43	16.83
Protein Powder 1kg	3.03	5.60	2.57	1.10	2.83
Total	45.30	45.30	0		50.41

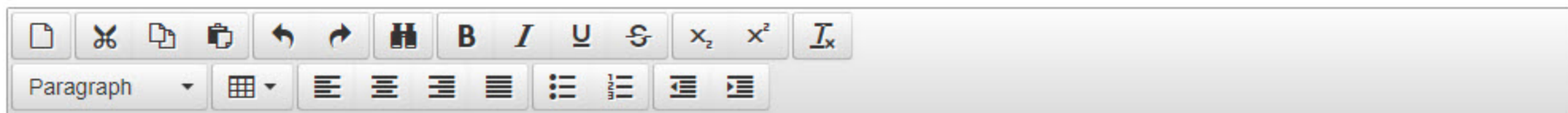
Notes:

- AQSM = actual quantity in standard mix, measured in thousands of boxes.
- AQAM = actual quantity in actual mix, measured in thousands of boxes.

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.



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Before you leave, don't forget to collect your printed confirmation of attendance.

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Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	4	(a) 32% (b) 24% (c) 20% (d) 24%
2	45	1	3	(a) 36% (b) 40% (c) 24%
3	45	1	3	(a) 36% (b) 44% (c) 20%
4	45	1	3	(a) 36% (b) 36% (c) 28%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2023. PB's new vegan range, PB-V, will be launched in April 2024, and the new PB-V Production Facility is currently being set up.

You receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: Costing approach and time series analysis

At a recent Senior Management Team (SMT) meeting, it was suggested that we use marginal costing rather than absorption costing as our costing approach for the new PB-V Production Facility. We don't have a budget yet, nor have we set any standards for the new range and facility. Therefore, Julia Matthews, Finance Director, has suggested that we use information from our existing facility to illustrate how the approaches differ. Tables 1 and 2 (attached) show calculations of gross profit as they would appear in our management accounts for October and November using the different approaches.

Please prepare a briefing paper for the SMT which explains:

- How the calculations of gross profit shown in Tables 1 and 2 differ and why the two approaches result in different gross profit figures.

(sub-task (a) = 32%)

- The arguments for and against using marginal costing rather than absorption costing as our costing approach for the new PB-V Production Facility.

(sub-task (b) = 24%)

We need to establish a sales forecast for the new PB-V range. Penny Sanchez, Sales & Marketing Director, has obtained industry information about the volume of vegan protein bars sold in Ceeland over the last few years through different sales channels. I have used this to establish trend lines and seasonal variations (Schedule 1, attached).

Please include in your briefing paper an explanation of:

- What the three trend lines and the seasonal variations information shown in Schedule 1 indicate about sales of vegan protein bars in Ceeland.

(sub-task (c) = 20%)

- Three factors affecting the accuracy of any PB-V sales forecasts based on this trend and seasonal variations information.

(sub-task (d) = 24%)

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Gross profit calculated using absorption costing

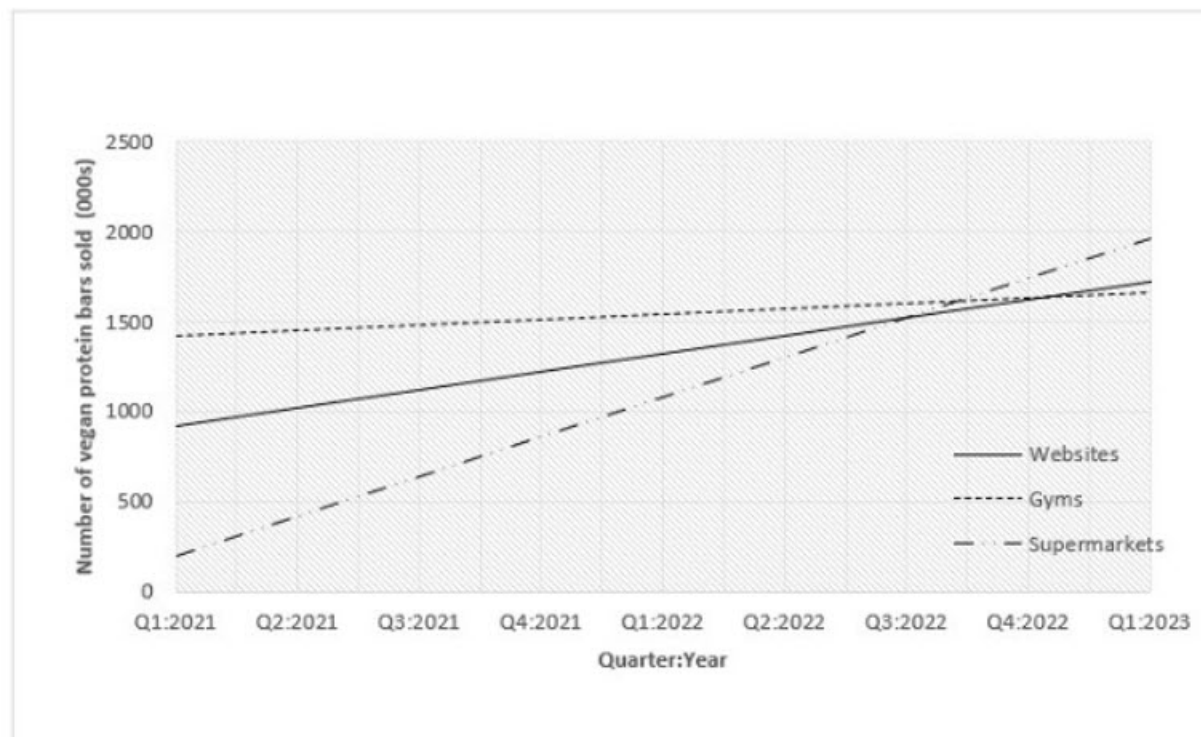
	October		November	
	C\$000	C\$000	C\$000	C\$000
Sales		2,359		2,755
Cost of sales:				
Opening inventory	1,199		1,338	
Production cost	1,641		1,641	
Closing inventory	(1,338)		(1,224)	
		(1,502)		(1,755)
Over-absorption		14		29
Gross profit		871		1,029

Table 2: Gross profit calculated using marginal costing

	October		November	
	C\$000	C\$000	C\$000	C\$000
Sales		2,359		2,755
Cost of sales:				
Opening inventory	941		1,049	
Production cost	1,287		1,287	
Closing inventory	(1,049)		(960)	
		(1,179)		(1,376)
Contribution		1,180		1,379
Actual fixed production overhead		(340)		(325)
Gross profit		840		1,054

Notes for Table 1 and Table 2:

- Calculations in both tables are based on actual sales and production.
- Budgeted fixed production overheads are C\$319,200.

Schedule 1: Time series information**Trend line for each sales channel****Notes:**

- Q1 is the period January to March, Q2 is the period April to June and so on.
- The trend lines were established by regression analysis using 4-point centered moving averages based on sales data for each sales channel. This sales data is for all types of vegan protein bar.
- Average seasonal variations across all sales channels have been calculated as:

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Average seasonal variations	+20%	+5%	-10%	-15%

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Reference Material

Pre-seen

A few weeks later, Akida Agu, Finance Manager, calls you and says:

"The sales budget for the new range of PB-V Protein Bar for April to June 2024 has just been finalised and it indicates that we have more than enough production capacity to meet demand. Production will start on 1 April. We now need to focus on the production budgets, and Tom Bilton, our new PB-V Production Manager, is to be involved with this. He has no experience of budgeting and so I need you to assist him. We have established the standard cost of raw materials for a box of each flavour of PB-V Protein Bar (Table 1, which I will send you shortly).

Please prepare a briefing paper for Tom which explains:

- How to construct the production, material usage and material purchases budgets for PB-V Protein Bars for the period ending June 2024. Please make reference to the information in Table 1 in your explanation.

(sub-task (a) = 36%)

There are two options being considered for the production of PB-V Protein Powders: produce in-house or outsource. A potential supplier has already been identified and has provided a quote for a 12-month supply contract. If we produce in-house, we will rent the equipment required.

There is considerable uncertainty about how much PB-V Protein Powder we will sell. I have drawn up Chart 1 (which I will send you shortly), showing the total cost of PB-V Protein Powder for both options at different possible volumes of annual demand. I have also completed Table 2 (which I will also send you shortly), which shows our estimates of the probabilities associated with each potential volume of annual demand.

Please prepare a briefing paper for the Senior Management Team (SMT) which explains:

- What Chart 1 indicates about the cost structure of the two options for the supply of PB-V Protein Powder. Please also explain, using Table 2, whether it is appropriate to base our decision about which option to take on the expected value of the volume of annual demand, and state what the decision would be on that basis.

(sub-task (b) = 40%)

- Three factors that need to be considered before making a final decision about whether to buy-in from the supplier or produce PB-V Protein Powder in-house."

(sub-task (c) = 24%)

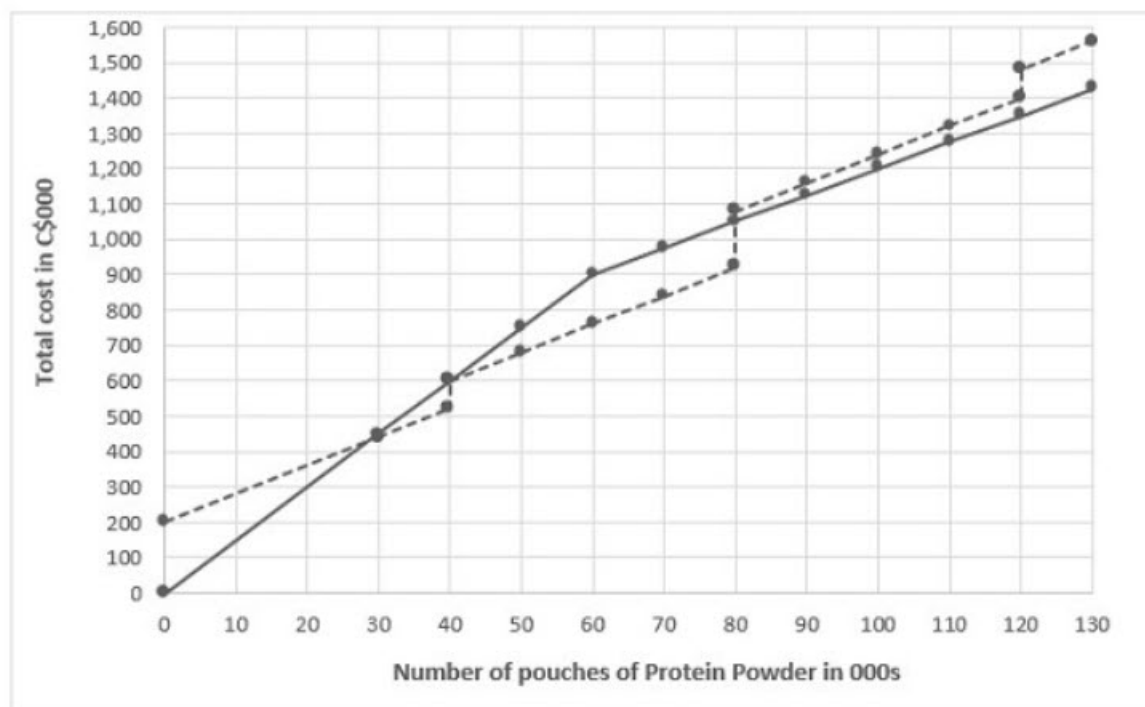
Akida sends you Table 1, Chart 1 and Table 2, which can be found by clicking on the Reference Material button above.

Table 1: Standard cost of raw materials

PB-V Protein Bars: Caramel flavour (box of 10 bars)			
Material	Quantity	Standard price per unit of quantity C\$	Standard cost C\$
Cashew nut butter	0.40 KG	6.00	2.40
Vegan whey powder	0.35 KG	1.40	0.49
Flavourings and other ingredients			3.60
Packaging			1.20
Total material cost			7.69

Note:

- The production budget is prepared on the basis of units of production, where a unit is a box of 10 bars.

Chart 1: Cost of PB-V Protein Powder supply for the first year**Key:**

- The solid line is the cost of outsourcing and the dotted line is the cost of producing in-house, at different levels of demand.

Table 2

Possible annual demand levels	Probability
30,000	0.02
40,000	0.02
50,000	0.03
60,000	0.06
70,000	0.12
80,000	0.30
90,000	0.24
100,000	0.10
110,000	0.06
120,000	0.03
130,000	0.02
Expected value of the volume of annual demand (in pouches)	83,300

Reference Material

Pre-seen

Write the briefing papers requested by Akida Agu in the box below.

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Reference Material

Pre-seen

It is now March 2024. The Senior Management Team (SMT) decided to outsource production of PB-V Protein Powder.

Akida Agu, Finance Manager, calls you and says:

"The budget for the new PB-V range of protein bars and protein powders has just been finalised for the period ended June 2024 and Hema Bhatt, Managing Director, has requested an analysis of the break-even position based on this budget. I have drawn up a profit-volume chart (Chart 1, which I will give you shortly). The budget has been based on the assumption that 60% of sales volumes will be through retailers and 40% through our website, although there is some uncertainty whether this will be the case. There is also uncertainty surrounding the price that we will pay for the vegan whey powder used in the production of protein bars, as the contract with the supplier is still being negotiated.

Please prepare a report for the SMT which explains:

- What Chart 1 indicates about the PB-V budget and break-even position. Please also explain how the chart and break-even position would be affected by the following changes to the budget (considering each change independently):
 - An increase in the proportion of sales of PB-V products sold through the website compared to the budget.
 - An increase in the cost per kilogram of vegan whey powder.

(sub-task (a) = 36%)

We have incurred significant expenditure on the new PB-V Production Facility, detailed in Table 1, which I will send you shortly.

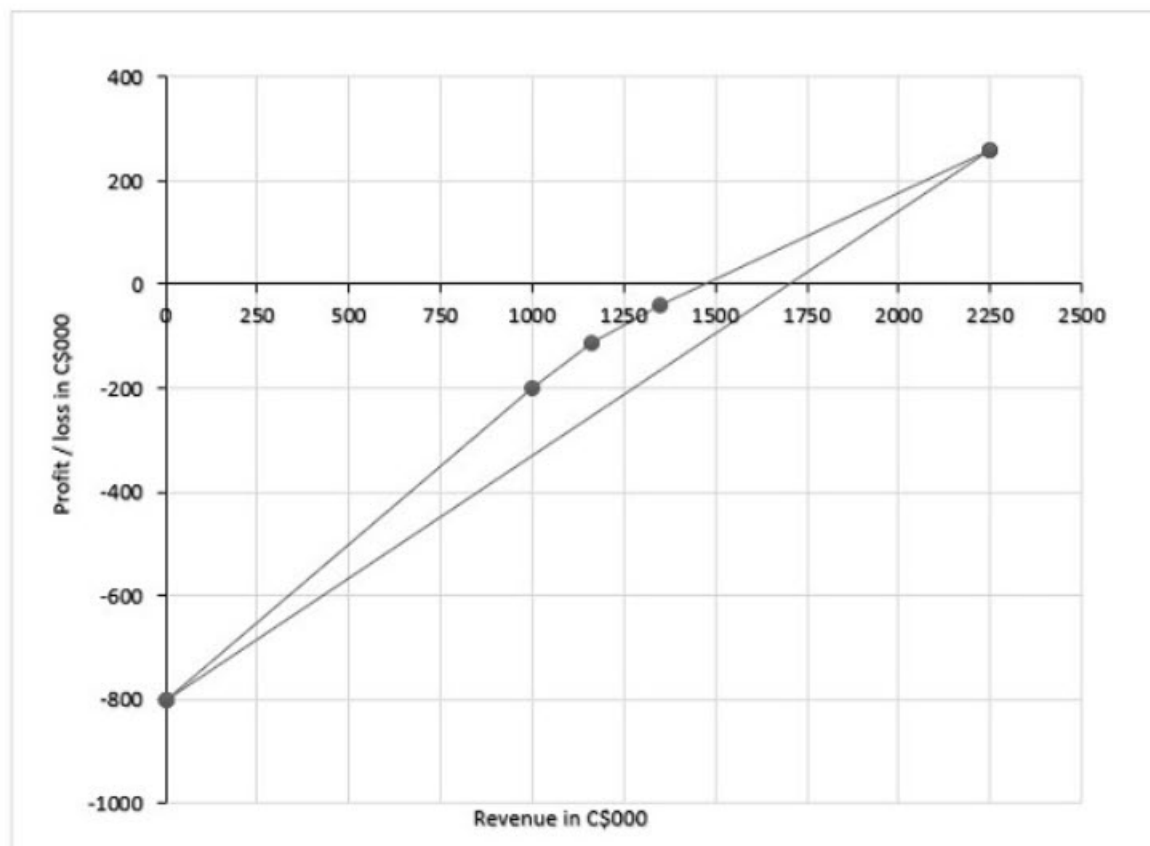
Please include in your report to the SMT an explanation of:

- How each of the property-related expenditure items in Table 1 will be initially recorded and subsequently measured in our financial statements for the year ending 30 June 2024.
- How the lease liability associated with the leased equipment detailed in Table 1 will be initially recorded and subsequently measured in our financial statements for the year ending 30 June 2024."

(sub-task (b) = 44%)

(sub-task (c) = 20%)

Akida later sends you Chart 1 and Table 1, which can be found by clicking on the Reference Material button above.

Chart 1: Multi-product profit-volume chart for the PB-V budget for the period to June 2024**Notes:**

- Fixed costs include production overheads, selling, distribution, marketing and administration costs specific to the new range.
- The budgeted contribution / sales (c/s) ratios are:

	c/s ratio
PB-V Protein Bars: Retailers	0.33
PB-V Protein Bars: Website	0.60
PB-V Protein Powder: Retailers	0.38
PB-V Protein Powder: Website	0.53
Weighted average	0.47

Table 1: Expenditure on new PB-V Production Facility

Property related expenditure item	Note	C\$
Purchase of property	1	400,000
Property tax paid on purchase	1	40,000
Property adaptations	1	28,500
New roof	2	82,000
Property maintenance contract	3	25,000
Health & Safety inspection	4	2,400
Leased equipment		
First lease payment on leased equipment	5	20,000

Notes:

1. The property (which includes land and a building) was purchased on 1 November 2023 and significant work has been undertaken since then to adapt it. We expect the building element of the property to have a useful life of 40 years.
2. The property required a new roof. This will need to be replaced in 20 years' time.
3. This is a contract with an external property maintenance company to provide ongoing maintenance services. C\$25,000 has been paid to cover the period 1 March 2024 to 28 February 2025.
4. A Health & Safety inspection is required before we can legally operate. This will happen at the end of March but has already been paid for. An inspection of this nature will be required every 5 years.
5. The equipment lease commenced on 1 March 2024, which is when the first lease payment was made. The lease is for an initial period of 3 years, with payments of C\$12,000 due on 1 March 2025 and 1 March 2026. We have the option to extend the lease for a further 3 years at lease payments of C\$5,000 a year from 1 March 2027 onwards. We expect to use this option. The interest rate implicit in the lease is 9.2%.

Reference Material

Pre-seen

Write the report requested by Akida Agu in the box below.

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Large empty text area for writing the report.

Reference Material

Pre-seen

It is now June 2024, and you receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: Variances, key performance indicators and cash deficit

Hema Bhatt, Managing Director, is in the process of looking in detail at how the new PB-V Production Facility and the new PB-V range is performing. She wants to analyse the fixed production overheads for the PB-V Production Facility for May. Table 1 (attached) includes the information that will be used to calculate these variances.

Please prepare a briefing paper for Hema which explains:

- How the fixed production overhead expenditure, efficiency and capacity variances for the PB-V Production Facility in May could be calculated based on the information in Table 1, and whether they will be adverse or favourable. Please also give possible reasons for each variance.

(sub-task (a) = 36%)

The number of website orders for PB-V has been lower than budgeted, which is disappointing given the significant social media marketing campaign that was undertaken in March and April. Included in Table 2 (attached) are some key performance indicators (KPIs) that relate to website sales.

Please include in your briefing paper to Hema an explanation of:

- What the KPIs shown in Table 2 indicate about website sales for the period.

(sub-task (b) = 36%)

We took on additional debt finance to fund investment in the new PB-V Production Facility, but our cash balance has also been depleted. We are now expecting a cash deficit over the next few months. Hema is keen to avoid this and has suggested that we change the way that raw material inventory and payables are managed across the business.

Please include in your briefing paper to Hema an explanation of:

- How we could change the way that we manage our raw material inventory and payables to reduce the risk of a cash deficit occurring, including any potential issues associated with doing so.

(sub-task (c) = 28%)

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Data for calculating the fixed production overhead variances for the PB-V Production Facility for May 2024

	C\$
Budgeted expenditure	84,000
Actual expenditure	86,700
Overhead absorbed	78,400
Absorption rate per direct labour hour	28.00
	Number of boxes of bars
Budgeted production	30,000
Actual production	28,000
	Hours
Budgeted direct labour hours	3,000
Standard hours for actual production	2,800
Actual hours worked	2,920

Notes:

- The standards have not been changed since the original budget was set. Fixed production overheads are absorbed on the basis of direct labour hours.
- At the start of May:
 - The new mixing equipment had to be slowed down as it became apparent that including vegan whey powder required a more careful mix than had been anticipated.
 - We bought additional weighing equipment to speed up the process of weighing out raw materials for each batch of production.
 - We recruited an additional supervisor. This was because we recruited more inexperienced direct workers than we had anticipated.
 - Several of the direct workers were absent for 2 weeks with influenza.

Table 2: Key Performance Indicators for website sales

KPI	Actuals		Target*
	April	May	
Conversion rate (orders against visitors)	68%	52%	60%
Shopping cart abandonment rate	8%	5%	10%
Number of website orders received	9,200	8,500	10,800
Average website order value	C\$42.50	C\$40.00	C\$35.00

*The same targets were set for April and May 2024.

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Thank you for completing the Operational Case Study Exam.

Before you leave, don't forget to collect your printed confirmation of attendance.

Please click the End Exam (E) button before leaving the testing room quietly.





Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	3	(a) 48% (b) 32% (c) 20%
2	45	1	3	(a) 36% (b) 32% (c) 32%
3	45	1	3	(a) 20% (b) 36% (c) 44%
4	45	1	2	(a) 64% (b) 36%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2023. The Senior Management Team (SMT) has decided to launch PB-Ready, a range of ready-made protein shakes, available in 0.5 litre bio-degradable bottles. The Protein Powder Production Department is being expanded to include the mixing and bottling process.

You receive the following email:

From: Akida Agu, Finance Manager

To: Finance Officer

Subject: Activity cost hierarchy, asset replacement decision and tax

Hema Bhatt, Managing Director, has recently attended a business conference where she heard about the activity cost hierarchy which splits production overheads into unit, batch, product and facility level activities. She is keen to explore how this hierarchy might apply in our business and across our different products (protein bars, protein powder and now PB-Ready). We have just completed some notes documenting the new mixing and bottling process for PB-Ready (Schedule 1, attached), and so I would like you to use this process to explain how the hierarchy would apply to this product.

Please prepare a briefing paper for Hema which explains:

- What is meant by each category of the activity cost hierarchy in the context of our Production Facility, with specific reference to the mixing and bottling process in Schedule 1. Please include examples of overhead costs for each of these categories. *(sub-task (a) = 48%)*

Before it decided to launch PB-Ready, the SMT had planned to upgrade some production equipment in 12 months time. This will include replacing the weighing equipment for protein powder production, as we will need to produce more protein powder to use on our PB-Ready range. The SMT needs to decide whether to keep the existing weighing equipment for the next 12 months (Option A) or to sell it now and rent alternative weighing equipment (Option B) for the 12-month period. Schedule 2 (attached) includes details of each option.

Please prepare a briefing paper for the SMT which explains:

- How we would make the decision between Option A or Option B from a financial perspective, giving reasons why each cost and revenue item in Schedule 2 would or would not be included in this decision process. Please include two other factors to consider before making a final decision. *(sub-task (b) = 32%)*

A new mixing machine for PB-Ready was purchased today for C\$82,000. It will be available for use from 1 January 2024, although production won't commence until March. It will be depreciated over 10 years on a straight-line basis. The government of Ceeland has recently announced that, for purchases from 1 November 2023, special first year tax depreciation allowances are available on this type of asset at a rate of 100% of purchase price.

Please include in the briefing paper an explanation of:

- The impact of the new asset on the calculation of corporate income tax payable for the year ending 30 June 2024, if we take advantage of the special first year tax depreciation allowance. *(sub-task (c) = 20%)*

Akida Agu
Finance Manager
PB

The attachments to the email can be found by clicking on the Reference Material button above.

Schedule 1: The mixing and bottling process for PB-Ready

Production will be in batches. For each batch, the flavoured protein powder will be weighed out and placed into plastic bins. Weighing the protein powder for each batch will take the same time regardless of the number of bottles in the batch.



Production will be scheduled by batch, with flavours alternating between batches. Prior to mixing a batch, the mixing machine will be thoroughly cleaned to ensure that the flavour being mixed is not tainted by the previous flavour.



The contents of the large plastic bin will be poured into the mixing machine by hand and the appropriate amount of water for that production batch added. The batch is then mixed.



After mixing is complete, a tube from the mixing machine is attached to the automated bottling line, and the bottles are filled and sealed.

Notes:

- The number of bottles in a batch will depend on the flavour being produced. Each flavour will have a different batch size.
- The mixing and bottling process will have its own dedicated direct work force and indirect production supervisors.
- The mixing machine and bottling line are powered by electricity.

Schedule 2: Information relating to the two options for the weighing equipment**Option A: Keep for 12 months**

- Costs associated with the weighing equipment for 12 months would be:
 - Depreciation of C\$8,400.
 - Maintenance and recalibration of C\$1,800.
 - Insurance of C\$750.
- In 12 months' time, sale proceeds would be C\$26,000 before deducting selling costs of C\$650.

Option B: Sell now and rent new weighing equipment

- Sale proceeds now of C\$39,500 before deducting selling costs of C\$800.
- The costs associated with the rented weighing equipment for 12 months would be:
 - Rental charges of C\$20,000. The owner of the equipment would be responsible for maintenance and recalibration.
 - Insurance of C\$750.
- The rented weighing equipment would result in labour cost savings of C\$3,500 for the 12-month period.

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Reference Material

Pre-seen

Two days later, Akida Agu, Finance Manager, calls you and says:

"There is some disagreement within the Senior Management Team (SMT) about how to promote PB-Ready. Hema Bhatt, Managing Director, believes that because of the existing brand loyalty for protein powder, PB-Ready needs minimal additional promotional spend. Penny Sanchez, Sales & Marketing Director, wants a major campaign utilising social media and at least one influencer. Julia Matthews, Finance Director, has suggested that a zero based budgeting approach be used to determine the promotion budget. She has already explained the basics of the approach to Hema and Penny.

Please prepare a briefing paper to the SMT which explains:

- How decision packages could be developed as part of determining the promotional budget for PB-Ready. Please also include two challenges that we might face when doing this.

(sub-task (a) = 36%)

We have selected the supplier of the bio-degradable bottles for PB-Ready, and it has been suggested that the Economic Order Quantity (EOQ) model be used to determine our procurement policy. Based on initial assessments of the variables, I calculate that the EOQ is 150,000 bottles. The supplier has promised a lead time of 1 week from the date of order, and there is a possibility that we will be able to negotiate a bulk discount of 2% of purchase price if we order at least 250,000 bottles at a time.

Please include in your briefing paper an explanation of:

- What the EOQ of 150,000 means and the variables that will have been used to determine it. Please explain how the lead time will affect our ordering process and also explain how we would determine whether it would be advisable to order in bulk to take advantage of the discount available.

(sub-task (b) = 32%)

Hema has asked how PB-Ready finished goods inventory will be valued in our financial statements. Table 1 (which I will send you shortly) includes summary information about the product. PB-Ready will have a 7-week shelf life. Our policy will be to sell off any finished goods inventory with only a 2-week shelf life remaining to farmers as animal feed. Such inventory will be sold for C\$5 per pack of 6 bottles. It will cost us C\$0.80 per pack to distribute to the farmer.

Please include in your briefing paper an explanation of:

- How PB-Ready finished goods inventory will be valued in our financial statements, with reference to the information in Table 1 and to the relevant financial reporting standard."

(sub-task (c) = 32%)

Akida sends you Table 1, which can be found by clicking on the Reference Material button above.

Table 1: Summary information about PB-Ready

	Per pack of 6 bottles C\$
Ingredients and packaging	2.72
Direct labour	1.20
Variable production overhead	0.90
Fixed production overhead	3.60
Total standard production cost	8.42
Variable selling costs	0.90
Share of fixed administrative costs	0.40
Profit	4.28
Selling price	14.00

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

Rich text editor toolbar with icons for: Undo, Redo, Bold, Italic, Underline, Strikethrough, Subscript, Superscript, Text Color, Paragraph, Table, Bulleted List, Numbered List, Indent, Outdent, Decrease Indent, Increase Indent.

Reference Material

Pre-seen

Three weeks later, you receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: PB-Ready promotion and beyond budgeting

The Senior Management Team (SMT) decided in the end not to use a zero based budgeting approach to determine the promotional budget for PB-Ready. Instead, a basic social media campaign is being planned with one of three possible additional options. Details of these three additional options (A, B and C) together with payoff information and related statistics are included in Schedule 1 (attached).

Please prepare a briefing paper for the SMT which explains:

- The payoff and statistical information in Schedule 1.

(sub-task (a) = 20%)

- How we would apply a risk neutral, risk seeking and risk averse approach to this decision, giving the decision that would be taken using each approach. Please also explain one limitation associated with each approach.

(sub-task (b) = 36%)

The development and launch of PB-Ready is just one of many initiatives that the company is pursuing at the moment. Other initiatives include the new Protein Biscuit and Vegan Protein Bar. Julia Matthews, Finance Director, has recently been reading about beyond budgeting and she thinks this would be a good approach for the business to use.

Please include in the briefing paper to the SMT an explanation of:

- The features of a beyond budgeting approach and how we might apply these. Please also explain the benefits to our business of using a beyond budgeting approach.

(sub-task (c) = 44%)

Akida Agu
Finance Manager
PB

The attachment to the email can be found by clicking on the Reference Material button above.

Schedule 1: Promotional options**Option A: Decrease budgeted selling prices by 5%**

Change in sales volume	Probability	Possible outcome C\$	Expected value C\$	Standard deviation C\$	Coefficient of variation
+ 5%	0.2	593,850			
+ 10%	0.7	650,700			
+ 15%	0.1	707,550			
			645,015	30,615	0.047

Option B: Undertake an additional C\$100,000 advertising campaign

Change in sales volume	Probability	Possible outcome C\$	Expected value C\$	Standard deviation C\$	Coefficient of variation
+ 5%	0.1	604,100			
+ 10%	0.6	666,200			
+ 15%	0.3	728,300			
			678,620	37,260	0.055

Option C: Undertake an additional C\$200,000 advertising campaign plus increase budgeted selling price by 5%

Change in sales volume	Probability	Possible outcome C\$	Expected value C\$	Standard deviation C\$	Coefficient of variation
+ 5%	0.7	614,350			
+ 10%	0.2	681,700			
+ 15%	0.1	749,050			
			641,290	44,675	0.070

Notes:

- The possible outcomes included in the tables above are budgeted profit for PB-Ready for the first 6 months of trading after adjusting for changes in selling price and additional advertising campaign costs. Budgeted profit for the period, before adjusting for any of the changes, is C\$642,000.
- The probabilities have been estimated by Julia Matthews, Finance Director.

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

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Reference Material

Pre-seen

It is now early May 2024, and you receive the following email:

From: Akida Agu, Finance Manager

To: Finance Officer

Subject: PB-Ready production variances and key performance indicators

Production of PB-Ready started during March, meaning that April was our first full month of production. The Senior Management Team (SMT) has requested a report on the production variances for PB-Ready for April. Table 1 (attached) includes the direct labour and production overhead variances (the raw material variances were negligible and so have not been included). I have established the following information about PB-Ready production in April:

- Demand far outweighed our initial estimates and so production was considerably higher than budget.
- An additional mixing machine was purchased and installed at the start of the month. This machine is able to operate at a faster speed than the original machines.
- Additional direct workers were recruited at short notice. These workers were recruited from a local pasta sauce bottling plant. An additional production supervisor was also recruited.
- Significant overtime was worked.
- The bottling line was reset to work at a faster rate than originally planned. This resulted in a slightly higher level of wasted production due to damaged bottles.
- The mixing machines and bottling line were connected to their own solar power source at the end of the month. Installation and connection of the solar panels was budgeted to be completed in March. Solar power costs less than energy from the national grid.

Please prepare a report for the SMT which explains:

- What each of the variances shown in Table 1 means and possible reasons for their occurrence.

(sub-task (a) = 64%)

The SMT is keen to set up a key performance indicator (KPI) dashboard for PB-Ready and has asked for suggestions of appropriate KPIs to include related to sustainability in the production process.

Please include in your report suggestions of:

- Three suitable KPIs, relating to the sustainability of the PB-Ready production process, that could be included in a dashboard for PB-Ready. Please explain how each KPI would be measured and why it would be appropriate.

(sub-task (b) = 36%)

Akida Agu
Finance Manager
PB

The attachment to the email can be found by clicking on the Reference Material button above.

Table 1: Variances for PB-Ready production for April 2024

Variance	C\$	
Direct labour rate	6,820	Adverse
Direct labour idle time	4,200	Adverse
Direct labour efficiency	10,400	Favourable
Variable production overhead expenditure	4,464	Adverse
Variable production overhead efficiency	5,580	Favourable
Fixed production overhead expenditure	11,200	Adverse
Fixed production overhead efficiency	22,320	Favourable
Fixed production overhead capacity	20,880	Favourable

Notes:

- Idle time is not budgeted for.
- Variable and fixed production overheads are absorbed on the basis of machine hours for the mixing and bottling process.

Reference Material

Pre-seen

Write the report requested by Akida Agu in the box below.

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Thank you for completing the Operational Case Study Exam.

Before you leave, don't forget to collect your printed confirmation of attendance.

Please click the End Exam (E) button before leaving the testing room quietly.



Operational Case Study Exam

Maximum Time Allowed: 3 Hours

Welcome, Candidate Name

If this is not your name, please let your administrator know.

Click **Next** to start the test.

This examination is structured as follows:

Section number	Time for section (minutes)	Number of tasks	Number of sub-task/s	% time to spend on each sub-task
1	45	1	2	(a) 52% (b) 48%
2	45	1	3	(a) 40% (b) 28% (c) 32%
3	45	1	3	(a) 32% (b) 24% (c) 44%
4	45	1	3	(a) 40% (b) 36% (c) 24%

Each section (task) has a number of sub-tasks. An indication of how much of the time available for the section that you should allocate to planning and writing your answer is shown against each sub-task in the text of the question (and summarised in the table above).

This information will be available for you to access during the examination by clicking on the Pre-seen button.

Reference Material

Pre-seen

Today is 1 December 2023. The Senior Management Team (SMT) wants to expand the company's domestic sales market by targeting keto diet followers. The SMT is working with Tia Mitchel, a famous keto diet expert, and PremiumApps, an app development company to create a PBKeto subscription app. The app will be available to download free of charge from app providers. However, to make purchases, customers will need to subscribe, committing themselves to a minimum monthly spend on PB products. Subscribers will be able to purchase PB products at a slightly discounted price to those on the website. Subscribers will also have access to keto-friendly meal plans, advice and recipes.

You receive the following email:

From: Akida Agu, Finance Manager
To: Finance Officer
Subject: PBKeto app and promotional decision

We will be paying C\$650,000 to PremiumApps and C\$150,000 to Tia Mitchel when the PBKeto app has been fully developed and tested. We will also pay Tia a royalty of C\$0.75 for each subscriber to the app. The app will be hosted on our own servers and administered by our own IT Department. As a result, we will need to upgrade our servers and recruit additional IT staff for the Department. The app will use push notifications and text messaging to communicate with the subscriber and will have payment functionality. PremiumApps will provide upgrades for the app as and when the need arises for additional fees.

Please prepare a briefing paper for the SMT which explains:

- How to determine the cost per subscriber of the PBKeto app and the difficulties associated with doing this.

(sub-task (a) = 52%)

We will be undertaking a campaign to promote the PBKeto subscription app, and three alternative options are being considered. Option 1 and Option 2 would include the participation of Tia Mitchel in the promotional campaign, Option 3 would not. The campaign will be for the first 6 months after the launch of the app. We are unsure how many subscribers we will have, but Penny Sanchez, Sales & Marketing Director, has estimated the highest and the lowest level that we can expect for each campaign. We are also unsure about how many PB products subscribers will purchase through the app and so Penny has also estimated the highest and the lowest that we might expect. On the basis of these estimates and Penny's estimates of probabilities, I have prepared Table 1 (attached).

Please include in your briefing paper an explanation of:

- The information shown in Table 1 and which option would be chosen if the SMT takes a risk neutral approach to this decision. Please also explain three issues to be considered before making a final decision about which option to choose.

(sub-task (b) = 48%)

Akida Agu
Finance Manager
PB

The attachment to the email can be found by clicking on the Reference Material button above.

Table 1: Comparison of promotional campaign options

Situation		Joint probability	Possible 6-month profit		
Number of subscribers	Level of sales through the app		Option 1 C\$	Option 2 C\$	Option 3 C\$
Highest	Highest	$0.60 \times 0.30 = 0.18$	1,356,250	1,050,000	736,200
Highest	Lowest	$0.60 \times 0.70 = 0.42$	537,500	500,000	402,150
Lowest	Highest	$0.40 \times 0.30 = 0.12$	373,750	390,000	421,800
Lowest	Lowest	$0.40 \times 0.70 = 0.28$	(117,500)	60,000	166,350
Expected value			481,825	462,600	398,613

Notes:

- The options are as follows:
 - Option 1: Campaign including Tia Mitchel, who would charge a fixed fee.
 - Option 2: Campaign including Tia Mitchel, who would charge us a percentage of sales revenue generated through the PBKeto app.
 - Option 3: Campaign without the involvement of Tia Mitchel.
- Profit is stated after all campaign costs.

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

Rich text editor toolbar with icons for: Undo, Redo, Bold, Italic, Underline, Strikethrough, Subscript, Superscript, Text Color, Paragraph, Table, Bulleted List, Numbered List, Indent Left, Indent Right, Decrease Indent, Increase Indent, and Link.

Large empty text area for writing the briefing paper.

Reference Material

Pre-seen

A week later, Akida Agu, Finance Manager, calls you and says:

"The Senior Management Team (SMT) is keen to establish a sales budget for January to June 2024 which incorporates the additional sales expected from the keto diet market. Additional sales will come from the PBKeto app and also from new lifestyle and diet-related retailers that Penny Sanchez, Sales & Marketing Director, has recently started to negotiate with. It has been suggested that we use an external agency that has expertise in market research and big data analytics to assist with this forecast.

Please prepare a briefing paper for the SMT which explains:

- The sources of big data that will assist with creating a forecast of the additional sales from the keto diet market. Please also explain the potential problems that the agency will need to overcome when using big data analytics to establish this forecast.

(sub-task (a) = 40%)

As soon as we establish an estimate of the additional sales expected, we will need to flex the cost budget for the period January to June 2024. Table 1 (attached) shows the original cost budget for this period, which excludes the impact of the additional sales.

Please include in your briefing paper an explanation of:

- How the original cost budget for January to June 2024, shown in Table 1, will be revised using a flexible budgeting approach.

(sub-task (b) = 28%)

Penny has given me some information (included in Table 2, which I shall send you shortly) about a potential new retailer, Keto Warriors, that she is currently negotiating with.

Please include in your briefing paper an explanation of:

- The factors to be considered when setting credit limits for Keto Warriors. Please refer to the information in Table 2 when explaining these factors."

(sub-task (c) = 32%)

Akida Agu sends you Table 1 and Table 2, which can be found by clicking on the Reference Material button above.

Table 1: PB original cost budget for the period January to June 2024

	Total C\$000
Cost of sales:	
Raw materials	4,618
Direct labour	1,882
Production overheads	2,394
Selling, distribution and marketing costs	2,650
Administrative expenses	1,020
Total cost	12,564

Table 2: Information about Keto Warriors

	Keto Warriors	Industry average
Inventory days	32 days	24 days
Payable days	85 days	38 days
Revenue	C\$12 million	C\$56 million
Growth in revenue from 2021 to 2022	+25%	+8%
(Overdraft) / cash balance	(C\$0.9 million)	C\$1.1 million

Notes:

- Keto Warriors was established in the middle of 2019.
- The information for Keto Warriors is based on their financial statements for the year ended 31 December 2022.

Reference Material

Pre-seen

Write the briefing paper requested by Akida Agu in the box below.

Rich text editor toolbar with icons for: Undo, Redo, Bold, Italic, Underline, Strikethrough, Subscript, Superscript, Text Color, Paragraph, Table, Bulleted List, Numbered List, Indent, Outdent, Decrease Indent, Increase Indent.

Reference Material

Pre-seen

It is February 2024. To expand production capacity, the Production Facility is in the process of being reorganised, with some equipment being replaced.

You receive the following email:

From: Akida Agu, Finance Manager

To: Finance Officer

Subject: Production equipment and production constraints

Ben Morales, Production Director, has sent me Table 1 (attached) which includes information about two items of old equipment in the Production Facility.

Please prepare a briefing paper for the Senior Management Team (SMT) which explains:

- How the old mixing machine identified in Table 1 will be classified and measured in our financial statements for the year ending 30 June 2024.

(sub-task (a) = 32%)

- How the old weighing scale identified in Table 1 will be classified and measured in our financial statements for the year ending 30 June 2024.

(sub-task (b) = 24%)

Ben has identified that we have some spare capacity in the Production Facility next week after completion of budgeted production. He has suggested that this capacity could be used to produce Caramel Protein Powder and Caramel Protein Bars to meet orders that have been received from two new retailers. The details of the orders are as follows:

	Number of 1 KG pouches of Caramel Protein Powder	Numbers of boxes of Caramel Protein Bars
Customer 1	400	400
Customer 2	200	1,400

Both customers have said that they will accept partial orders but only if delivered by the end of next week. It has now been identified that we might not have enough of the correct grade whey powder and/or caramel flavouring available to 100% fulfil these orders. Any additional orders of these two ingredients would be at a significant premium to our normal cost. One of our Finance Assistants has produced a linear programming graph (Graph 1 attached) but wasn't able to identify the optimal production plan, although has commented that it is either Point 1 or Point 2.

Please include in your briefing paper an explanation of:

- Two ways, either using the graph or otherwise, to determine which of Point 1 or Point 2 gives us the optimal production plan on financial grounds. Please also explain the factors to be considered before going ahead with the optimal production plan identified from the graph.

(sub-task (c) = 44%)

Akida Agu

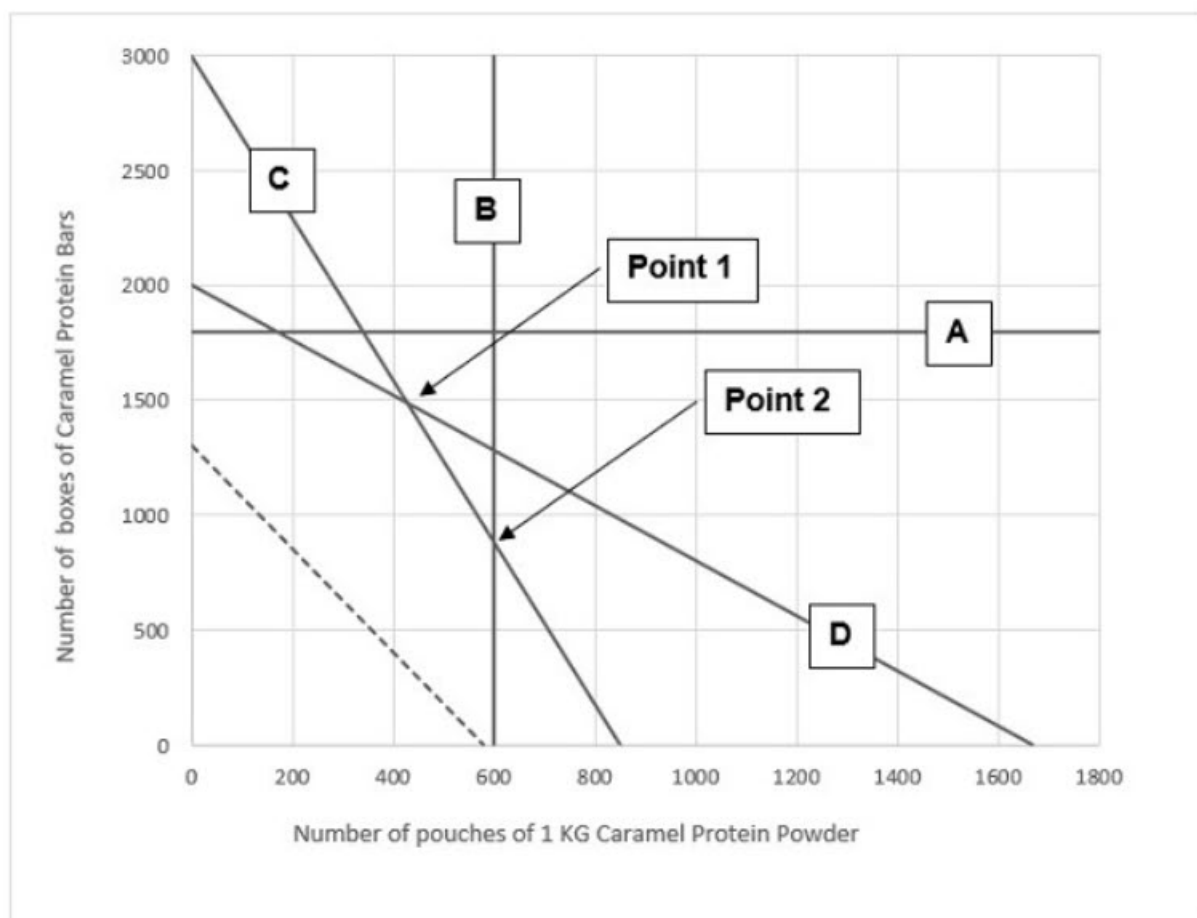
Finance Manager

PB

The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Old equipment

Old equipment item	Information
Mixing machine	A new mixing machine with larger mixing bowls will be installed in the Protein Bar production area in March. We expect that the old mixing machine will cease to be used from 1 April 2024 when it's carrying amount will be C\$21,400. We plan to sell the mixing machine after it has been reconditioned. Reconditioning will be completed by the end of April and will cost C\$2,300. There is a good second-hand market for this type of equipment, and we expect to be able to sell the mixing machine for C\$25,000 after the reconditioning. However, it could take 6 months to find the right buyer.
Weighing scale	We have replaced the old weighing scale used for Protein Bar production with a larger scale. The old weighing scale ceased to be used from 1 February 2024. We are going to keep the scale in storage for the next 2 years just in case we need to use it. On 1 February 2024, the carrying amount of the scale is C\$2,600 and its remaining useful life is 4 years, based on the original assessment when the scale was purchased. There is a good second-hand market for this type of equipment and, if we did sell the scale, expected net proceeds of sale would be C\$3,150.

Graph 1: Linear programming graph**Key to the graph:**

- Lines A and B are the total volumes of 1 KG pouches of Caramel Protein Powder and boxes of Caramel Protein Bars required to fulfil 100% of the orders from the new customers.
- Lines C and D are the constraint lines for whey powder and caramel flavouring, respectively.
- The dotted line is an iso-contribution line.

Reference Material

Pre-seen

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Reference Material

Pre-seen

It is now July 2024. Akida Agu, Finance Manager, calls you and says:

"The Senior Management Team (SMT) has asked for a review of Protein Bar sales across our different sales channels for the period April to June 2024. Penny Sanchez, Sales & Marketing Director, told me that in April and May she authorised an additional unplanned discount for app sales and that in June she did the same for website sales. She also told me that, from April, sales managers were given authority to negotiate individual terms with retailers, rather than all such terms being negotiated by herself. A number of new retailers were signed up during the period. There was an extensive social media marketing campaign throughout the period targeting both the post-work out and the keto diet markets.

I have prepared a schedule in which Table 1 includes the relevant sales variances and Table 2 shows key performance indicators (KPIs) related to sales through the app. I will send this schedule to you shortly.

Please prepare a briefing paper to the SMT which explains:

- What the sales price, sales mix profit and sales quantity profit variances shown in Table 1 indicate, possible reasons for their occurrence and what the variances indicate about overall sales performance of Protein Bars. *(sub-task (a) = 40%)*
- What the KPIs related to the app as shown in Table 2 indicate about actual performance against target, for the period April to June 2024. *(sub-task (b) = 36%)*

Given the size of the price variances, it has been suggested that they are split into planning and operational elements.

Please include in the briefing paper an explanation of:

- Whether it would be beneficial to split the sales price variances into planning and operational elements and any possible problems we would face when doing so." *(sub-task (c) = 24%)*

Akida Agu sends you their schedule, which can be found by clicking on the Reference Material button above.

Table 1: Sales variances for Protein Bars for April to June 2024

Variance	Website C\$	Retailers C\$	App C\$	Total C\$
Sales price	85,000 A	19,000 F	68,600 A	134,600 A
Sales mix profit	80,596 A	6,446 F	34,134 F	40,016 A
Sales quantity profit				46,506 F

Notes:

- Budgeted sales volumes are based on the revised budget after inclusion of the expected impact of the PBKeto app and selling to keto diet retailers.
- Budgeted selling prices are after planned discounts. For the app, customers can subscribe for either 3, 6 or 12 months, which commits them to make a minimum purchase order of C\$50.00 for each of those months. The longer the length of the subscription, the greater the level of planned discount. The app was launched on 1 March 2024.
- The sales mix and quantity profit variances are calculated using the weighted average method and standard gross profit. The standard weighted average gross profit per box is C\$6.64. The standard gross profits per box are:

	Website C\$	Retailers C\$	App C\$
Standard gross profit per box	9.07	4.87	7.57

Table 2: Key Performance Indicators (KPIs) related to the app

KPI	Target*	Actuals		
		April	May	June
Number of subscribers signing up during the month	450	640	590	380
Number of subscribers signing up for 12 months during the month	150	360	240	180
Proportion of new subscribers that sign up for 12 months	33%	56%	41%	47%
Average value of subscribers' monthly orders	C\$75.00	C\$54.20	C\$53.20	C\$58.90
Percentage of app orders despatched within 1 working day	98%	84%	91%	95%

*The targets are the expected monthly averages for the period April to June 2024.

Reference Material

Pre-seen

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Large empty text area for writing the briefing paper.



Thank you for completing the Operational Case Study Exam.

Before you leave, don't forget to collect your printed confirmation of attendance.

Please click the End Exam (E) button before leaving the testing room quietly.



CIMA OPERATIONAL CASE STUDY

NOVEMBER 2023 & FEBRUARY 2024

EXAM ANSWERS

Variant 1

These answers have been provided by CIMA® for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

Protein Biscuit Production Department oven

Classified and initially measured

The oven will be recognised and classified as a tangible non-current asset in accordance with IAS 16: Property, Plant and Equipment. This is because it can be reliably measured and it is probable that future economic benefit will flow into our business as a result of its use. The oven is also tangible in nature, and we expect to use it for more than 12 months.

The amount that the oven is initially measured at will be its purchase price (C\$80,000 + C\$20,000) plus any expenditure which is directly attributable to bringing the asset to the location and condition necessary for it to be ready for its intended use. This will therefore include all of the installation fees (C\$1,000 + C\$500) because the installation has to occur before the oven can be used. The C\$900 for the employee training cannot be included in the initial measurement of the oven because employees are free to leave the business at any time.

Impact on our reported profit

The C\$900 employee training cost will be classified as an expense and will reduce the profit reported in the year ending 30 June 2024.

The oven will need to be depreciated over its useful life from the date that it is available for use, which will be 1 February 2024, rather than the date of initial purchase. Therefore, for the year ending 30 June 2024, 5 months of depreciation on this asset

will be recorded in the statement of profit or loss. This will reduce reported profit for the year.

Where an asset has parts that have different useful lives, IAS 16 states that the initial carrying amount of the asset should be split between these parts and each part depreciated separately. This applies here as the oven housing has a useful life of 20 years and the heating elements have a useful life of 5 years. Therefore, we need to establish how much of the total cost is for the heating elements (in our case, C\$20,000 + C\$500) and treat this as a separate asset depreciated over 5 years. The remaining cost (in our case C\$80,000 + C\$1,000) relates to the oven housing and will be depreciated over 20 years.

Assuming we use the straight line method of depreciation, the charge for the year ending 30 June 2024 will be calculated for each part of the oven asset as cost less any residual value all divided by the useful life multiplied by 5/12 months. The cost less accumulated depreciation, for both elements of the oven, will be shown in the statement of financial position at 30 June 2024.

Protein Biscuit Production Department wrapping and packing equipment

Initially recorded

In accordance with IFRS 16: Leases, we will need to initially record a right-of-use asset and a lease liability.

The lease liability will initially be measured and recorded at the present value of the lease payments that are unpaid at the commencement of the lease and which are due over the lease term. In our case this is the present value of the seven payments of C\$30,000 starting on 1 January 2025. The discount rate used to calculate the present value should be the interest rate implicit in the lease which is 10%.

The right-of-use asset will initially be measured as the value of the lease liability, plus any lease payment made at the start of the lease term plus any lease arrangement fees. Therefore, the right-of-use asset will be initially measured at the value of the lease liability (above) plus the first payment of C\$30,000 plus the lease arrangement fee of C\$4,000.

Subsequent measurement

The right-of-use asset will need to be depreciated in line with the principles of IAS 16: Property, Plant and Equipment. Because we will own the wrapping and packing equipment at the end of the lease term, the depreciation period will be the useful life of the asset and therefore 10 years. For the year ending 30 June 2024 this will result in 5 months of depreciation being charged to profit or loss with the initial value of the right-of-use asset reduced by the depreciation. Depreciation will be 5 months rather than 6 months because the wrapping and packing equipment will not be available for use until 1 February 2024. The right-of-use asset will be included as part of non-current assets.

For the year ending 30 June 2024, the lease liability will be increased by a finance charge of 10% of the initial lease liability, pro-rated to reflect the fact that 6 months of interest will relate to this financial year. This will be charged to profit or loss and reduce profit for the year. On 30 June 2024, the lease liability will be split into a current liability (amounts due within a year) and a non-current liability (amounts due in more than a year).

Key performance indicators

Output reject rate: This could be measured by dividing the total number of protein biscuits scrapped/rejected by the total number produced, measured as a percentage each day or week. The cost of producing non-saleable/scrap output is a direct reduction of our profit, therefore, minimising this KPI is an important objective for this new product. More sophisticated analysis could then help identify a specific part of the production process that causes faulty biscuits. This could help focus attention on the areas that require improvement the most and will prioritise resources to the most appropriate areas.

Raw material wastage in protein biscuit production: This could be measured by the C\$ value of spilled or spoiled raw materials divided by the C\$ value of raw materials received from stores. This would also be expressed as a percentage each day or week. This would help to identify inefficiencies in the early part of the protein biscuit production process. Ingredients like protein whey are expensive and if we identify that it is being wasted, we need to improve the process itself or the employee performance. This is particularly important as this is a new product, and we are likely to develop best practice in the first few weeks/months of production.

Oven capacity ratio: This could be measured by total biscuits baked each day divided by oven capacity each day (that is, the number of biscuits that could have been baked while the oven was in operation), expressed as a percentage. Running an industrial oven will use a lot of power and it is important that we utilise this energy as efficiently as possible. It is a stated objective of PB to be as sustainable as possible and a full oven is better than two half-full ovens in attempting to achieve this aim. In addition, running the oven twice as often as needed is twice as expensive. Therefore, monitoring oven capacity will help reduce costs and help us achieve our green objectives.

SECTION 2

Benefits of a digital costing system

Digital costing systems gather information from the internet in real-time allowing automated systems to review the whole market to find suitable products. At present, PB updates budgets and standard costs only once a year. If we used a digital costing system, this would change and we would be able to react quicker and more appropriately to changes in costs.

One feature of digital costing systems is that, once established, they have low operating costs. Based on the data provided there is evidence that the increased automation of a successfully installed digital costing system will incur total costs that will be covered by the expected returns in 5 years (C\$1,000,000/C\$200,000). After this time the system should continue to generate returns in excess of cost. The Senior Management Team may consider this a reasonable time period to base the investment on.

Another feature of a digital costing system is that we would link our system with those of our suppliers and the following benefits may be possible:

Access to a larger number of suppliers (companies using digital costing systems use an average of 198 suppliers compared to the 89 we currently use). This would mean we could source the cheapest ingredients available on the market and therefore, reduce our production costs. Many of our raw materials fluctuate in price, depending on harvest yields and time of year, while our selling prices remain at a fixed price point, this means that we would benefit from prioritising cost savings in order to maximise profit. However, we must also be aware that much of our brand value is based upon our sustainability and our insistence on quality ingredients, which means that price is not our primary issue.

A reduction in our current 9-day lead time to the digital costing system, an average of 2 days, would mean that we could reduce inventory holding costs. PB does not hold high cash reserves and a reduction in working capital would be helpful. In addition, the automated supplier links could increase the accuracy and efficiency of ordering materials. These links can monitor inventory holding at PB, trigger purchase orders automatically when the reorder level is reached and even transfer some of the inventory holding costs from PB to the supplier. However, many of our raw materials: stevia, sucralose, sea salt and nut butters are relatively long life, and we buy in bulk to take advantage of volume discounts. Any advantage in inventory holding costs would have to exceed the discount in order to be classed as a financial benefit.

As most of our raw materials are common to our existing products and we have already established a good supply relationship, a more flexible supplier lead time would not necessarily lead to improvements in product production (we are not prone to stock-outs of any key raw materials). However, the introduction of new product ranges may change this outlook and the flexibility needed for our suppliers, in terms of lead time, could become critical as some of the new product ranges may need shorter shelf-life raw materials than PB is used to.

The automated links to suppliers should also help PB to identify more appropriate cost drivers. For example, setting up a new supplier may involve a significant amount of labour time compared to a non-digital system supplier, whereas the labour time taken checking prices and processing orders may become insignificant. Understanding the nature of cost driving activities should lead to more accurate product costing.

Another feature of digital costing systems is the ability to link internal systems. Within PB, greater automation will also reduce hard copy paperwork. Integrated systems linking departments would mean more efficient flow-through of products, better coordination and less bureaucracy. Last year a new PB flavour was launched without sufficient product at outlets due to human error. An integrated system would trigger the purchase, production and logistic departments to ensure that this could not happen.

Although most of our current raw materials have long shelf lives our food waste % exceeds the average non-digital costing system company as well as those using digital costing systems. Lower inventory holding, better information for inventory maintenance and better integration of departments would reduce food waste. Reducing our food waste levels will improve not only profit levels but also help us to meet our sustainability goals. Both supplier and internal system integration would provide PB with the ability to scale up the system as the business continues to grow with new products like the protein biscuit and vegan PB bars.

Finally, digital costing systems have built-in analytics and AI which would allow us to better understand the nature of changing costs in production and buying behaviours in customers. This will mean a more accurate understanding of changes and therefore an increased ability to understand how the business can be developed to take account of the changing conditions.

Zero based budgeting (ZBB) approach for the protein biscuit marketing budget

A ZBB approach to budgeting re-evaluates all activities each time a budget is compiled. A radically different approach to our current incremental budgeting, all activities and costs are budgeted from a zero base and no cost is assumed to be needed until justified. For example, a ZBB approach would be to ask whether a marketing budget is needed at all for the new protein biscuit. After investigation, it might be concluded that as PB is an excellent brand it might stretch automatically to ensure that the new product range is successful.

However, before we can determine what success is, the objectives for the marketing campaign will have to be determined and quantified. Without clear objectives we cannot assess the true benefit of each of the different decision packages. A decision package is a document that details the expected costs and revenues of an activity, detailing alternative ways to achieve the same objective. It usually also establishes suitable methods to measure performance for the activity. We can assume that the purpose of a marketing campaign is to raise product awareness and increase the

strength of our PB brand, in order to generate sales of this new product. This would need to be properly defined and clarified.

Decision packages can be mutually exclusive or incremental. Using Table 2 we can see that our first decision will be to choose to conduct our marketing campaign by using either an in-house campaign or an external marketing company, we would not choose both. Both of these mutually exclusive options include a basic campaign which we can consider our base package, which is the minimum campaign needed to market the protein biscuit. It is possible that the base package alone achieves our objectives for the campaign, but if not, we will need to consider combining the base package with one or more optional packages. These are the incremental decision packages and will add significantly to the cost. We will need to evaluate the cost/ benefit of choosing one or more of these incremental packages. If we choose to keep the protein biscuit marketing in-house, we will not be able to access the optional packages from the external marketing company. As Penny Sanchez has stated that the protein biscuit will be aimed at a wider market segment than our existing products, the benefit derived from the Diet Divas endorsement could be vital.

The combination of basic campaigns and optional packages will be assessed to determine which achieve the objectives of the marketing campaign most efficiently. They will then be ranked and the highest ranked chosen. Given that marketing is a discretionary function and that there are other projects within PB competing for finance, the best campaign would ultimately be ranked with these other projects. Funding would be allocated, based on ranking, until all available funds were used.

Potential limitations of using ZBB across the whole business

Using ZBB for all discretionary expenditure instead of incremental budgeting, as at present, will take more time. This is because ZBB will require time to assess each decision package and to ensure each cost can be justified. This is different to incremental budgeting where it is often assumed that the previous year's cost should be retained, subject to adjustments for changes in volume, inflation and so on. As the approach takes more time it is also more expensive.

ZBB can also distract from strategic thinking and lead to short-term decision making. As each decision is reviewed in detail each year, there is a tendency to focus on short-term cost savings rather than the longer-term returns. For example, with the marketing of the PB biscuit, we might choose the in-house base package as it is the cheapest and as a result, fail to realise the years of benefits that an endorsement of Diet Divas might bring.

If ZBB is carried out over the whole business, individual departments could be competing against other departments for funds. It is very difficult to rank decision packages from diverse areas of activity. For example, the marketing campaign for protein biscuits may not be easily assessed against a decision package for non-essential training in the maintenance department.

As we currently operate an incremental budgeting approach, our managers may not be familiar with the evaluation and detailed rigor required to utilize ZBB successfully.

It is likely that additional training will be needed to ensure all factors are considered when compiling and ranking the different decision packages. In addition, we may find that such a radical change in approach, together with the higher level of participation required meets with resistance.

SECTION 3

Decision Tree

Using the decision tree to make the marketing decision

A decision tree helps to break down the complex decision process, comparing the financial benefit of the three marketing options, into a series of simple steps. Decision makers that have a neutral attitude to risk will use expected values and therefore, the decision tree will be useful in this case.

To make the decision, we need to work from right to left. Starting with the top branch of the decision tree, with contribution of C\$4,820,000, we multiply the contribution by the associated 0.6 probability. We then add this to the contribution multiplied by probability of the second highest branch (C\$3,240,000 x 0.4). This will total the C\$4,188,000 expected value (EV) at point A referenced in Note 1. All circles represent the expected value of the possible outcomes and are the sum of the estimated probabilities multiplied by the estimated contribution levels occurring. The responses to the different campaigns are outside of our control.

We continue to work backwards from EV A and EV B deducting the contract specific fixed fee until we arrive at decision node D. Decision nodes are represented by squares and it is here that we have a choice; we can choose Company 1 or Company 2. From a financial perspective we will choose the option with the highest EV netted off against any specific campaign costs. Company 1 has no fixed fee so we will compare its C\$4,188,000 EV with the netted Company 2 EV (C\$5,285,000 less the C\$100,000 fixed fee) of C\$5,185,000. Therefore, in this case we will choose Company 2 as it has the highest net EV.

We will continue to move left to decision node E where we will compare the Company 2 EV with the net EV of conducting an in-house marketing campaign and we will choose the option with the highest EV. In our case, the in-house EV will be C\$5,197,000 less C\$42,000 = C\$5,155,000 which is less than C\$5,185,000. Therefore, we would choose to employ an external marketing company and use Company 2.

Limitations of the data used to compile the decision tree

All costs and revenues for the payoffs are estimates as they will be incurred in the future, which means they may not be entirely reliable. Although we know that the fixed fee for using company 2 and the C\$42,000 cost of employing a part-time marketing assistant are reasonably accurate, as these will probably be agreed in advance, the contributions earned are likely to be less reliable. This is because the contribution values are the product of future demand, selling prices and variable costs all of which can be affected by a number of unknown variables such as: inflation, competitor behaviour, harvest failure or even an influencer's post on social media. Therefore, these contribution values are complex estimates and may not be a reliable enough basis for our decision.

The probabilities are subjective, and we also need to consider their accuracy. We do not know why the external consultant has predicted as they have, or even why they only expect a good or poor response for Company 1 and Company 2 while the internal campaign has a good, average and poor response. If these probabilities are not accurate by only a small margin, we could easily change our decision as the final comparison of C\$5,185,000 and C\$5,155,000 is very close.

How decision makers with different risk appetites would use the information

A risk seeker would be prepared to take the chance of ending up with a lower contribution if there was a perceived opportunity to obtain a higher one. In our decision tree Company 2 has the highest possible outcome, which is C\$5,800,000 after the fixed fee (C\$5,900,000 – C\$100,000) and this would be the option chosen by the risk seeker. The standard deviation represents the spread in value of the net contributions around the mean (expected value), indicating the variability of potential returns, and therefore risk. The higher the standard deviation, the higher the risk. In our case Company 2 has the highest standard deviation (also range in this case as we only have two outcomes) and this higher level of risk will be accepted by the risk seeker as the highest outcome is considered worth the risk.

A risk averse decision maker would choose the option with the lowest coefficient of variation. The coefficient of variation is calculated by dividing the standard deviation by the expected value and allows the decision maker to rank the risk. In this case the lowest risk alternative is to use the internal marketing campaign. This campaign is the lowest risk as the contributions that could be earned at each market response are quite similar.

Management of Company 1 and Company 2 working capital

Working capital is the difference between current assets and current liabilities. That is, cash plus receivables plus inventory less payables. The management of working capital involves a tradeoff between a company's liquidity and profitability.

Overall, Company 1 appears to manage its working capital by maintaining very low inventory and receivables and high payables. At the other extreme, Company 2 appears to manage its working capital with relatively high receivables and low payables. This high investment in working capital may mean that Company 2 is sacrificing liquidity for profitability.

Cash balance

Company 1 holds more cash than the industry average (C\$1.8m:C\$1.4m), although it is clear to see that its revenue is proportionately much higher than the average company (C\$310m : C\$180m). Too high a cash balance may mean lost opportunity to invest, but in the case of Company 1 it probably indicates the surplus generated from its deliberate choice to finance its operations with short-term resources. Company 2 has a positive cash balance, but only just.

Receivable days

Company 1 receives cash from its customers 19 days earlier than the average company. This may be a result of offering tempting prompt payment discounts and an excellent credit control function. The low receivable days are likely to be deliberate and a testament to the power Company 1 has over its customers. Company 2 is at the other extreme and allows its customers 50 days free credit. The reasons for this could be that as a new company it is trying to build relationships with customers by not chasing the debt. It could also be the result of an undisciplined and haphazard credit control department. More disturbingly, high receivables (when considered together with the relatively short payable days and rapidly increasing revenues) may be an early indication of overtrading. However, Company 2 still has cash (not using overdraft facility) and as this is a year-end snapshot of a company that is growing rapidly, the receivable days are likely to be distorted.

Inventory

Inventory does not appear to be an important element in the marketing campaign industry. The inventory held is probably only literature for specific campaigns. There is very little to compare as a larger company, like Company 1, is likely to be more efficient than the smaller Company 2.

Payable days

Company 1 is probably using their suppliers as a form of free credit. The payable days are a week higher than the industry average and twice the length of the receivables days. As Company 1 is a large company it probably has the power to negotiate favourable payment terms with suppliers in return for placing large orders. However, the high payable days may also mean that the company is paying suppliers outside of the agreed contractual terms which could raise questions about their ethics as late payment can damage a business' ability to continue trading.

Company 2, on the other hand, is paying suppliers 36 days before receiving the cash from customers. In effect, the working capital cycle is much longer than Company 1 or the industry average. As a small, young company it is possible that they are still building a credit record within the industry, perhaps some suppliers do not allow them credit terms. It could be that Company 2 will be able to extend the payable days as its position in the market is consolidated and suppliers allow them better credit terms.

SECTION 4

Protein Biscuit variances for May 2024

Sales price variance

This variance shows the effect of selling the protein biscuits at a greater or lesser value than the standard selling price. As all three flavours show a favourable variance, all were sold at a higher price than standard. A possible reason for all these variances is that the standard selling prices included a special introductory offer that was not actually offered during May.

Sales mix profit

This variance shows the effect on profit of selling the actual volume of sales in different proportions to the standard mix. Coconut has the lowest relative profit per unit of the three biscuits, and we sold proportionately more of this than standard. This will reduce our overall profit. We sold proportionately less Peanut biscuits than the standard mix which has also reduced our profit as this is our most profitable biscuit. The Chocolate Chip profit is C\$0.01 less than the weighted average profit and therefore, relatively low profitability. This means that we sold proportionately less volume of the Chocolate Chip biscuits than the standard mix. One possible reason for this variance seems to be the unexpected popularity of the Coconut biscuit. This means that our standard mix is inaccurate. While it is disappointing that the marketing survey was inaccurate, this is a brand-new product, and we should expect some errors in our initial forecasts.

Sales quantity profit variance

This variance shows the effect on profit of selling a greater or lesser quantity (at standard mix) than budgeted. As this variance is favourable, it indicates that we sold many more biscuits than anticipated overall. This is probably testament to the skills of the marketing company we used that managed to get us the wonderful publicity in the Diet Divas magazine.

Material price

The material price variance is adverse which means that we paid more per kg (or litre) than standard, for the ingredients used to make the protein biscuits. A possible reason for part or all of this variance is the fact that we had to order an emergency supply of desiccated coconut. Although most of our ingredients are common across the business (protein whey and peanuts for example), desiccated coconut will be one of the raw materials that we have used lower volumes of in the past. An emergency order may have cost us more than the standard price we agreed by competitive tender because of the additional administration and shipping costs.

Material usage

The material usage variance is also adverse, meaning that we used more materials than expected for the volume of biscuits we actually produced. The most likely reason

for this variance is the faulty oven timer caused us to waste ingredients when we overbaked several batches.

Direct labour rate

This variance is adverse, meaning that we paid more on average for each hour of direct labour, than budgeted. As this is only C\$200, it is most likely to be a small random fluctuation, which is not important enough to investigate further. There are many possible reasons for this variance, perhaps the extra demand for protein biscuits meant that we had to transfer some higher paid employees to the Protein Biscuit Department, during May. However, the amount is not significant enough to investigate to confirm this.

Direct labour efficiency

This adverse variance means that we spent longer than anticipated making the actual volume of protein biscuits that we did. As we are in our fourth month of production, we can assume that our workforce is now experienced enough to have achieved the standard set (although the standard could be wrong). The most likely cause of this variance is the oven being out of order for a day. While I am sure that workers would have been moved over to work in other parts of our business, the sudden shutdown of the oven must have caused some idle time, time we were paying our workers, but they were unable to work. This idle time should perhaps be shown separately from the efficiency variance as it masks the true labour efficiency. This would mean that the variance would be calculated by comparing standard hours with actual hours worked rather than actual hours paid as is the current practice.

Feedback and feedforward control

Feedback control is the comparison of actual results to the standard or budgeted results. As a result of feedback, standards can be modified and /or actions taken to ensure the desired results are achieved in the future. This is the basis of our variance reports at present. We assess our performance against agreed standards which can result in adverse or favourable variances. If we believe that the variance is significant, we take action to correct it (for example, managers should take corrective action to ensure that in future checks are made before batches of biscuits are overbaked) or we can change the standard/budget. For example, our budgeted sales of Coconut biscuits could be increased for June and future periods and the actions / events that occurred in May replicated to maintain this positive outcome. This may mean that we form a more permanent alliance with the Diet Divas organisation. The purpose of these actions is to bring actual results in line with the budget. However, feedback control only alerts us that we need to take action after the event.

Feedforward control is where budgeted results are compared against a forecast of what we are likely to achieve if we remain on our current trajectory. Feedforward is more proactive than feedback as it anticipates problems before they occur and attempts to prevent them from happening. When the demand for Coconut protein biscuits exceeded our expectations, we could have considered the implications by

forecasting our resource requirements for the foreseeable future. Part of this forecast would have been the projected production needed to meet demand, followed by the material usage to satisfy production and therefore, any purchasing requirements. This would have identified a gap in the ability to meet demand without further action and would have triggered a warning that we were likely to have a shortage of desiccated coconut. An earlier order of coconut would have avoided the need for an emergency order and the material price variance might not have been adverse. With feedforward control we can identify and take action to correct potential problems before they are realised.

OPERATIONAL CASE STUDY

NOVEMBER 2023 & FEBRUARY 2024

EXAM ANSWERS

Variant 2

These answers have been provided by CIMA® for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

The EOQ model

The EOQ model balances the cost of holding inventory with the costs of placing orders to derive the optimum order size.

The EOQ has been our preferred method for determining the order size for peanuts. It has a number of assumptions: demand and lead time are constant and known with certainty; the purchase price is known and there is no buffer inventory (as lead time is known with certainty). As it minimises the total costs of ordering and holding inventory, the EOQ would be a good model for PB in the future, if all of these assumptions applied.

Demand for our PB peanut bars has been growing rapidly since we started trading. This means that our demand for peanuts has grown at a corresponding rate. Therefore, the constant and known demand assumption does not apply to PB. In addition, we are considering selling peanut butter as a stand-alone product in the near future. When this happens our demand for peanuts will be even less predictable.

The lead time for Supplier 2 is stated as somewhere between 3 and 9 days. This suggests that the lead time is not known or constant. It also means that we would always need to hold a buffer inventory to allow for a longer lead time. Therefore, these assumptions for the EOQ do not hold true for PB peanut order quantity.

Finally, the EOQ does not include bulk purchase discounts in its calculations. This means that it may not be beneficial to employ the EOQ if we choose Supplier 2 as the bulk purchase discount might reduce the total annual inventory cost (total purchase cost plus holding costs plus ordering costs) to less than the total annual inventory cost when using the EOQ. If this is the case, we will use the larger order quantity to qualify for the discount rather than the EOQ.

How the choice of supplier would affect our working capital level

Working capital is the difference between current assets and current liabilities. In other words, cash plus receivables plus inventory less payables. With our decision to choose a peanut supplier we will need to compare our inventory holding and the payable values for the two companies. We will also need to adjust for the cash outflows associated with the holding and ordering costs.

Supplier 1 will require a much lower investment in inventory than Supplier 2 as the average inventory level is only C\$1,200 compared to C\$14,500. The purchasing costs for Supplier 1 are C\$2,000 higher per year (C\$257k-C\$255k) than Supplier 2 but the cash outflow is reduced by the additional 21 days credit (30 days less 7 days). This will mean that the payables will be higher for Supplier 1 than Supplier 2.

The last items from this decision to affect the working capital will be the holding and ordering costs. If we elect to use Supplier 1, PB will hold less inventory than if we choose Supplier 2 which will result in lower holding costs. We will also incur slightly lower ordering costs if we use Supplier 1, due to the automatic ordering system. These two lower costs will reduce our cash outflow.

Overall, Supplier 1 will require less investment in working capital than Supplier 2.

CGMA cost transformation model in the Peanut Butter Department

Generating maximum value through new products

The best way to transform costs is to avoid incurring them in the first place. This can be achieved by understanding what the customer's needs and wants are and only responding to these if it is sustainably profitable to do so. It is vital to understand that the cost transformation model is not only about seeking out the lowest cost suppliers and penny pinching, rather it is about understanding cost in order to eliminate inefficiencies and costs that do not add value (value is considered from the point of view of the customer). As so much cost (design, investment in machinery, marketing, and so on) is invested prior to a product's launch, we need to be sure that we are investing in the right products.

If we decide to sell peanut butter in single serving sachets, we will generate enough margin, from this alone, to match the investment in new machinery within 5 years. This seems to be a relatively short time (considering that we will also be generating value from manufacturing our "ingredient" peanut butter too). Julia stated that selling in single portion sized sachets would be 10 times more profitable than selling the same peanut butter in glass jars, this is because the single portion sachet fits in with our target market's needs so well that we can price it at a considerably higher margin. If we sell single serve sachets our core product is not peanut butter so much as a "shot" of convenient delicious protein that helps post workout recovery. The packaging that would enable us to sell peanut butter so profitably is also a part of the product as it harmonises with the sustainable ethos that our customers value.

While sachets are the more innovative packaging option, we must not forget that 40% of our customers stated that they would buy our peanut butter in glass jars. This means that a market exists for this “old fashioned,” but recyclable, type of packaging too. If we choose to sell peanut butter externally, our product offering should be as flexible as possible in order to appeal to as wide a customer base as possible. To achieve this, we should consider selling different sized jars (and sachets). If we have spare production capacity to make these new products and they generate a contribution, our overall profit will increase.

It is also possible that we will have, by chance, identified a separate market that would like this product. Penny’s survey identified that guest house patrons liked the idea of single serving sachets, probably as they are more hygienic, less wasteful and therefore more cost effective for them. To date our research has been based on our existing market, but new products could extend our reach to a much wider customer base. It is clear that we need further research as we need to understand fully the needs of our potential customers before we can understand the type and range of package sizes that meet those needs perfectly. We can then design our product offerings to incorporate features that add value from the point of view of our customers and ensure that we do not include features that add cost without adding value.

Engendering a cost-conscious culture

The culture of a business is the shared values and beliefs common to all members within the business. If everyone involved within the business, from apprentice new recruits to the directors, are aware of the costs being incurred as they do their job, they will be in a position to understand how to reduce costs effectively. Cost structures and cost drivers must be understood so we can elect to incur costs when it increases value in the long term for our business.

A cost-conscious culture must be led from the top, as it is the Senior Management Team (SMT) that best understands the objectives and the long-term opportunities and threats that exist in PB’s chosen market. Cost strategies should identify the target market and ensure that the company is best positioned to offer a range of products that optimise profit over time. It is the SMT that believes investment in the protein biscuit and vegan bar products should take priority over the expansion of the Peanut Butter Department and sale of peanut butter, at this time. However, as members of the SMT believe that in-house production of peanut butter is a USP, that adds more value than the differential of in-house variable cost with bought in cost, they have chosen to retain the department.

In the Peanut Butter Department, Lyn Pike holds a weekly “cost crunching” meeting in which all employees are encouraged to participate and share ideas. The culture is quite competitive with members of the department competing for the 3PB award. Although Ben stated that there was not much scope for more cost savings in the department, the cost-conscious culture is one of continuous improvement in cost competitiveness. To date the initiative has saved 1.5% of annual costs, a significant achievement. This approach is a direct reflection of the senior management strategy to continue to try and reduce costs until a new strategy is decided.

Incorporating sustainability to optimise profits

This aspect of the GCMA cost transformation model focuses on the detrimental impact business processes can have on the environment. PB states its ethos as being concerned about sustainability, aims to be carbon neutral within 4 years and is continually striving to improve its supply chain, manufacturing processes and outward logistics.

Some activities within the Peanut Butter Department exemplify this sustainability objective, more than any other department. We make peanut butter in-house because our customers believe that it is a valuable activity. While we can buy the peanut butter from overseas suppliers at a cheaper price than even our variable cost to make in-house, our customers perceive the in-house manufacture to be a valuable contribution to sustainability. We do not import peanuts from South America, instead we elect to buy locally and save on food miles. We do not contribute to landfills, electing instead to sell our waste from the blanching process to farmers and others. This approach is benefiting the environment while at the same time improving our profit. 94% of customers state that our approach is an important factor in their purchasing decision (therefore it contributes to increased value) while selling waste provides extra revenue while at the same time saving disposal costs.

SECTION 2

Maintenance contract decision

Maximax

Using a maximax approach to this decision we would choose the contract that maximises the maximum payoff achievable for each contract (or in our case minimises the minimum cost). The maximax criterion is best suited to a decision maker that is optimistic.

Using Table 1, the least cost incurred under Contract 1 is C\$8,720, under Contract 2 is C\$4,200 and under Contract 3 is C\$6,780. Of these, the lowest cost and therefore best payoff is C\$4,200, and therefore under this criterion we would choose Contract 2.

Maximin

Using a maximin approach to this decision we would choose the contract that minimises the maximum cost of each contract and will therefore select the best of the worst. The maximin criterion is best suited to a decision maker that is pessimistic.

The highest cost under Contract 1 is C\$10,880, under Contract 2 it is C\$16,800 and under Contract 3 it is C\$13,620. The lowest of these highest costs is C\$10,880, and therefore under this criterion we would choose Contract 1.

Minimax regret

Using a minimax regret approach, we select the contract that minimises the maximum regret. This is used where we want to minimise the regret of making a bad decision. 'Regret' refers to the opportunity loss from having made the wrong decision. The decision maker that is attracted to this criterion is sometimes referred to as a "sore loser".

Table 2 shows the regret depending on the number of times the machine breaks down for each contract. For example, if the breakdown rate was low, we would have no regret if we had chosen Contract 2 because this would give us the best result. The regret for each of the other contract options at this breakdown level is the additional cost incurred if we chose them instead of Contract 2. These are, C\$4,520 (C\$8,720-C\$4,200) for Contract 1 and C\$2,580 (C\$6,780-C\$4,200) for Contract 3. The maximum regret is C\$4,520 for Campaign 1, C\$5,920 for Campaign 2 and C\$2,740 for Campaign 3. To minimise maximum regret, we should therefore select Campaign 3.

Peanut Butter Department exception report for January 2024

Fixed overhead expenditure variance - C\$9,133 adverse

The fixed overhead expenditure variance is adverse, which means that we spent more than we had budgeted to spend in the month. The variance is calculated by subtracting

actual fixed overheads from the budgeted fixed overheads. Fixed costs are assumed to be constant for a given level of activity and therefore this adverse variance reflects additional costs that were not anticipated when the budget was set. There are many possible reasons for this but, we can be sure that the specialist repairs, described as “extremely expensive”, will have contributed to a major proportion if not all of this variance.

Fixed overhead efficiency variance - C\$2,671 favourable

As we absorb fixed production overhead on the basis of machine hours the overhead absorption rate is multiplied by the difference between the machine hours that should have been worked for actual production and the actual machine hours worked. As this variance is favourable, it means that actual machine hours were less than the standard machine hours for actual production.

The most likely reason for this variance is that the machine worked more efficiently after the repairs in early January. As this machine is old and unreliable, we probably based our standard machine hours on the grinder working at a slow pace. Lyn commented that after the repairs the machine was working, “faster and better” than it had in years. This means that the machine was grinding more peanuts an hour and therefore more fixed production overhead was absorbed per hour than expected, resulting in a favourable variance.

Fixed overhead capacity variance - C\$5,144 adverse

The capacity variance reflects the difference between the budgeted machine hours and the actual machine hours worked multiplied by the standard fixed overhead absorption rate per hour. As this variance is adverse, it means that less machine hours were available than budgeted. The machine breakdown is probably the main reason for this variance. As the machine was not working for at least two full days in January, while we waited for the specialist maintenance company to repair it, we had less machine hours available in the month than budgeted.

Raw material usage variance - C\$2,611 adverse

This variance means that we used more raw material for actual output than standard. This loss is over and above normal losses that occur in the peanut butter process as these are already accounted for in the standard.

It is likely that when the grinder broke down all peanuts that were being processed by the machine at the time were considered unfit for further processing and would have had to be disposed of. This will have contributed to this variance.

Direct labour rate variance - C\$2,540 adverse

As this variance is adverse, it means that, on average, we paid more for an hour of direct labour than budgeted. The most obvious reason that the machine breakdown caused this is the supervisor labour from the warehouse being drafted to work in the Peanut Butter Department as direct labour for a week. Although usually classified as

fixed production overhead, while working in the Peanut Butter Department, the supervisors' salaries will have been classified as direct labour. As supervisor hourly rates are probably higher than the usual direct hourly rate, the variance is adverse.

Direct labour efficiency variance - C\$4,847 adverse

This adverse variance means that more hours were paid for than the standard hours expected for actual production. The most likely reason for this is that this variance includes idle time, as we do not account for this as a separate variance. The two days that the grinding machine was not operational meant that the employees in the department were available for work and being paid, but unable to work. Naturally, these employees should have been diverted to other work, but the breakdown was such a sudden and unexpected event, it might not have happened. In addition, it is also possible that the warehouse supervisors, being unfamiliar with the work in the Peanut Butter Department, may have worked less efficiently than the usual workers.

Variable overhead expenditure variance - C\$1,422 adverse

This adverse variance means that we paid more for each hour of variable overhead than we were budgeted to pay. The most likely cause of this was the overtime that was worked to make up for the lost production time following the repair of the grinding machine. Overtime premium is accounted for as a variable overhead cost and in this case, it can be attributed to the machine breakdown.

SECTION 3

How the old roasting oven will be presented in our financial statements

On 30 June 2024 we will own the roasting oven, but we will need to determine whether the asset should remain part of property, plant and equipment or be reclassified as an asset held for sale in our statement of financial position.

IFRS 5: Non-current Assets Held for Sale and Discontinued Operations, states that in order to be reclassified as an asset held for sale, an asset needs to fulfil specific criteria.

- Firstly, the asset needs to be available for immediate sale in its present condition. At 30 June 2024 the roasting oven will have had the full service needed and will have been fully decommissioned for the Peanut Butter Department. Therefore, this condition applies.
- Secondly the sale must be highly probable, and this is accepted to be the case when:
 - Management are committed to sell the asset. In the case of the roasting oven, the SMT agreed to sell the asset and it is currently advertised for sale.
 - There is an active programme to find a buyer. As Lyn has paid the fee for the specialist website and has listed the asset on the website, this applies to the oven.
 - The asset is marketed at a reasonable price. As the expert who runs the website has confirmed that the list price will be reached, this applies to the roasting oven.
 - The sale is expected to take place within 12 months. As above, the expert who runs the website has confirmed that the roasting oven should sell within 6 months.
 - It is unlikely that the plan to sell the asset will change. As our new machinery is being installed next month, we will have no further use for the roasting oven when it is decommissioned so, it is unlikely that our plans will change.

Therefore, it would appear all the criteria for reclassifying the roasting oven as an asset held for sale will be met with effect from 30 June 2024. As a result, we will record the roasting oven as a separate component of current assets in our statement of financial position.

The value that we record as an asset held for sale will be the lower of the roasting oven's carrying amount at the date of reclassification (which is its depreciated cost at 30 June 2024) and fair value less costs to sell. The carrying amount will be C\$40,000 less 12 months depreciation, totaling C\$12,000, which is C\$28,000. Fair value less costs to sell will be C\$39,000 less the C\$6,000 servicing cost less the C\$1,000 website listing fee, which is C\$32,000. Therefore, the roasting oven will be recorded in the financial statements at C\$28,000.

Trend lines

The trend line on Chart 1 has been determined using the high low method. This method identifies the highest and lowest values for the dependent variable (y) and draws a straight line between the two points. In Chart 1 we can see that the lowest revenues occurred in month 2 and the highest revenue is the latest revenue figure. Dividing the change in revenue by the change in month number tells us that the revenue increased by C\$1,710 each month. This can then be used to determine the intercept by substitution. The intercept on Chart 1 means that the sales for the first month of sales were C\$28,000.

The trend line on Chart 2 has been determined using a line of “best fit”. Instead of using just two sets of data, this method uses all sets of data to determine a line (by eye or mathematically) that is exactly in the middle of all sets of data. The intercept means that sales for the first month were C\$45,000.

Both methods are attempting to achieve the same objective, trying to establish a relationship between two variables (time and sales revenue). Once established this relationship can be used to predict sales (y) from the month number (x). The method used in Chart 1 distorts the trend line as it uses the outlying revenue value in M2. As Chart 2 uses all sets of data it reduces the effect of the outlying values and is the more accurate trend line.

Suitability

While the trend line in Chart 2 is the more accurate, it does not follow that it is suitable for use as the basis of our peanut butter sales forecast. There are a number of reasons for this:

- There is an assumption that sales revenues are solely a result of the month number. While we can see from the charts that there seems to be a positive correlation between the dependent and independent variables, the revenue is influenced by many factors other than time. For example, sales revenue can be affected by harvest failure/peanut shortage, changes in consumer tastes, an increase in marketing activity, a competitor action and so on
- The data that the trend line lines are based on is from a company that is in a different country, with a core product and packaging aimed at a different market segment. Therefore, it is unlikely that the levels of demand for our peanut butter product would match these closely enough to be useful.
- There is an assumption of linearity, that sales revenue will continue to increase at the same rate for the foreseeable future. Product life cycles tend to level off and decline over time so it is not likely that our peanut butter sales will increase at this rate in the longer term.

Rolling budgets and their potential benefits for the Peanut Butter Department

A rolling budget, also known as a continuous budget, is updated by adding a further accounting period, usually a month or quarter, when the earliest accounting period has expired.

A rolling budget approach should be more accurate than our current approach as it re-examines the assumptions used to compile the nearest budget periods as well as adding the budget periods further away. The next period is almost constantly under review and the period closer to now is examined in the most detail. Therefore, the approach helps us to decide how to prepare and respond to uncertainty. This is important when there is uncertainty in the forecast, as in our case, as we really do not know what the demand for PB peanut butter will be as it is a new product. There is a possibility that the product will be attractive to a wider market than our current segment and demand for peanut butter higher than expected. For example, perhaps guest houses and hotels start to order the individual sachets as a breakfast offering because single servings are more hygienic than jars. A rolling budget approach would reflect this type of unexpected market demand at an earlier date than an annual fixed budget and would be more accurate. As a result of being more realistic and up to date, the rolling budget would be better for comparing to actual results than a fixed budget. This would facilitate better and fairer performance management and so could potentially be more motivational.

A rolling budget process does not necessarily result in changes in the underlying assumptions that make up the budgets each month or quarter, but it does offer an opportunity for more frequent reviews. A rolling approach would offer additional opportunities to review the budget and while the most emphasis will be on the closest periods; it will also ensure that we are aware of the prospects further ahead. This approach will also allow the business to react more quickly to a change in the environment and we will be able to plan ahead in a controlled way rather than just reacting to events.

Rolling budgets are particularly suited to planning cash flow which needs to be reviewed regularly. The new investment in new machinery in the Peanut Butter Department is happening at the same time as other large cash-outgoing initiatives, such as protein biscuits and vegan protein bars. Such a high level of investment has an impact on our cash flow and, when combined with the uncertainty of demand, it will be important for us to focus on cash management. Because of the improved accuracy a rolling budget offers, potential cash deficits can be identified as early as possible, allowing action to be taken to improve the situation.

SECTION 4

How each inventory issue should be treated in the financial statements

The financial statements for the year ended 30 June 2024 have not yet been finalised, so it is possible to make adjustments for events which happen after the reporting period if they are adjusting events in accordance with IAS 10: Events after the reporting period.

Sachet sealing issue

The problem with the sealing only occurred after the end of the reporting period, from 1 July onwards. Since we appear to have been making correctly sealed portions of the peanut butter before the period end in June, this is a non-adjusting event. A non-adjusting event is one that is independent of any condition which existed at the reporting date of 30 June 2024.

All incorrectly sealed sachets will need to be disposed of. Any impairment as a result of this will be charged to profit or loss in the year ending 30 June 2025 rather than 2024. If the impairment value is significant enough, we will disclose the impairment in the financial statements for the year ended 30 June 2024 as a non-adjusting event. However, as this problem has only occurred in “some” of the sachets made since 1 July this is unlikely to be a material enough value to warrant disclosure.

Over roasting issue

The production of peanut butter on 29 and 30 June 2024 was included in the inventory valuation in the statement of financial position at 30 June 2024. This represents an adjusting event as the impairment of the peanut butter down to zero (see below) is evidence of a condition that existed at the reporting date, even though it was unknown at that time.

IAS 2: Inventories states that inventories should be valued at the lower of cost or net realisable value. The over-roasted peanut butter will be valued at cost in the statement of financial position at 30 June 2024 but, as it is inedible, the net realisable value is probably zero. The difference between these two values will be written off to profit or loss for the year ended 30 June 2024.

Decision about whether to check inventory

Expected values

We have to make a decision about whether or not to check every sachet of peanut butter we hold in inventory for faulty seals. The two tables detail the cost of checking or not checking for three different levels of fault and the probability of that fault being present.

The expected value of each decision is the sum of the weighted outcomes, where the weighting is by probability. It represents the long run weighted average of all

outcomes, assuming that the process was carried out many times. To decide if we should check all sachets or not, we will compare the expected value cost of both options and select the lowest cost. In this case, the lowest cost is the option to check all sachets in inventory as this costs only C\$10,800 (C\$5,800 + C\$5,000) compared to C\$37,400.

Limitations of using this information to make the decision

The expected value alone gives no indication of the range of possible outcomes. If we check, the range of costs are between C\$6,000 and C\$30,000 (including checking costs), whereas the range of costs if we do not check is between C\$4,000 and C\$240,000. The wider range indicates a higher risk connected to the decision not to investigate, a fact that is not taken into account when using expected values. With expected values the decision maker is assumed to be risk neutral.

The probabilities used in the calculation of the expected value for each option are subjective in nature. Therefore, the probabilities could be inaccurate, particularly as these are based on the experience of a different company that may have been operating under quite different conditions to ours at PB. A slight increase in the probability of finding many faults would increase the expected value in both tables.

The cost information is much more likely to be accurate for Table 1 than for Table 2. This is because the costs are easy to quantify: any faulty sachets of peanut butter will have to be disposed of and as we know the cost per sachet, we can multiply this cost by the number of faulty sachets. Table 2 however, contains much more speculative cost information, such as the likely reduction in future revenues as the result of losing a customer. Two months ago, we did not have a reliable forecast for future sales, and it is unlikely that we can quantify this figure with accuracy.

Finally, the information does not consider the fact that the SMT might want to avoid the risk of selling faulty sachets, whatever the cost. Knowingly selling goods that could be faulty is unethical and the SMT might want to destroy all the inventory rather than risk exhibiting unprincipled behaviour.

KPIs

Abnormal loss/gain in the blanching process each period

This can be measured by dividing the expected output (kg) less actual output (kg) by the actual input (kg) of the process, expressed as a percentage each period. If we input 100kg of roasted nuts into the process, we would expect to retain 99kg at the end of the process. The 1kg loss is expected as this is where the peanuts lose the outer skin and bitter heart, and these have a physical weight. However, if our actual output was 97kg this would mean that we had incurred a 2% abnormal loss (99kg-97kg/100kg). We should monitor that the losses do not exceed what is expected as this will ultimately mean that we are increasing costs and reducing profit. Causes of excessive loss could be due to a different type or quality of peanut. An abnormal gain should also be monitored and investigated as it could indicate that the process is not being completed effectively. A higher-than-expected yield could indicate that the bitter

heart of the peanut is not being removed and this could result in an inedible, unsaleable product, which would reduce profit.

Percentage of roasting quality checks completed each period

This can be measured by dividing the number of quality checks completed by number of batches in a period, expressed as a percentage. This KPI should be 100% as we know the checks are required for every batch. On 29 and 30 June all the nuts were over-roasted, and this meant that the butter made from them had to be disposed of. This error has caused a significant amount of cost for PB and most of the cost should have been avoided. If the quality check had been carried out (or been carried out competently), as prescribed, the first batch of nuts roasted on 29 June would not have been passed to the grinding process (incurring additional cost pointlessly) and placed in inventory at the year end. A quality check should have failed the first batch, investigated the cause of the over roasting and corrected the error, thus avoiding all other batches of faulty product on the 29 and 30 June.

Reject rate due to poor sealing

This KPI could be measured by dividing the number of poorly sealed sachets in a period by the total number of sachets sealed in a period, expressed as a percentage. The machine warranty states that 1% or less rejection rate is expected but the lower the percentage of sachets rejected the better. This is important as the packaging we are using is innovative and the process is a new one in the Peanut Butter Department. This means that this process has probably got more risk associated with it than the grinding process does, for example. If we detect a deterioration in the KPI percentage, we will be able to investigate its cause and take action to correct it.



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OPERATIONAL CASE STUDY

NOVEMBER 2023 & FEBRUARY 2024

EXAM ANSWERS

Variant 3

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CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

Sales budgets for control, co-ordination and authorisation.

Control

A sales budget is based on a sales forecast that will provide a plan against which we will compare actual results. It is one of the few useful and quantitative reference points available to us to evaluate performance. While the sales forecast (and therefore budget) in Meland cannot be 100% accurate, it will provide a benchmark based on the most up-to-date information that we have. If we do not establish this benchmark until July, you will have no agreed targets to aim at and motivate you, for seven months. Sales forecasts set now will help us understand your actual performance better as we will ask you to explain material differences. This will enable us to adapt future budgets to be more realistic and/or take actions to achieve target sales. For example, we may learn that Meland consumers prefer bars to protein powders in a different proportion to Ceeland or that we need to adapt our discount policy for this market.

Co-ordination

Sales budgets are the basis of all of our functional budgets, as sales are the principal budget factor. This means that we co-ordinate the actions of the different departments within PB to ensure that they are in harmony with each other. For example, you secured a major gym chain within Meland which will have a significant impact on the sales volume. We will need to co-ordinate to ensure that we deliver what we promise to this customer, securing the sale is only the start. A sales forecast will detail the volume and timing of expected sales which will inform the Production Department when and how many bars and powders to make. In turn, the production schedule will determine when to buy raw materials, recruit more staff, plan logistics and arrange

finance. Without this co-ordination we risk not delivering the products to the customer on time.

Authorisation

As detailed above, the sales budget is the starting point for all functional budgets, including the expenses budget for the sales team, needed to achieve the sales. The list of expenditure in question 3 will have to be agreed in advance for inclusion in the budget. Once the budget has been approved by the Senior Management Team, the budget holder can assume that it acts as an authority to spend. This means that if the sales manager needs a promotional stand, to offer additional discount or to stay in hotels, it can be arranged as required, if it has been allowed for in the budget. This will mean that sales managers will not need to seek senior management approval every time an expense needs to be incurred. The responsibility to manage the budget grants the sales manager the right to incur expenses in pursuit of the budget's objectives.

Potential advantages and disadvantages of using a participative approach

Advantages

Participation refers to the extent that managers can influence the figures that are incorporated into their budgets. While the sales managers at PB currently have only limited involvement in budget setting, there are many benefits of the participative approach.

As you are the people networking, meeting with potential retailers, visiting their sites, and so on, you are in the best position to suggest the likely sales volumes and mix of different products sold. You have the most detailed knowledge of this new market and are therefore likely to produce more realistic budgets than we are. Realistic budgets should mean that you are assessed on a fair standard of performance. It could also mean fairer commission/ bonus levels, therefore aligning your goals with the company goals.

Constructing a budget will add to your skill set and personal development, giving you a deeper insight into the way that our business works. In addition, these additional skills and experience will make you more employable, should you ever want to leave PB.

Being more involved in the business and taking more responsibility by setting budgets for the area that you have some control and influence over will make your work more interesting. You will enjoy a wider influence over your own work, allowing you more autonomy. Being motivated at work is a positive benefit to your wellbeing.

Disadvantages

As yet it is unlikely that you possess all of the skills needed to produce realistic sales forecasts and budgets. This additional responsibility will mean that you have to commit time and effort into acquiring understanding and knowledge. We appreciate that you

may feel that you lack the aptitude for producing budgets and that your workload is already busy and stressful enough.

Time spent learning and constructing budgets is time that you will not be able to spend with the clients. PB's senior managers know how good you are at the selling role, and this is why you have been selected. It could be that you achieve less in your sales role as you dedicate time to the budget role and this might seem a waste of your innate abilities as salespeople.

Multi-product profit-volume chart

Costs

The television promotional campaign would increase fixed costs by C\$100,000. This can be seen by looking at the Vertical (y) axis of the chart and reading where the line intersects. This point represents the total cost where sales are equal to 0. Without the television promotional campaign, the fixed costs are C\$600,000 and with the promotional campaign they are C\$700,000.

The variable cost per unit is not expected to change and therefore neither are total variable costs, since we assume that the campaign will not increase demand. Therefore, the total increase in cost is represented by the C\$100,000 increase in fixed costs.

Revenues

Revenues are a function of sales volume and selling price. The selling price is affected by the level of discount granted to the retailer, the higher the discount the lower the expected selling price. As this is a new market, we will have to attempt to persuade retailers to stock our products by either offering discounts or by creating a recognisable brand. The promotional campaign will help us to achieve the latter, meaning that, in effect, we increase our average selling price. This is evidenced by the increased C/S ratio of every product (the increase in the C/S ratio has to be because of the increase in selling price as we are told that variable costs are unchanged). The effect the promotional campaign will have on our revenues is to increase them by increasing our selling price without any change in the sales volume. From Chart 1 we can see that total revenue has increased from approximately C\$2.8million to C\$3.1million. The assumption that the promotional campaign will allow us to increase our selling price but not increase sales volume may not be realistic. An accurate sales forecast may demonstrate an increase in sales volumes and a corresponding increase in revenues, even with the higher selling prices. Thus, the risk of running the campaign may actually be lower than indicated by the chart.

Profit

As both total revenue and total cost will increase as a result of running the television promotional campaign, the effect on profit depends on which is the larger increase. If the total cost increase exceeds the total revenue increase our profit will be reduced as a result of running the campaign. From Chart 1 we can see that total profit with the

campaign is around C\$920,000 as compared to approximately C\$740,000 without the campaign. Therefore, the campaign has a positive effect on total profit. However, we must remember that, as yet, we have no accurate sales volume forecasts. If our “educated guess” of sales volume is overstated, it is likely that the effect of the campaign will not be as good as these results suggest. This is because the total incremental revenue will be generated from a lower base whereas the promotional campaign will be a fixed fee. The profit with the promotional campaign does not exceed the profit achieved without the promotional campaign until we achieve about C\$2 million revenue and there is a risk we will not achieve this.

Risk

Firstly, if we undertake to use the promotional campaign, we will increase the fixed costs which will automatically increase our risks as we have to earn more contribution in order to cover the total fixed costs.

When using multi-product break-even charts, it is usual to calculate the margin of safety which is the difference between the break-even revenue and the expected revenue. In our case, comparing the difference between the break-even with the promotional campaign and the break-even without the campaign allows us to make a rough comparison of relative risk. Reading from the chart with the campaign we break-even at C\$1.2 million revenue (assuming we sell our products in highest C/S ratio order) which means that revenue would have to fall by approximately (C\$3.1 million - C\$1.2 million) C\$1.9 million before we would be making a loss in Meland. Without the promotional campaign we break-even at C\$1.1 million revenue, so revenues would have to fall by slightly less (C\$2.8 million - C\$1.1 million) C\$1.7million without making a loss. Therefore, in absolute terms sales would have to fall further before we made a loss if we ran the promotional campaign. However, in both scenarios, we can see that revenues would have to fall by more than half the expected levels before we would make a loss.

It is also worth noting that with the promotional campaign we need to generate more sales revenue (C\$1.2 million - C\$1.1 million = C\$0.1 million) to break even. This means that there is slightly more risk with this option. However, we can consider both scenarios to be low risk overall.

However, without accurate sales forecasts the risk is extremely difficult to quantify. Although the promotional campaign improves the expected C/S ratios of all four products this does not guarantee that it will improve profits. This is because total contribution earned is a function of both the C/S ratio and the sales volume achieved. Earning a sufficient contribution to cover fixed costs therefore depends upon both the C/S ratio and the sales volume achieved. An accurate sales forecast is needed to quantify the risk of failing to cover these fixed costs.

SECTION 2

“What-if” analysis

Alternative 1: C\$100,000 spend on the TV promotional campaign

If we assume an additional C\$100,000 is spent on the TV promotional campaign, our fixed costs and profit would increase by 16.7% and 24.2% respectively. This indicates that the additional spending on the TV promotional campaign would be beneficial, as profit would be C\$180,000 higher than expected in the draft budget. Spending on the TV promotional campaign would allow us to sell at a price 10% higher than anticipated in the draft budget as we would reduce the level of sales discounts offered (which is why the revenues in the table have increased by 10%). The increase in revenue has not led to a change in the variable costs, as these vary with volume (which has not changed) rather than with selling price. In effect, the higher selling price increases the contribution to sales ratio, which is why the contribution shows a 20.8% increase. Similarly, as the absolute increase in contribution of C\$280,000 is more than the C\$100,000 increase in fixed marketing spend, profit has increased by an even larger percentage than contribution.

Alternative 2: 5% decrease in expected sales volume

If we assume a 5% decrease in sales volume, profit would decrease by 9%. The 5% decrease in sales volume would affect both sales revenue and variable costs in the same proportion. As contribution is a function of revenue and variable costs, the contribution would also fall by 5%. Because the fixed costs are unaffected by volume changes, these would remain at the budgeted level, and this would cause overall profit to fall by 9.0%, which is more than the fall in contribution.

Benefits of the three different short-term financing options

Bank loan

Bank loans are a contractual agreement for a specific sum, loaned for a fixed period, at an agreed rate of interest with a fixed repayment schedule. Therefore, the major benefits of a bank loan are the certainty of the financing cost and the availability of the cash for the duration of the loan-term.

Overdraft

Overdrafts are permissible drawing on the company current account, even though the company has insufficient funds deposited in the account to meet the expected withdrawal amount. The major benefit of this form of short-term finance is that PB will be free to use as much or as little of the overdraft limit as needed. This flexibility means that PB will only be charged interest on the amount overdrawn, which is cheaper than paying interest for a fixed amount for a fixed term.

Invoice discounting

This is a service offered by financial institutions, including factoring companies. Selected invoices would be used as security against which PB could borrow funds. The funds would be repayable to the factoring company when PB's customers pay their debt. This would be a one-off arrangement and would probably suit the timescale for the expected deficit in January.

A bank loan is less suitable than the other two options as we require variable levels of borrowing for a very short period of time during January. As using an overdraft is almost certainly cheaper than invoice discounting, this is the best option for us in this case.

Marginal and absorption costing profit statements

The only difference in the cost of sales figures when using marginal rather than absorption costing is the C\$ cost per unit used to value inventory and production. Marginal costing values inventory and production units using only the variable production cost, whereas absorption costing values them using full production cost (that is to say, the variable cost per unit plus the fixed overhead per unit). Therefore, the inventory value and production cost value will always be lower when using marginal costing. For example, a 500g of Protein Powder has a variable production cost of C\$6.26 and a full production cost of C\$10.24, after adding the C\$7.96 per kg (C\$3.98 per 500g) fixed production overhead. In effect every kg of protein powder in the cost of sales are C\$7.96 higher than the equivalent kg using marginal costing.

In week 22 the marginal costing profit is higher than absorption costing and in week 23 the opposite is true. The reason for these differences is due to the decrease (week 22) or increase (week 23) in kgs of inventory, over the week. In other words, in week 22 we sold more than we produced and in week 23 we produced more than we sold. In week 23, some of the week's fixed production cost is held back in closing inventory for a future period whereas marginal costing treats fixed overhead as a weekly cost and charges the fixed production cost to profit as it is incurred. Therefore, when quantities of inventory increase over a period, absorption costing will present a higher profit than marginal costing. In week 22 when inventory levels fall, absorption costing releases the fixed production overhead incurred in previous periods and the recorded profit is lower than marginal costing.

To reconcile the two profit figures, we need to multiply the change in inventory level in kilograms by the fixed production overhead per kg. For example, in 22 the reconciliation would be the fall in inventory level in kilograms X C\$7.96 which would be the C\$3,184 difference in profit.

The overabsorption figures in the absorption costing profit statements

As stated above, the absorption costing cost of sales figures include an element of fixed overhead. The value of this element was determined using a predetermined absorption rate, calculated by dividing the budgeted fixed overhead by the budgeted absorption basis, in our case machine hours. Either of these budgeted figures can be

inaccurate: we could incur more or less fixed overhead than budgeted or we could use more or less machine hours than budgeted, and this would cause an under or over absorption of fixed overhead. The over absorption is the difference between the fixed overhead absorbed and the fixed overhead incurred. In week 22 we absorbed C\$440 more fixed overhead than the C\$31,400 actually incurred and this has to be added back to increase profit. The same is true in week 23 where we absorbed C\$1,024 more than the C\$34,000 actually incurred. As marginal costing treats the fixed costs as a period cost it does not absorb the cost into the cost unit and therefore, there cannot be an under or over absorption.

SECTION 3

Impact of Meland Distribution Centre break-in on the financial statements

Forklift truck

This asset has suffered an impairment and we need to establish the carrying amount of this non-current asset at the time it was impaired. Until the time of impairment IAS 16, Property, plant and equipment applied to the forklift truck as: it was probable that it would generate future economic benefit, was reliably measured and was expected to last for more than 12 months. At 15 June 2024 the carrying amount of the forklift truck was C\$6,000 less 5.5 months of depreciation.

The damage to the fork-lift truck is an indication that the value of the asset may be impaired, and an impairment review should be carried out. An asset is impaired where the carrying amount exceeds its recoverable amount. The recoverable amount is the higher of the asset's fair value less costs to sell and its value-in-use. The value-in-use is the present value of estimated future cash flows arising from use and disposal of an asset. At this point in time, the fair value of the fork-lift truck is the C\$400 scrap value and the value-in-use is C\$3,500 (C\$6,500-C\$3,000). The C\$3,500 value-in-use is, therefore, the recoverable amount. If this is lower than the carrying amount of the asset on the date of the damage, the asset will have suffered an impairment and it should be written down to this recoverable amount.

The impact of this asset on profit for the year will be the depreciation charge for the year plus any impairment. If the asset is impaired, the depreciation charge will need to be reassessed on the date of the impairment such that the new carrying amount of the asset less any residual value is spread over the remaining life of the fork-lift truck.

Protein bar inventory

IAS 2: Inventories state that these should be valued at the lower of cost and net realisable value. In the case of the inventory for protein bars in Meland, the cost is C\$63,000 and the net realisable value is nil. Therefore, the full C\$63,000 should be written off to profit or loss. The value of the protein bar inventory is as high as it is because we had a delivery on the day of the break-in, which is unfortunate. However, as this asset is covered by our insurance (the only asset that is) and we can be reasonably certain our insurance company will pay, we can recognise a receivable for C\$60,000 (C\$63,000-C\$3,000) in the statement of financial position and net the credit against the inventory write-off in the statement of profit or loss. Therefore, the expense charged to profit for the year ending 30 June 2024 will be the C\$3,000 policy excess.

Protein powder inventory

As for protein bars (above) IAS 2: Inventories applies to the protein powder inventory. The undamaged half of the inventory will be valued at cost, which is C\$1,200 (C\$2,400/2), as it would have been before the break-in. Therefore, there is no charge to profit or loss for this.

The other half of the inventory has a net realisable value (sales price less selling cost) of C\$400 (C\$500-C\$100). Therefore, this half of the inventory should be valued in the statement of financial position at 30 June 2024, at C\$400 rather than C\$1,200. This will reduce profit by C\$800.

The principles behind the production schedule

The production schedule has been compiled using a short-term decision-making technique known as limiting factor analysis. It is a decision-making technique that prioritises production based on maximising the contribution obtainable from a single scarce resource, in our case the raw material, whey powder. The technique uses contribution and not profit as we assume that fixed costs do not change in the short term and are therefore irrelevant.

Before we can apply the technique, we first have to make the boxes of PB protein bars needed to fulfil the priority orders. The schedule shows that, per box, we need 0.3kg to produce Peanut bars, 0.28kg to produce Almond bars and 0.25kg to produce Cashew bars. Once the amount needed to fulfil priority orders is deducted, we have 2,860kg remaining to allocate to non-priority demand.

For each type of protein bar, the contribution per box was divided by the number of kgs of whey powder needed to make a box, in order to calculate the contribution generated per kg. After we calculated this, we ranked the three types of protein bar in order of highest contribution. This ranking is the order we should manufacture in, as this will maximise the total contribution and therefore profit, we can earn. Our ranking order is: Peanut, Cashew and then Almond.

From the schedule we can see that the line labelled, "Whey powder allocated after making priority orders (kg)," allocates whey powder, in order of ranking, up to the maximum demand for each type of protein bar. The demand for Peanut and Cashew bars is fully satisfied but 1,518 (5,000 - 3,482) boxes of Almond protein bars, required to satisfy demand, will not be made as there is insufficient whey powder available.

Buying extra whey powder at a higher cost

The price worth paying for a limiting factor (bottleneck) resource is any price up to the shadow price per kg plus the normal cost per kg of that resource. The shadow price of a scarce resource is the contribution that can be earned from having one more unit of that resource. In our case, we would need to buy 425 kg of whey powder to make 1,518 boxes of almond protein bars, which is the maximum demand. Each additional kg we obtain will generate C\$26.93 contribution and as this is far in excess of the additional cost being charged by our supplier, it is financially worthwhile to buy at the higher cost.

Even if the option to buy from the supplier had not been financially viable, it would probably be commercially worthwhile. For a small financial outlay, we can ensure that all customer demand is met and that our reputation as a reliable supplier remains intact. This is important as disappointed customers can cause damage that could

reduce the future sales and profit of a business, this is particularly true of new business markets such as the Meland business.

SECTION 4

Sales variances

Sales price variances

The sales price variance measures the difference between the actual price and the standard price for the actual volumes sold. During June we sold the Peanut protein bars at a price higher than standard, the 500g protein powder at standard price and all other products at a price lower than standard. The 1kg protein powder was mispriced on the website and sold at the much lower 500g price for several days during June. This is probably the reason for the highest price variance during the month. Peanut protein bars were promoted by a Meland influencer during June, and this appears to have increased demand for this product to such an extent that we were able to avoid applying the discount we had planned. As the discount would have been included in the standard selling price of the Peanut bars, the consequence of not granting it is a favourable variance. The Almond and Cashew protein bar adverse variances have no obvious cause. It is possible that we had to offer discounts that were slightly higher than expected to encourage sales.

Sales mix profit variances

The sales mix profit variance measures the change in profit as a result of selling products in a different proportion to the standard mix. From the workings we can see that the Peanut protein bar generates the highest profit per unit as it has the highest positive value in the column headed, "standard profit less weighted average profit." We can also observe that we sold proportionately more Peanut protein bars than the standard mix (2,240 more). Therefore, we sold proportionately more of a relatively profitable product than expected, which accounts for the highest favourable (C\$17,200) variance. The same reasoning also applies to the 1kg protein powder. The Almond and Cashew protein bars and the 500g protein powder all generate less standard profit per unit than the weighted average profit per unit and therefore, as we sold proportionally less of these than the standard mix, the result is also a favourable variance.

The causes of these variances may be due, in part, to the availability constraint caused by the disruption to supply during the month. Shortages of Almond and Cashew protein bars meant that we may not have been able to meet the full demand, and this has skewed the mix away from these two products. In addition, the boost in sales of the Peanut protein bars and 1kg protein powder has been generated by the same events that caused the price variances for these products. The Meland influencer and the pricing error affected only these products and caused a disproportionate demand (compared to the standard mix) for them.

Sales quantity profit variances

The sales quantity profit variance measures the change in profit as a result of selling more units (in our case) at the standard mix. This variance is favourable which means that our profit is C\$51,350 higher than budgeted because we sold more units. One

reason for this variance could relate to the accuracy of our budget. Meland is still a new market for us as we have not even been trading for a year and it is likely that we are not sure of the growth rate yet. Other possible reasons for the variance are the increased demand for the two highest profit products. The use of an influencer was a good marketing decision as we benefited from higher demand and a higher selling price. The error causing the 1kg protein powder to be sold at a lower price, also increased demand (although the net effect was less advantageous).

Overall, these variances show that the market in Meland is healthy and expanding, which should increase PB's profit.

Credit control problems in the Meland-operations

Receivable days

The Meland receivable days are 15 days higher than the Ceeland receivables. This could be due to different cultural norms in Meland. Perhaps companies in Meland expect to pay later than the contractual terms or wait until a statement is received before payment is authorised.

As the Meland operation has presented our Credit Control Department with an entire class of new customers in a short space of time, it is perhaps understandable that there are differences in the receivable days. It is important to get these under control as soon as possible and to improve the situation. The Credit Control Department could ensure that all debt collection procedures are applied as thoroughly as possible. Customers should be contacted as soon as a payment falls overdue in order to extract the promise of payment (or to learn the reason for non-payment) and all statements should be checked for accuracy and issued in a timely manner.

Irrecoverable debt

A possible reason why we have evidence that we will have a higher level of irrecoverable debt in Meland compared to Ceeland, is that all Meland customers are new and therefore we have no track record with any of them. Also, it may be difficult for the Credit Control department to conduct the same level of creditworthiness checks in a country that is so far away and may have different laws and customs. Perhaps the legal requirements for filing financial statements are longer in Meland. This would mean that the latest versions available are older than we are used to in Ceeland and therefore less relevant. Perhaps the request for trade references and bank references are unusual in Meland and we may have proceeded to grant credit without them. It is also possible that our Credit Control Department has been overwhelmed by the extra work and have failed to complete the usual level of checks for new customers.

The Credit Control Department should ensure that all checks are conducted as we expect in Ceeland. If legal or cultural differences make this impossible, senior manager should write new procedures, specifically for the Meland operations, that minimize the risk of irrecoverable debt.

KPIs

Percentage of overdue receivables compared to the previous month. This can be measured by dividing the value of overdue receivables at the week or month end by the value of receivables at the week or month end expressed as a percentage. This would then be compared to the percentage in the previous week or month. An increase in the percentage would mean the Credit Control Department is failing to reduce the receivables that are outside of the contractual terms. The reason for any increase could then be investigated and actioned. Monitoring this may act as a motivator for staff members in the Credit Control Department.

Proportion of dispatched goods invoiced. This is measured by the total value of sales invoices raised in a week or month divided by the total value of sales orders dispatched in the same period, expressed as a percentage. This will measure the ability of the Credit Control Department to invoice in a timely manner. The receivable days are calculated from the time that the sales invoice is raised, and every day a dispatched sales order is not recorded as a sales invoice is a day's free credit to the customer. This ratio should be as close to 100% as possible and should encourage all staff to raise invoices in a timely manner.

Irrecoverable debt as a percentage of total credit sales. This is measured by dividing the irrecoverable debt suffered in a period by the total credit sales in the same period, expressed as a percentage. Ideally this ratio should be zero and the higher it is the poorer the performance of the department. Measuring this ratio will highlight the importance of conforming to the robust processes that grant, monitor and control a customer's credit levels. Highlighting the period's irrecoverable debt will also allow investigation and help identify where improvements should be made.



OPERATIONAL CASE STUDY

NOVEMBER 2023 & FEBRUARY 2024

EXAM ANSWERS

Variant 4

These answers have been provided by CIMA® for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

Absorption costing versus marginal costing

How the calculations of gross profit differ

The key difference between an absorption costing approach and a marginal costing approach is the way that fixed production overheads are dealt with. With absorption costing, fixed production overheads are absorbed into each unit of production using a pre-determined absorption rate. This rate is based on the budgeted level of expenditure on fixed production overheads (C\$319,200 per month) and the expected level of activity for the budget period. With marginal costing, fixed production overheads are treated as a period cost and expensed to profit as they are incurred. This leads to the following differences in the way that gross profit has been calculated in the two tables:

- The figures for opening inventory, production cost and closing inventory in Table 1 (absorption costing) are all higher than the equivalent figures in Table 2 (marginal costing). This is because in Table 1 each unit of inventory and production is valued at full production cost (including an element of absorbed fixed production overhead), whilst each unit in Table 2 is valued at the variable costs of production only. For marginal costing, the actual level of fixed production overheads incurred (C\$340,000 in October and C\$325,000 in November) are netted off contribution.
- Table 1 (absorption costing) includes an adjustment for over-absorption each month, which is not present in Table 2 (marginal costing). This adjustment represents the difference between actual expenditure on fixed production overheads and the amount of fixed production overheads that were absorbed

into production in the month. In both months, a higher amount of fixed production overheads was absorbed than actual expenditure because there is an over-absorption which has been added back to arrive at gross profit. Given that the actual level of expenditure each month is higher than the budgeted level, this indicates that the level of production is above the budgeted level of activity. This adjustment is not required in marginal costing because fixed production overheads are not absorbed into product cost.

Why the gross profit figures differ

Tables 1 and 2, do have different figures for gross profit each month. The reason for this is because with absorption costing, part of the current month's fixed production overhead is carried over into the next month within the closing inventory value. This then becomes the opening inventory value for that month.

In October, we can see that the value of opening inventory is lower than the value of closing inventory and hence inventory has increased in the month. This means that in Table 1 (absorption costing) more fixed overhead is being carried forward in the closing inventory value than is being brought in within opening inventory. This therefore means Table 1 has a higher gross profit figure for October than Table 2, because, with marginal costing, all of October's fixed production overheads are expensed that month.

In November, the opposite is happening as the closing inventory value is lower than the opening inventory value. Thus, inventory levels are falling and therefore in November less fixed production overhead is being pushed into the next month than is coming in from October. This results in Table 1 now showing a lower profit than Table 2.

Arguments for and against using marginal costing in the PB-V Production Facility

Our new PB-V Production Facility will have the same processes as our existing Production Facility, given that it will be manufacturing a vegan version of what we already do. Therefore, arguments for and against the use of marginal costing will apply equally to each facility.

One argument for the use of marginal costing, is that this approach is better for short-term decision making. Given that in the short-term fixed costs are not expected to change with the level of activity, production decisions affecting the short-term should reflect only variable costs of production, because fixed costs will be incurred regardless. Examples of such short-term decisions in the new PB-V Production Facility include, decisions affecting the level of initial discounts we might offer or any decisions affecting the products that we produce in-house and those we might wish to outsource. Given that this is a new type of product for us, this will mean that, certainly initially, we are likely to be making more short-term decisions as we try things out.

Another argument for the use of marginal costing is that it is easier to operate compared to absorption costing. There is no need to establish fixed overhead absorption rates which can be time consuming and often arbitrary. For example, in our existing Production Facility we use direct labour hours as the base for absorbing overheads in the Protein Bar Production Department. This assumes that all of the fixed production overheads in the department have a causal link to direct labour hours. In reality there will be some activities where this is not the case (for example, machinery set up for batches of production). Therefore, if we use a single absorption rate in the new facility, like we do in the existing facility, such a rate is likely to be arbitrary.

The main argument against using marginal costing is that absorption costing gives us an idea of the full cost of making each of the PB-V products. Knowing the full cost of a product in the range will help when deciding on prices and also keeps all costs visible and potentially easier to control in the new facility. Another argument against marginal costing, is that for financial reporting purposes, inventory needs to be valued at full cost and therefore if we did use marginal costing, we would need to undertake additional work when preparing the financial statements.

Overall, there are arguments for and against adopting marginal costing. We need to assess how important it is to us as a business to have an understanding of the full cost of our products against the ease of marginal costing, before committing to the approach.

The trend lines and seasonal variations

The trend lines shown in Chart 1 represent the underlying long-term movement in sales volumes in each sales channel (websites, gyms and supermarkets) over the period covered by the lines (from quarter 1 in 2021 to quarter 1 in 2023). The chart indicates that in each sales channel there is an upward trend in sales, which is in line with the ever increasing popularity of veganism.

At the start of the period we can see that gyms was the largest of the three sales channels, and supermarkets the smallest. This has completely flipped over at the end of the period, indicating that the rate of growth in gym sales is significantly lower than the rate of growth in supermarket sales. This is probably a function of the fact that gyms were early to engage with vegan protein bars, and built a customer base before 2021. The fact that supermarkets are now the largest sales channel for vegan protein bars is not surprising given their relative size and their engagement with veganism since 2022. Sales through websites have also shown an upward trend over the period, but at a steadier rate than supermarkets. This growth probably being fuelled by our competitors launching their own vegan bars.

The average seasonal variations shown in the notes, represent the short-term fluctuations in sales volumes due to the season across all sales channels taken as a whole. The information indicates that in quarters 1 (January to March) and 2 (April to June) of each year, sales volumes are expected to be higher than the trend and in quarters 3 (July to September) and 4 (October to December) lower than the trend. These seasonal variations are not that significant, but indicate that consumers are more likely to buy vegan protein bars in the first quarter of each year compared to the

last quarter. This fits with consumer having good health intentions in a new year. The multiplicative model has been used, which is appropriate given that there is significant growth shown by the trend.

Factors limiting the accuracy of any sales forecasts using this information

To create a sales forecast for PB-V Protein Bars, we would need to extrapolate each of the trend lines outwards from the last period to establish a base figure and then adjust this for the seasonal variations. We then would need to further adjust this to reflect our share of the market.

The factors that will affect the accuracy of any forecasts include:

- The appropriateness of the trend lines. Each of the trend lines has been determined based on 4-point centred moving averages of sales data for the last few years. We have assumed that it is appropriate to have a single trend line for each sales channel across this period. However, it's possible that across the period there have been multiple trends in each channel, given that vegan protein bars are a relatively new product. For example, sales on websites are likely to increase each time that a company launches a range, and therefore representing this as a single trend line smooths out the effect.
- Suitability of the raw data. The trend and seasonal variations data is based on raw data for all types of vegan protein bars. As we know, the protein bar market covers three main market segments: post-workout bars, diet bars and general snack bars. It's not clear though whether the same will apply to the vegan market as well. Therefore, estimating our market share of the total market may be difficult.
- It ignores any cyclical or random factors which could affect sales in the future. These include general economic factors (such as a recession), one-off events (such as competitors launching new ranges) or changes in fashions (such as a reduction in the popularity of veganism as a result of a new health craze).

SECTION 2

Production and materials budgets

To construct the functional production and materials budgets we need to firstly determine the principal budget factor, which is the factor which sets the limit on the level of activity in the budget period. In our case, given that we will have more than enough production capacity to meet demand, the principal budget factor is sales.

Production budget

The first budget to be completed will be the production budget itself. This will show the number of boxes of each type of PB-V Protein Bar to be produced each month. This production level should be sufficient to ensure that sales demand is satisfied and to allow for planned changes in finished goods inventory levels. In assessing the appropriate level of inventory we will need to consider a number of factors, including the need to hold a buffer because of uncertainty in our forecast and any lead times that we may have promised our retailers.

For the first month of production in the new facility (April), opening inventory of PB-V Protein bars will be nil and therefore the production budget will be equal to sales demand (from the April sales budget) plus the required closing inventory, all expressed in units (where a unit is a box of 10 bars). In May and June, the production budgets will be equal to the sales volume budget for each month plus closing inventory planned for that month less opening inventory. We also will need to build in an allowance for production of PB-V Protein Bars which ultimately do not pass quality controls.

Material usage and purchases budgets

Having established the production budgets we can then draw up the material usage budget. This shows the quantity of each type of raw material that will be required to satisfy planned production for the month. Based on Table 1, which is for a box of caramel flavoured PB-V Protein Bars, we can see that each box produced will need 0.40 KG of cashew nut butter and 0.35 KG of vegan whey powder. If the production budget for this flavour is 2,000 boxes, the materials usage budget for vegan whey powder will be $2,000 \times 0.35 \text{ KG} = 700 \text{ KG}$. This will be repeated for all raw material inputs for all flavours of protein bars and then the material requirements for each input added together to establish the total required in the month for that input.

The material purchases budget is the final of the three budgets to be constructed. Material purchases are calculated as material usage for that raw material for the month plus the planned level of closing inventory for that material less the opening inventory. The appropriate level of inventory will depend on our assessment of factors such as lead times from suppliers and the availability of any bulk purchase discounts. We will need to make an allowance here for any raw material wastage that is anticipated in the production process, but also to reflect the perishability of the inputs such as the vegan whey powder. Given production is starting on 1 April, we will need a materials purchases budget for March, to ensure that there is sufficient inventory so that

production can start straight away. The materials purchases budget will be quantified in volumes and also cost terms.

PB-V Protein Powder production decision: in-house or outsource

What Chart 1 indicates

Chart 1 compares the total annual cost of producing PB-V Protein Powder in-house (the dotted line) with outsourcing production and buying in from an external supplier (the solid line). From the chart we can see that there is no benefit to outsourcing if annual demand is between 30,000 and 80,000 pouches. Above 80,000 pouches, outsourcing would be the cheaper option.

The dotted line indicates that our initial fixed costs for the in-house option would be around C\$200,000 for the year (as this is where the line crosses the y axis). The line also indicates that there is a step up in these fixed costs at 40,000 pouches, 80,000 pouches and 120,000 pouches. This may be the result of having to rent additional equipment and/or additional supervisors on the production line. It should be noted that the step up in fixed costs at 80,000 pouches is significantly more than the other steps. It would appear from the chart that the variable cost of production per pouch is constant over the range as the gradient of the line after each step in fixed costs appears to be constant. This significant step in fixed costs at 80,000 pouches is the key reason why outsourcing becomes cheaper.

The solid line indicates that there are no fixed costs if we outsource. The variable cost per pouch of buying in is initially higher than our variable cost of producing in-house as indicated by the steeper gradient of the line up until 60,000 pouches. After 60,000 pouches, the gradient of the line changes, indicating that there is a bulk purchase discount on pouches purchased above this level. From this point, the average variable cost per pouch is similar to the in-house option.

Appropriateness of using the expected value of the volume demand

If we were to base our decision on the expected value of the volume of annual demand, we would choose to outsource, because at 83,300 pouches this would have the lowest cost. This is a risk neutral approach to the decision. However, there are a number of issues associated with using this approach, as follows:

- The expected value of the volume of annual demand of 83,300 represents the long run average outcome based on a weighted average of the possible outcomes, each weighted by the probability of that outcome occurring. It does not represent any of the possible annual demand levels, which are all in multiples of 10,000 pouches. Because it is an average of the possible outcomes and not one of the outcomes, this approach is not appropriate for a one-off decision such as this, where we are deciding to outsource or produce in-house.
- As a risk neutral decision making approach, using expected value ignores the spread of possible outcomes. From Table 2 we can see that there is a 55% chance that the volume of demand will be between 30,000 and 80,000 pouches, which is where the in-house option would be cheaper.

Factors to consider

A key factor we need to consider before making the decision is the reliability of the supplier in terms of being able to deliver orders to us on time. This is a new range and it will be imperative that we have inventory available to satisfy both website orders and our retailers, otherwise we risk the launch not being successful. We will need to assess whether the suppliers' lead times' are volatile.

Another key factor is the quality of the Protein Powder. Our non-vegan Protein Powders are renowned for their non-chalky residue when the shake is made up, and it will be important that any external supplier can match this quality. We will need to ensure that the raw materials used by the supplier are approved and that quality control procedures at the supplier are as robust as ours. It might be considered that keeping control of production internally would be the better option.

Finally, another factor to consider will be the external supplier's ability to deliver a truly vegan product. We are setting up our own production facility for PB-V because we want to protect the vegan status of the range and eliminate the risk of cross-contamination with our normal whey protein powder ranges. It is not clear whether this supplier operates a vegan only facility or whether there would be a significant risk of cross-contamination. This will need to be established. Clearly, if cross-contamination occurs this could be very detrimental to our reputation and have a direct impact on the success of PB-V.

SECTION 3

Profit-volume chart

Chart 1

Chart 1 indicates that during the period we expect to incur C\$800,000 of fixed costs for the range, generate revenue of around C\$2,250,000 and a profit of around C\$250,000. The bowed line represents the profit generated assuming that we sell the products in order of c/s ratio (the order being Protein Bars: Website, Protein Powder: Website, Protein Powder: Retailers and finally Protein Bars: Retailers). This line indicates that the greatest profit will be generated by the Protein Bars.

Assuming we sell our PB-V products in the budgeted mix, the chart indicates that we will break-even (that is make enough contribution to cover fixed costs) at revenue of around C\$1,700,000. This gives us a margin of safety of around 24%, because total revenue in the period would need to fall from around C\$2,250,000 to the break-even point before a loss is made. Assuming that we sell our PB-V products in the order of c/s ratios, break-even is reached earlier (at revenue of nearly C\$1,500,000) and therefore the margin of safety is larger at around 33%.

How the chart and break-even position would be affected by changes to the budget

If there is an increase in the proportion of PB-V products sold through the website compared to retailers, this will increase the weighted average c/s ratio from its current position of 0.47. This is because sales through the website have higher c/s ratios than sales of the same products to retailers. For the straight line this will have the effect of making the line steeper, which will in turn reduce the break-even point and increase margin of safety. It will also result in an absolute increase to the revenue and profit shown on the chart. On the bowed line, the order of products won't change (because individual c/s margins won't change) but the length of the lines will change (the length of the lines relating to website sales will increase and those relating to retailer sales will decline). This will also have the effect of reducing the break-even point and increasing margin of safety.

An increase in the cost per kilogram of vegan whey powder will affect the c/s margins for Protein Bars, but not those for Protein Powder. For Protein Bars, the c/s margins will fall, which will also lead to a fall in the weighted average c/s margin. This will result in the slopes on those lines affected on the chart becoming shallower, meaning that a greater volume will need to be sold to reach the break-even point. In this instance the margin of safety would fall.

Impact of property related expenditure items on the financial statements

Initially recorded:

The new property can be recognised as part of property, plant and equipment (PPE) within non-current assets in our statement of financial position because it is probable that we will obtain future economic benefits from its use (as a production facility) and we can reliably measure its cost (because this has already been incurred). In addition, the property is a tangible asset which we will use for more than 12 months.

IAS 16: Property, plant and equipment, states that expenditure on an asset can be capitalised if it is part of its purchase price (which includes non-refundable purchase taxes) or is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating as management intends.

Therefore, the amount that we can initially capitalise as the cost of the property asset will include the C\$400,000 purchase price and C\$40,000 of property tax (on the assumption that this is non-refundable). It will also include C\$28,500 for building adaptations and C\$82,000 for the new roof as these expenditures are necessary and therefore directly attributable to being able to use the property as our PB-V Production Facility. The Health & Safety inspection costs of C\$2,400, can also be included as part of the initial cost of the property, because this is a legal requirement.

The expenditure on the property maintenance contract of C\$25,000 cannot be capitalised as part of the asset cost. This expenditure is for on-going maintenance of the property and therefore is not incurred in order to get the property ready for its intended use. Instead the expenditure should be expensed to profit or loss to match with the period of cover.

Subsequently measured:

Having established the initial measurement value of the property, we then need to consider how it will be subsequently measured. In accordance with IAS 16, all items of PPE (except for land) are depreciated from the date from which that item is available for use as intended by management. In addition, the standard states each part of an item of property, plant and equipment should be depreciated separately, although parts of an asset can be grouped together if they have the same useful life, and the same depreciation method is to be used. Depreciation is the systematic allocation of an asset's depreciable amount (cost less any residual value) over its useful life. The depreciation method chosen should reflect the pattern of consumption of the benefits expected from the asset.

This has the following implications for our new property:

- We will need to establish how much of the property cost of C\$400,000 relates to land and how much to the building, as only the building cost will be depreciated over its useful life of 40 years.

- Our property asset has three different parts that will need to be depreciated separately because they have different useful lives. The first part is the building itself (which will include the purchase cost, property tax and building adaption costs) which will be depreciated over 40 years. The second part will be the expenditure of C\$82,000 on the roof which will be depreciated over its useful life of 20 years. The third and final part will be the Health & Safety inspection costs, which given that there is a legal requirement for this every 5 years, should be depreciated over a 5 year useful life.
- Depreciation will start from the date on which the property asset is available for use as intended by management. Given that the inspection will be completed at the end of March, it is likely that 1 April will be the effective date from which depreciation will need to be calculated. Therefore, 3 months worth of depreciation will be expensed to profit or loss for the year ending 30 June 2024.
- In terms of depreciation method, given that the benefits from the property are likely to be consumed evenly, the straight-line method of depreciation is most appropriate. Therefore, for each part of the asset, the depreciation charge for the year ending 30 June 2024 will be calculated as cost less any residual value divided by the appropriate useful life multiplied by 3/12. These depreciation charges will reduce the carrying amount of the asset in the statement of financial position and reduce profit for the year.

With respect to subsequent measurement of the property maintenance contract cost, given that the period of cover runs from 1 March 2024, for a year, this means that $C\$25,000 \times 4/12$ will be charged to profit for the year ending 30 June 2024. A prepayment of the difference between this and the amount paid will be recognised as part of current assets in the statement of financial position at 30 June 2024.

Lease liability for the leased equipment

The lease liability will be initially recorded at the present value of the lease payments that are unpaid at the start of the lease. This will therefore exclude the first lease payment of C\$20,000 identified in Table 1. Given that we intend to extend the lease after the initial period, the lease term will be initial period and the extended period, so 6 years.

Therefore, the total lease liability will initially be measured as the present value of the two payments of C\$12,000 due in 2025 and 2026 and the three payments of C\$5,000 in each of the 3 years after that. The discount rate used will be the interest rate implicit in the lease of 9.2%.

In accordance with IFRS 16: Leases, the subsequent measurement of the lease liability involves adding the finance charge and deducting the payments as they arise. The total lease liability at 30 June 2024 will be calculated as the initial value recorded plus the finance charge for the 4 months since the lease started (calculated as the initial value of the lease $\times 9.2\% \times 4/12$). This finance charge will reduce profit for the

year. The total lease liability will also need to be split between current liabilities and non-current liabilities.

SECTION 4

Fixed production overhead variances for the PB-V Production Facility

Expenditure variance

The expenditure variance is calculated as the difference between the amount of fixed production overhead we expected to incur (which is the amount budgeted of C\$84,000) and the amount of fixed production overhead that we did incur (C\$86,700). This variance is adverse for May because we spent more than we had budgeted to spend.

A reason for this is that we purchased additional weighing equipment at the start of the month, which will have increased the depreciation charge included within fixed production overhead. Another reason is that we recruited an additional supervisor, which had not been budgeted for, and their salary will be included as part of fixed production overhead. In addition, given that this is a new facility, it may well be that our initial estimates are not completely accurate.

Efficiency variance

The efficiency variance is calculated as the difference between the direct labour hours that should have been worked for the actual level of production (2,800 hours) and the number of hours actually worked (2,920 hours) multiplied by the fixed production overhead absorption rate. For May, this variance is adverse because direct workers took more hours than they should have for actual production.

There are two main reasons for this. Firstly, we have more inexperienced workers than we had originally anticipated (resulting in the additional supervisor). Given that May is only the second month of production, it could be that these workers are still learning and do not operate as quickly as more experienced workers. Secondly, the mixing equipment has been slowed down, which means that direct workers will also be slowed down.

Capacity variance

The capacity variance is calculated as the difference between the budgeted hours of work (3,000 hours) and actual hours worked (2,920 hours) multiplied by the fixed production overhead absorption rate. For May this variance is adverse because actual direct labour hours worked were lower than we had originally budgeted.

The reason for this is several of our direct workers were absent due to influenza at the start of the month and as a result less hours were worked. This also fits with the production being lower than budgeted (28,000 compared to 30,000 boxes).

Review of KPIs for website sales

The conversion rate is a measure of the percentage of people that visit our website and place an order. If the percentage is below target, this could indicate that the information on our website about PB-V is not clear enough or enticing enough for people to place an order. In April the conversion rate was higher than target, which is probably due to the initial interest generated from the social media campaign. People learnt what they needed to from the social media posts and visited the website with the intention of ordering. It is slightly concerning that in May the rate is lower than target, this could be due to the fact that there was no social media campaign.

The shopping cart abandonment rate is a measure of how easy it is to purchase from the website and a relatively high rate could indicate that there is friction in the process. It is encouraging that in both April and May the rate is lower than target, which indicates that customers are not finding friction in the process. Order volumes in both months though are lower than expected and therefore, the capacity of the website and payment processes haven't really been tested yet.

The number of orders received and order value are best considered together. Whilst Table 2 shows that we have received fewer orders than target in each month, the average value of those orders is higher than target. It would be useful to calculate sales revenue in each month and compare this to that budgeted. The lower than targeted number of orders is a little concerning, especially given that we might have expected significant orders in the first month due to the social media campaign. Maybe it will take longer than expected to build the PB-V brand. The higher average order value is encouraging and if this continues into the future, will increase PB-V revenue above expectation, assuming that the number of orders can be boosted.

Raw material inventory and payables management

We can reduce the chance of a cash deficit, and therefore the need to use our overdraft, by taking a more aggressive approach to the management of our raw material inventory and payables. This involves reducing investment in raw material inventory to as low as possible and getting the most finance that we can from our payables.

Raw material inventory

For many of our raw materials (including nut butters and other protein bar ingredients) we order to take advantage of bulk purchase discounts. Whilst this reduces the purchase cost, it does result in a relatively high level of raw material inventory. We could look to reduce this, and therefore free up cash, by using just-in-time (JIT) purchasing for our raw materials. This would mean that we would only order raw materials as we need them in production. This requires good relationships with suppliers, which we already have.

There are a number of potential issues though with us using JIT purchasing. We would need to have accurate production schedules, as well as suppliers that can supply us

on demand. This may not be possible for some of our suppliers, for example, our nut butter suppliers which are mostly based in South America and Asia. We would also lose the benefit of the bulk purchase discounts and therefore we would need to balance the improved cash flow against the reduction in profit.

Payables

Currently we have credit terms with our suppliers that range from 30 to 75 days. To generate a one-off boost to our cash flow, we could look to negotiate extended credit terms with some of our suppliers. We have good relationships with suppliers and therefore there may be scope to do this. We could also start delaying payments to our suppliers, although if this goes much beyond agreed credit terms, this could damage the good relationships that we have with them. Suppliers may reduce the service they give us, restrict supplies, increase prices to us in future or even stop our supplies altogether.



OPERATIONAL CASE STUDY

NOVEMBER 2023 & FEBRUARY 2024

EXAM ANSWERS

Variant 5

These answers have been provided by CIMA® for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

Activity cost hierarchy

Unit-level activities

Unit-level activities are those activities that occur and generate cost each time that an individual unit of a product is made, or in our case a single protein bar or bottle of PB-Ready is made. Therefore, these are activities where the consumption of resource is strongly linked to the level of output. In our current absorption costing approach, the costs involved with these types of activity would typically be classed as variable overhead.

An example of a unit-level overhead cost associated with the mixing and bottling process for PB-Ready is the energy cost for powering the bottling line. Each flavour will be produced in different batch sizes and because only one size of bottle will be used, a large batch size will require more time (and therefore use more energy) than a small batch size. Therefore energy costs will vary in proportion to the number of bottles filled on the bottling line.

Batch-level activities

Batch-level activities are those activities where resources are consumed in proportion to the number of batches produced rather than in proportion to the number of units produced. Therefore, the cost of batch-level activities will vary with the number of batches produced and will be the same per batch regardless of how many units are in the batch.

Examples of batch-level overhead costs associated with the mixing and bottling process for PB-Ready will include the costs of cleaning the mixing machine and the overhead costs associated with weighing out a batch of protein powder. Machine cleaning is an activity that happens each time a batch is mixed. Weighing protein powder is an activity that takes the same time for each batch, regardless of the batch size, and so will also be batch-level.

Product-level facilities

Product-level activities are those activities where resources are consumed to support individual products (rather than units of product). These activities are undertaken irrespective of the number of units of the product that will be made, or the number of batches that are produced. The cost of these activities therefore cannot be directly linked to the number of units of production or the number of batches.

Examples of product-level overhead costs associated with the mixing and bottling process for PB-Ready include the costs of the production supervisors and the depreciation charges for the mixing machine and bottling line. Both the supervisors and equipment will be specific to PB-Ready production and therefore relate to this product group specifically, rather than PB Protein Powder or PB Protein Bars.

Facility-level activities

Facility-level activities are those activities where resources are consumed to support or sustain the business but cannot be traced to individual units, batches or products. These activities are performed to support or sustain the Production Facility as a whole and are common to all products. These costs will not be specific to the mixing and bottling process.

Examples of facility-level overhead costs associated with the Production Facility include the salary of Ben Morales, Production Director, insurance costs for the facility and the power costs required to heat and light the building. All of these costs relate to the Facility as a whole.

Existing weighing equipment decision

The decision

The decision between Option A (keep the equipment for 12 months and then sell) or Option B (sell the equipment now and rent equipment for 12 months) needs to be evaluated from a financial perspective using relevant costing principles. This means that we need to identify the future cash flows that are incremental to each option and determine the net relevant cost or benefit for each. We will choose the option with the lowest net cost or highest net benefit. Note that incremental cash flows are those that only arise as a result of either Option A or Option B happening.

For Option A, the relevant net benefit will be the proceeds of selling the equipment in 12 months time of C\$26,000 less the relevant costs (C\$650 selling costs and C\$1,800 for maintenance and recalibration). These are all relevant because each of these are cash flows which will only arise if Option A occurs. The depreciation of C\$8,400 is not relevant because it is an accounting adjustment and not a cash flow. The insurance cost of C\$750 can be ignored because this is common for both options.

For Option B, the relevant net benefit will be the proceeds of selling the equipment now of C\$39,500 less the relevant costs (C\$800 selling costs, C\$20,000 rental payment) plus the labour cost savings of C\$3,500. These are all relevant because each of these are cash flows which will only arise if Option B occurs. The labour cost savings are a benefit of choosing Option B and therefore will increase the net benefit. The insurance cost of C\$750 can be ignored because this is common for both options.

Other factors to consider

We need to consider whether the rented weighting equipment will be fit for purpose. The raw ingredients that make up our Protein Powder need to be weighed with accuracy, otherwise the resulting powder won't have the consistency we require when made up as a shake. We need to assess whether the equipment supplier specialises in this type of equipment.

We also need to consider the accuracy of the information in Schedule 2. Sale proceeds now are likely to be reasonably accurate if there is a good second hand market for this type of equipment. However sales proceeds in a year's time will be more uncertain, as at this stage we do not know how strong the second hand market will be nor indeed the condition of the equipment when we want to sell it, given there will be a further 12 months of use.

Impact on calculation of corporate income tax payable

Our corporate income tax payable for the year ending 30 June 2024 will be calculated as our taxable profit earned in the year multiplied by the corporate income tax rate of 25%. Our taxable profit will exclude the impact of accounting depreciation but include an allowance for tax depreciation. Normally the tax depreciation allowances that we claim are 25% on a reducing balance basis. However, given the recent announcement by the Ceeland government, we are able to claim special first year allowances of 100%.

For the year ending 30 June 2024, given that the asset will be available for use from 1 January 2024, the new mixing equipment will be depreciated in our financial statements for 6 months. The accounting depreciation charge will therefore be $C\$82,000 / 10 \times 6/12$. Normally the tax depreciation allowance would be $C\$82,000 \times 25\%$, which given this is a larger value would mean that taxable profit would be lower than accounting profit.

However, with the special first year allowance, the deduction to arrive at taxable profit is significantly higher at the full C\$82,000 (100% of the purchase cost, rather than just

25%). This means that for the year ending 30 June 2024, taxable profit will be considerably lower than accounting profit. Given that tax payable is 25% of taxable profit, this special tax allowance means that the amount of tax payable will be lower compared to normal tax depreciation allowances.

SECTION 2

Promotional budget

Decision packages

For this budget, our objective is to promote our new PB-Ready range so that we build awareness and interest in our ready-to-go protein shakes to then generate sales and profit. Decision packages are an analysis of the costs and benefits of different ways of achieving this objective.

Decision packages can be mutually exclusive (different ways of achieving the same or very similar outcomes) or incremental (different levels of promotional activity to achieve the objective but each with different outcomes). An example of mutually exclusive decision packages could be to conduct promotional activities in-house or to outsource. As all previous campaigns have been executed by Penny Sanchez, considering the use of an external marketing agency is not being considered here in respect of mutually exclusive packages.

In terms of incremental packages, we will start with a base package of a basic campaign to promote the PB-Ready range. For example, we could conduct a targeted email and text campaign to existing website customers of our PB Protein Powder, which would be in line with Hema's suggestion. This would generate interest from our existing customers, but won't reach a wider audience.

Incremental packages can then be developed that build on this base package and add different elements to the campaign. Examples of possible incremental packages include advertising in gym magazines, social media campaigns on different platforms and possibly the use of one or more influencers. Each of these will potentially target a different segment of the market and therefore have different potential outcomes in terms of revenue generation.

Each decision package will need to be fully costed with its associated benefits identified and quantified if possible. The benefits here will be enhanced brand awareness and increased future sales leading to an increase in profit.

Challenges

One challenge of creating these decision packages will be quantifying the benefits. Whilst we might be able to forecast a general level of sales, it will be difficult to quantify the effect of specific decision packages on future sales and therefore profit. Some of the activities in some of the packages may affect the same markets, but to different

degrees, and this will be hard to judge. Brand awareness is intangible, and as such any measurement of this will be very subjective.

Another challenge will be deciding on the level of detail to go to with the decision packages. For example, we could end up with a large number of incremental decision packages covering different gym magazines, different influencers or different types of social media campaign. It will be important to balance the cost of the time involved in the process with the benefits of doing it in terms of identifying all of the possible options available. We might want to set a limit on the number of incremental packages to be justified.

EOQ for bottle procurement

EOQ variables and what the EOQ means

The EOQ of 150,000 is the number of bottles that we should order each time that we place an order with our supplier. It is the economic order quantity because at this level the total of the costs of ordering and holding inventory are minimised.

The variables used to determine the EOQ are:

- The annual demand for bottles, which will depend on how many units of PB-Ready we expect to sell in a year
- The cost of placing an order. This will include delivery costs charged by the supplier and internal administrative costs associated with the time taken placing an order and any ancillary costs.
- The cost of holding one bottle in inventory for one year. Holding costs will include warehousing costs (energy costs, insurance, staffing) and also the finance cost associated with the investment in working capital.

Dealing with lead time and bulk discounts

Our supplier has promised a lead time of 1 week. Therefore, we will need to set a re-order point at a level of bottle inventory that equates to the amount we expect to use within this lead time of 1 week. This will be annual demand divided by 52 weeks. Each time inventory hits this re-order level we should place an order with the supplier. Whilst the supplier has promised 1 week, we need to consider how reliable this might be. If there is some uncertainty, we can add a buffer level of inventory to the re-order level. This will increase holding costs but will help to protect us from running out of bottles if the supplier's lead time is more than 1 week.

To determine whether the bulk discount should be used we need to compare the total annual costs (the costs of purchasing the inventory, total holding costs and total ordering costs) based on alternative policies of ordering at the EOQ of 150,000 bottles at a time and ordering 250,000 bottles at a time. At an order quantity of 250,000 bottles, total purchase cost will be lower compared to the EOQ policy because of the 2% discount. Ordering costs will also be lower because of fewer orders. However,

holding costs will be higher because of a higher level of inventory. If the total of the different costs at an order level of 250,000 units is lower than the total at EOQ, this would indicate that an ordering policy based on accepting the bulk purchase discount is advisable.

PB-Ready finished goods inventory valuation in the financial statements

In accordance with IAS 2: Inventories, inventory should be valued in the financial statements at the lower of cost and net realisable value. Cost should include purchase cost, costs of conversion and any other costs necessary to bring the inventory to its present location and condition. Net realisable value is the selling price of the inventory in the normal course of business less estimated costs of completion and any costs necessary for the sale to happen.

With respect to PB-Ready inventory, there will be two types: inventory for sale to customers (where the shelf life of the bottles is more than 2 weeks) and inventory for sale to farmers for animal feed (where the shelf life is less than 2 weeks). The cost of the inventory will be the same regardless of the type of inventory. IAS 2 allows the use of standard costs based on normal levels of production, as long as these standards are regularly reviewed and revised to reflect latest conditions if necessary.

The cost of PB-Ready finished goods inventory will therefore include the following:

- Costs of purchase. Per pack of 6 bottles this is the C\$2.72 cost of ingredients and packaging which are the raw material inputs.
- Costs of conversion. This will include any costs directly related to production and a systematic allocation of production overheads. Therefore, per pack, we will include the direct labour cost of C\$1.20, plus also the variable and fixed production overhead costs of C\$0.90 and C\$3.60 respectively. With respect to the fixed production overheads IAS 2 states that this allocation should be based on normal production capacity and therefore we will need to ensure that this is the case.

For the inventory that we will be selling to our regular customers, the cost of C\$8.42 per pack will be lower than net realisable value (which will be the selling price of C\$14.00 less selling costs of C\$0.90 per pack).

For the inventory that we will be selling to farmers, the cost of C\$8.42 per pack will be higher than net realisable value (which will be the selling price of C\$5.00 less selling costs of C\$0.80 per pack). Therefore, as soon as inventory is below a 2 week shelf life, its value will need to be adjusted down to net realisable value. The difference between this value and cost will be written off to profit or loss and reduce profit.

SECTION 3

The information in Schedule 1

Schedule 1 shows profit to be earned from PB-Ready in the first 6 months under different additional promotional campaign options.

- Option A is to decrease budgeted selling price by 5%. The information indicates that there is an 80% chance that this option will increase profit above that currently budgeted.
- Option B is to undertake an additional C\$100,000 advertising campaign which will increase the level of fixed costs. The chances of a greater impact on volumes sold appears to be slightly better than Option A, and with this option there is a 90% chance that it will increase profit above that currently budgeted.
- Option C is to undertake a larger additional advertising campaign compared to Option B, but to also increase selling price by 5%. The overall impact of this is expected to increase sales volumes, although with this option the probabilities of higher increases are reduced. With this option there is only a 30% chance that profit will be higher than the original budget.

The expected value for each option is calculated as the total of the weighted average of all possible outcomes, each weighted by the probability of that outcome occurring. This is an estimate of the average outcome on the assumption that this option is repeated many times. Option B has the highest expected value.

Standard deviation is a measure of the possible variations of the outcomes from the expected value and is therefore a measure of volatility, an indication of risk. The coefficient of variation is standard deviation divided by expected value for each option. This gives the relative size of the risk when compared to the expected return and enables us to compare the risk and return associated with each option. Option A has the lowest coefficient of variation and is therefore the least risky of the three options. It should be noted though that the coefficient of variation measures do not differ that widely across the options as the spread of possible outcomes is not that different.

Decision making approaches

Risk neutral

Using a risk neutral approach, we would select the option with the highest expected value. This is Option B, which is to undertake an additional advertising campaign for C\$100,000.

One limitation of using this approach is that it assumes that this decision will be repeated many times, which means that the weighted average outcome is representative of the average outcome for all of these decisions over time. However, this is a one-off decision in respect of the initial launch of PB-Ready and as such will

only have one possible outcome. The actual outcome could be just under C\$40,000 lower than the current budget, and this is ignored with this approach.

Risk seeking

Using a risk seeking approach we would select the option which gives us the best result irrespective of the probability of it happening. We would therefore choose Option C, which is to undertake a C\$200,000 additional advertising campaign and to also increase selling prices by 5%, because this gives the best budgeted profit of C\$749,050.

One limitation of using this approach is that it ignores the fact that there is only a 10% chance of this happening and that if this option is chosen there is a 70% chance of making a profit of C\$614,350, which is lower than the originally budgeted profit of C\$642,000.

Risk averse

Using a risk averse approach, we would select the option which given the same level of return, has the lowest level of risk. Here we would choose the option that has the lowest coefficient of variation because this represents the amount of risk for each C\$1 of profit. Here, Option A, decreasing selling prices by 5% has the lowest coefficient of variation of 0.047.

One limitation of this approach is that it uses the coefficient of variation, the reliability of which is dependent on the accuracy of the data that it is calculated from. Different estimates for probabilities would change the expected values and therefore the coefficients of variation. This is especially relevant here as there the coefficients of variation are not that different.

Beyond budgeting

The features of a beyond budgeting approach

There are three main features of beyond budgeting: the use of rolling budgets, participation in the budgeting process and the use of a wide range of performance measures. Considering each of these in turn:

- Currently we set our budget annually. A rolling budget is a budget prepared on a monthly or quarterly basis, where, as a period expires, a new period is added onto the end. This means that the budget will always look 12 months ahead and will be regularly updated to reflect the latest conditions and trading environment. Such an approach allows us to review and revise standards to reflect, for example, latest prices for whey powder and any steps required in fixed costs if sales demand for PB-Ready is even higher than already being considered.

- Currently we use a top down approach to budgeting where our annual budget is set by senior management with little input from other operational managers. If we adopted a beyond budgeting approach this would change as the people within the business with the detailed knowledge would be involved in creating the rolling budgets. Therefore, the production managers for each area of production will be involved in determining the standards and budgets that they will be monitored against.
- With a beyond budgeting approach, comparison of actual performance against the rolling budget (prepared by the managers with the detailed knowledge), is just one small part of monitoring performance. With this approach the focus is on a wide range of performance measures or key performance indicators (KPIs), including measures that focus on what our competitors do and set targets that drive competitiveness. This is important so that we can benchmark ourselves against competitors such as Megabuilda for protein powder and Shredders for protein bars.

Benefits to our business

The use of rolling budgets, means that our budgets will be more up to date and reflect current operating conditions. We are launching a lot of new products this year (PB-Ready, Vegan Protein Bars and Protein Biscuits), and the success of each of these launches is uncertain. A rolling budget will allow us to amend periods as we go through the year, once we have more of an idea of how a new range is performing.

Because of the rolling budget and the use of a wide range of performance measures, there is a greater focus on looking ahead and forecasting what might happen rather than looking backward at what has happened. Benchmarking ourselves against our competitors will give us greater insight into what they are doing and help us to foresee where we can get ahead. For example, we might be able to target new markets such as the diet market or gain a better understanding of the flavours that are most popular or successful promotional strategies that are being adopted.

Involving all parts of the business in setting budgets and performance targets, potentially means that those budgets and targets are more realistic. In addition, participation in the process should motivate our managers by giving them clear responsibilities and targets that they will have been involved in setting. This is particularly important if we bring in new managers with experience in, for example, the protein biscuit or vegan market.

SECTION 4

Production variances

Direct labour variances

The adverse direct labour rate variance means that on average we paid our direct workers more per hour than our standard rate. Given the significantly higher level of demand compared to our initial estimates, we had to expand our direct workforce relatively quickly, and at short notice recruited additional workers during the month from a local pasta sauce bottling plant. Therefore a possible reason for this adverse variance is that we had to offer the new workers a higher rate of pay than our standard rate. We may also have needed to increase the wage rates to our existing workers for comparability.

The adverse direct labour idle time variance means that we paid our direct workers for hours when they were not being productive. We do not budget for idle time, and therefore this variance will always be adverse. A possible reason for worker idle time is that the new workers had to be trained on PB processes and procedures prior to starting work. This will have resulted in unproductive time that had to be paid for. In addition, the installation of the new mixing machine may have led to some workers unable to operate, which will also have contributed to idle time.

The favourable labour efficiency variance means that our direct workers took less productive time than we expected them to, based on our standard, to complete actual production. This means that our workers were more efficient than planned, when they were working productively. A possible reason for this is that because the newly recruited workers previously worked at a bottling plant, they are more experienced than the workers initially recruited for mixing and bottling and therefore work at a faster rate. In addition, the bottling line has been speeded up, which may have also speeded up the process for direct workers. Another possible reason could be that our initial standard was incorrect given that this is a new process. Alternatively, the pressure of having to produce significantly more than planned speeded up the rate of work.

Variable production overhead variances

The adverse variable production overhead expenditure variance means that we spent more on variable production overhead than we should have for the machine hours worked. There are two main reasons for this. Firstly, to allow for increased production capacity, overtime was worked and the overtime premium will have increased variable overhead. Secondly, production machinery wasn't connected to our own solar panels until the end of April, which meant that our power costs were more expensive than we had expected.

The favourable variable production overhead efficiency variance means that actual production took less machine hours than standard. As mentioned above under the direct labour efficiency variance, our bottling line was speeded up in April in order to allow more units of PB-Ready to be produced. Our additional new mixing machine

also works at a faster rate than standard, meaning that each pack of PB-Ready now takes less machine time to produce than we originally thought.

Fixed production overhead variances

The adverse fixed production expenditure variance means that in April more was spent than we had budgeted to spend. Fixed overhead includes a wide range of expenditure but given that these are fixed costs we would usually expect this to be consistent for a given level of activity. One reason for this variance is the additional fixed costs associated with the new mixing machine, that we had not budgeted for. Another reason is the additional salary of the new supervisor.

The favourable fixed production efficiency variance measures the efficiency of the absorption base, which is machine hours, in the same way that the variable production overhead efficiency variance does. The favourable variance means that we used less machine hours to produce actual production than we should have based on standard. The reasons are the same as for the efficiency variance as explained above.

The favourable fixed production capacity variance means that more machine hours were available than budgeted, reflecting an increase in the capacity of the machinery. This increase in capacity arises from the additional mixing machine installed as well as the fact that machinery probably ran for longer periods due to significant overtime being worked.

KPIs for sustainability of the PB-Ready production process

Energy consumption per unit of production

This could be measured as the number of kilowatt hours (kWh) consumed in a week (or even possibly a day) divided by total production of PB-Ready for that week (or day). Energy use is a key driver of emissions that are harmful to the environment, and therefore, to be sustainable we need to make our production processes as energy efficient as possible and be striving for continuous improvement. Measuring and monitoring overall consumption of the energy used in the process and aiming to reduce this, will focus workers, supervisors and managers involved in the mixing and bottling process to continuously improve.

Self-generated renewable energy consumption as a proportion of total energy consumed

This could be measured as the number of kWh used in a week or day from self-generated renewable power sources (our solar panels) divided by total number of kWh consumed, shown as a percentage. Generating and using renewable power from our own solar panels, is better for the environment than using power from non-sustainable sources such as coal. We know that our self-generated power comes from a sustainable source (the sun), whilst power purchased from the national grid, will be from a range of sources. The greater the proportion of self-generated power we use in production the better for sustainability.

Recycling/repurposing rate for wasted production

This could be measured as weight of wasted production recycled or repurposed divided by total weight of wasted production, shown as a percentage. We could have separate measures for raw materials, work in progress and finished goods. An important aspect of sustainability is to limit waste and that any waste is eliminated in a sustainable manner. Therefore, we should be aiming to recycle as much waste as possible. For example, bottles that are damaged on the bottling line should ideally be sent back to the supplier for recycling. Any of the shake mixture that fails quality standards should, where possible, be sold off (or even given) to farmers for animal feed rather than poured away. Waste that is not recycled or repurposed will either go into landfill or will work its way into the sewage system, thereby polluting the environment.



OPERATIONAL CASE STUDY

NOVEMBER 2023 & FEBRUARY 2024

EXAM ANSWERS

Variant 6

These answers have been provided by CIMA® for information purposes only. The answers created are indicative of a response that could be given by a good candidate. They are not to be considered exhaustive, and other appropriate relevant responses would receive credit.

CIMA will not accept challenges to these answers on the basis of academic judgement.

SECTION 1

Costing of the PBKeto app

How to determine the cost per subscriber of the PBKeto app

The cost per subscriber of the PBKeto app will be any direct costs of the app per subscriber plus an appropriate share of the direct costs associated with this specific app plus an appropriate share of any indirect costs associated with the app. The base for determining an appropriate share will be the number of subscribers.

Based on the information available, there is only one direct cost per subscriber, which is the C\$0.75 royalty fee payable to Tia Mitchel for each subscriber to the app. There are though a number of other direct costs associated with this specific app. These include the development fees of C\$650,000 and C\$150,000 payable to the app developer and Tia Mitchel respectively. They also include the future fees payable to PremiumApps for upgrades to the app as and when required and also any functionality costs which relate only to the PBKeto app.

The indirect costs of the app are those costs that cannot be associated with the PBKeto app specifically. These will include the costs of upgrading and maintaining our servers, because our servers support all of our IT applications and systems and not just this app. The cost of our IT staff administering the app will also be an indirect cost, if staff work across all aspects of the business. If we recruit IT staff specifically for the app, the cost of these staff would be a direct cost, as it would wholly relate to the PBKeto app.

To summarise, the cost per subscriber of the app will be:

- The royalty fee of C\$0.75; plus
- the total of the other direct costs associated with the app over its lifetime divided by the number of subscribers over its lifetime; plus
- an appropriate share of the indirect costs over the app's lifetime divided by the number of subscribers over the app's lifetime.

This will involve determining the number of app subscribers over the lifetime of the app, estimating what the future costs will be, and determining an appropriate share of shared costs.

The difficulties of determining a cost per unit of the app

It will be difficult to determine at this stage how many subscribers will download the app over its entire lifetime. This is for two reasons: firstly, we don't know at this stage how long the app will be available and secondly, we don't know how many people will become subscribers. The keto diet is on trend currently, but is likely to be superseded by the next diet craze at some point, which could make the app redundant. Also, new technologies might emerge to replace apps, and at this stage it is difficult to predict when this might happen.

Many of the direct and indirect costs associated with the app will occur in the future, for example, administration and upgrade costs. Given that these costs will be spread over a number of periods, it will be difficult to determine an accurate estimate of what these will be at this stage. For example, we don't know at this stage, how many bugs the app developers will need to fix or indeed for how many years the app will need to be administered on our servers.

For the indirect costs that relate to more than just the PBKeto app, it will be difficult to determine what an appropriate share might be. We will need to find a meaningful way to apportion these costs. For IT staff costs we could use a time measure based on hours spent on administering the app compared to total hours spent in the department. This would be reasonably objective and fair. However determining an appropriate share of costs associated with the servers, will be much harder.

Promotional campaign decision

Table 1 and risk neutral approach to decision making

Table 1 shows us the possible profit for the first 6-months of the subscription app for each of the promotional options, under four different assumptions. The first assumption is the best-case situation where both the number of subscribers and the level of sales is at the highest level of Penny's estimates. The fourth assumption is the worst-case position where both the number of subscribers and the level of sales are at the lowest level of Penny's estimates. The middle two assumptions are combinations of highest and lowest number of subscribers and sales.

Table 1 shows that, based on Penny's estimates, there is a 60% chance of the highest number of subscribers and a 40% chance of the lowest number. The table also shows that Penny predicts that there will be only a 30% chance of the highest level of sales and a 70% chance of the lowest. The joint probability column represents the probability for each of the four assumptions. For example, the joint probability of 0.28 for the lowest number of subscribers and the lowest level of sales is found by multiplying each of the separate probabilities.

The expected value of each of Options 1, 2 and 3 is the weighted average outcome (which is profit after all campaign costs), where the weighting is based on the joint probabilities associated with each of the four assumptions. Using a risk neutral approach to decision making, we will select the option which gives us the best expected value. As the expected value here is profit, we will choose the highest value which is C\$481,825 for Option 1. This is the campaign which would involve Tia Mitchel, who would charge us a fixed fee rather than a percentage of revenue.

Issues to be considered

One issue to be considered before making a final decision is whether taking a risk neutral approach to the decision is appropriate. Such an approach means that we ignore the risk associated with the decision and results in choosing Option 1, which has the highest expected value, but also has a 28% possibility of making a loss. If the SMT is concerned about risk, it may want to consider a risk averse approach, in which case we would choose the option which has the lowest level of risk per C\$1 of expected value. This is likely to be Option 3 given that the spread of possible outcomes is the smallest for this option, although we would need to calculate the coefficient of variation to confirm this.

Another issue is that expected value is the weighted average outcome based on the idea that the decision is taken multiple times, such that the expected value represents the average outcome over time. We are considering a 6-month promotional campaign, for the launch of the PBKeto app and as such this is likely to be a one-off. Therefore, basing the decision solely on expected value is questionable.

A further issue is that we are basing this decision on probabilities which have been estimated for the best-case and worst-case positions for both number of subscribers and level of sales. This is over-simplifying the number of possible outcomes as both the number of subscribers and the level of sales will be somewhere between these extremes. Ultimately, these probabilities are only a best guess for a situation that we have no prior experience of.

SECTION 2

Forecast of additional sales

Sources of big data

The sources of big data that will assist with creating a forecast of the additional sales from the keto diet market includes the following:

Source	Explanation
Market research reports	The external agency that it has been suggested we use, is an expert in market research. Therefore it will have access to market research reports that already exist in respect of the keto diet market and protein products such as ours. This would include data about the likely size of the market and potential growth rate.
Government and industry reports	The web will include a vast array of government and industry reports and statistics that might be relevant. For example, statistics about consumer spending, national demographics and levels of disposable income will be available from governmental sources. There will also be industry reports and statistics linked to health, welfare and eating habits.
Keto diet websites	The websites of keto diet experts or keto diet membership schemes are also potential sources. This may include data concerning membership numbers or numbers of recipes including protein powder or protein bars. All of this data could be used to help determine forecast demand in this market.
Social media	Social media could give us a good insight into recent trends and the size of the market. The agency could review the social media accounts of keto diet experts and capture data on the number of followers, comments and likes. Posts could be reviewed on such accounts for references to recipes using protein powder, or references to specific flavours that could prove to be popular. The agency could also review the social media of any influencers that follow a keto diet.

Potential problems that the agency will need to overcome

There are four characteristics of big data that must be overcome for it to be useful for any purpose, including for forecasting. These characteristics are known as the 4 Vs: volume, variety, velocity and veracity.

The volume of data available is vast and the agency will need to be able to sift out the data which is relevant for creating a forecast of sales of our products in this market. The agency will need to have a clear idea of the specific market we are targeting, that being keto diet followers, and ensure that any data used is linked to this market in isolation.

In addition, there is huge variety in the format and consistency of data. For example, there are lots of different social media platforms and amongst these significant differences in terms of the way information is shown in posts. The agency will need to be able to organise and interpret the data so that it can be used to create a forecast.

Velocity refers to the speed at which data is generated and superseded. Keto diets are on trend currently and are growing in popularity, and as such therefore, data will constantly be changing. The agency will need to ensure that it is only using the most up to date information, so that the forecast is relevant to the current market situation.

Finally, varacity is about the reliability of the data. It is important that any data used is from a credible source, accurate and truly representative. In particular, the agency will need to be mindful that influencer posts for example, are likely to contain bias and that keto diet subscription schemes may also present a biased view on their website.

Given that the agency is an expert in this field, we should expect that they have developed techniques to overcome all of these issues.

Revision of original cost budget using a flexible budgeting approach

A flexible budgeting approach means that we revise the original cost budget to reflect the level of activity that we expect during the period. For the cost budget, activity will be the expected level of production during the period January to June 2024. This will have increased from the original budget, because we are expanding our sales market into the keto diet market segment.

Therefore, the first stage in revising the cost budget is to determine a revised production volume estimate. This will be driven from the new sales budget (which will include the forecast of additional sales from the keto diet market that we are currently working on). The revised production volume will be the revised sales volumes adjusted for planned changes in finished good inventory levels.

After we have established the volume of production, the next stage is to determine the amount of each cost shown in Table 1. This will depend on whether the costs vary with the level or activity or if there are any steps in fixed costs arising from increasing production volumes.

Looking at the production related costs, we need to determine which are variable and which are fixed in nature. Variable costs by definition will vary with the level of production and include raw material, direct labour costs and the variable element of production overhead (which will include power costs and overtime premium). The budget for these variable costs will be flexed by multiplying the standard cost per box of bars or pouch of protein powder by the new production volume for each type of product sold. For example the boxes of Almond Protein Bars, the new raw material cost budget will be C\$7.91 x number of boxes of this product which we plan to produce.

Fixed production overheads are not expected to change with the level of activity. However, we would need to consider whether there will be any step up in the fixed

cost arising from expanding production capacity to cope with the higher volume of production. For example, we may need to hire additional production supervisors or purchase additional equipment which will increase production capacity, but at the expense of an increase in fixed costs.

Selling, distribution and marketing costs will contain a fixed and variable element, and these will need to be split out and quantified separately. We use a third party logistics company, and so the costs of delivering to our customers may vary with, for example, the number of deliveries. Given that we will be selling to a new market this will mean new customers and an increase in the number of deliveries. For distribution cost, we will need to establish a cost per delivery and to multiply this by the new number of deliveries expected. Marketing costs are likely to be fixed, although there will be a step up in these costs as we will be conducting a marketing campaign for the new PBKeto app.

Administrative expenses are mostly fixed, although there will be an increase in these costs arising from the PBKeto app (for example the upgrades to the servers and new IT staff). Also, because we will be increasing our customer base, there may be an increase in administration and finance staff to manage this, which will need to be reflected.

Setting credit limits for new retailers

When setting credit limits for a new retailer there are two decisions that we need to make: how much credit to allow them (which determines the maximum amount that they can owe us) and how long we will allow them to pay (the credit term). To make these decisions we need to consider two main factors, which are as follows:

The size of the retailer

The amount of credit we should allow Keto Warriors will be driven to start with by the size of the retailer and likely volume of demand from them. Table 2 shows that Keto Warriors is a relatively small business compared to the industry as a whole. However, Keto Warriors is a relatively new business and is growing at a much faster rate than the industry as a whole. We might surmise from this that whilst demand might initially be at a low level compared to our other retailers, as Keto Warriors grows, this will increase. Therefore in terms of setting a credit amount, we may decide to start small and increase as the business grows.

The risk of the retailer not paying

Whilst the size of the retailer is a first consideration, perhaps more important is to consider the risk of the retailer not paying us. In other words we need to consider the ability of Keto Warrior to pay us for goods that we sell to them on credit. Obviously, the higher the amount of credit that we allow and the longer the payment terms, the larger the impact on our profit if Keto Warriors fails to pay us because it has gone out of business. Therefore the risk of non payment is an important consideration for both the amount of credit and the credit term.

To assess the risk of Keto Warriors not paying we need to consider their creditworthiness. Using the information in Table 2 we can make the following observations about Keto Warriors' working capital:

- Its inventory days are higher than the industry average. Given the higher than average growth rate, clearly the retailer does not appear to struggle to sell items and so possibly the high level of inventory is a deliberate policy to ensure that it always has sufficient inventory to meet demand. Alternatively, given that the company hasn't been trading for that long and is growing quickly, higher than average inventory may indicate that it is not being controlled adequately.
- Payable days are significantly higher than the industry average. It's possible that Keto Warriors has negotiated long terms with its suppliers. However, given that Keto Warriors is a relatively new company, is operating in an overdraft and has a rapid rate of growth, this high level of payables is more likely due to Keto Warriors struggling to pay its suppliers. Indeed it would appear that Keto Warriors is overtrading and as such this should act as a major red flag to us.

Based on this analysis alone, given the potential that Keto Warriors is overtrading, it might be prudent not to extend any credit at all. However, the information in Table 2 is based on information that is nearly a year out of date and therefore it would be a good idea to obtain more up to date information. If this shows a reduction in the overdraft and improved payable days, this could be an indication that Keto Warriors is better managing its cash flows. If that is the case, we might consider extending a small credit limit to start with.

SECTION 3

Classification and measurement of the old mixing machine

We plan to sell the old mixing machine and so we need to consider whether the machine needs to be reclassified as an asset held for sale in accordance with IFRS 5: Non-current Assets Held for Sale and Discontinued Operations. Reclassification of an asset as an asset held for sale occurs at the point that the asset is available for immediate sale in its present condition and where its sale is highly probable. A sale is highly probable when: management are committed to sell the asset; there is an active programme to find a buyer; the asset is marketed at a reasonable price; the sale is expected to take place within 12 months; and it is unlikely that the plan to sell the asset will change.

With respect to the old mixing machine, it will be available for immediate sale in its present condition, only after the reconditioning work has been completed, which will be from the end of April 2024. At that point, there is a plan to sell the mixing machine at a price which is presumably reasonable, given that there is a good second hand market for this type of equipment. In addition, the sale is expected to take less than 12 months to complete and given that a new mixing machine is being installed, it is unlikely that the plan to sell the asset will change. Therefore, it would appear that the mixing machine will be reclassified as an asset held for sale from 1 May 2024.

The mixing machine will continue to be depreciated until the date that it becomes held for sale, which is 1 May 2024. At that date we then need to determine the value that the asset held for sale will be recorded at, which will be the lower of its carrying amount and fair value less costs to sell. The carrying amount of the mixing machine will be C\$21,400 less a further month's depreciation. Fair value less costs to sell will be C\$25,000 less C\$2,300 less any further costs of selling. If this latter value is lower than carrying amount, the difference will be charged to profit or loss.

If the mixing machine is sold before 30 June 2024, we will need to derecognise the asset held for sale and record any difference between the final net proceeds of sale and the adjusted carrying amount as a profit or loss on disposal. If the mixing machine is still for sale on 30 June 2024, we will need to check that it still meets the conditions to be classified as an asset held for sale and also check its value. There will be no depreciation of the asset after 1 May 2024.

Classification and measurement of the old weighing scale

The weighing scale ceased to be used from 1 February 2024, but as we intend to keep the equipment rather than sell it, this is not an asset held for sale in accordance with IFRS 5. We do though need to consider whether there is an impairment in the value of the weighing scale on 1 February 2024. An impairment will arise if the carrying amount of the weighing scale is higher than its recoverable amount. Its recoverable amount is the higher of its fair value less costs to sell and its value in use.

In this case the carrying amount of the weighing scale on 1 February 2024 is C\$2,600. Its recoverable amount is the higher of C\$3,150 (net proceeds of sale) and its value in

use. Value in use is very hard to determine given that we don't know if we will need to use the weighing scale again, although it is unlikely to be greater than fair value. Therefore, on 1 February 2024, there is no impairment in the value of the weighing scale.

We will continue to classify the old weighing scale as an item of property, plant and equipment. In addition, we will continue to depreciate the asset, even though it will be in storage and potentially not used. This is because IAS 16: Property, plant and equipment, states that depreciation ceases only when an asset is reclassified as held for sale or when an asset is derecognised (which will happen when the asset is sold).

The depreciation charge will need to be recalculated though because the useful life of the weighing scale has reduced from a remaining life of 4 years based on the original assessment, to 2 years. From 1 February 2024, monthly depreciation will be calculated as the carrying amount on the date of the change (C\$2,600), less any expected residual value, divided by 2 years multiplied by 1/12. Therefore, for the year ending 30 June 2024, the depreciation charge will be 7 months at the original rate and 5 months at the new rate.

Production decision

Determining the optimal production plan on financial grounds

The optimum production plan can be found visually by moving the iso-contribution line drawn on Graph 1, (the dotted line which represents the relative contributions of each product) outwards from the origin following the same gradient until it reaches the furthest point from the origin that is still within the feasible region. The feasible region is the area of the graph underneath Lines A, D and C and to the left of Line B and bound by the x and y axes. From Graph 1 we can see that as we move the iso-contribution line, we will reach Point 2 and then Point 1. This therefore means that Point 1 will be point where the iso-contribution line is furthest from the origin and still just in the feasible region.

Alternatively, we could calculate the contribution that would be generated at Point 1 and Point 2. For example, for Point 2 we will calculate the contribution to be generated from 600 1 KG pouches of Caramel Protein Powder and approximately 850 boxes of Caramel Protein Bars. The optimal production plan will be the point with the highest contribution.

Factors to consider

Based on the graph, the optimal production plan is at Point 1, which is to produce around 425 pouches of Caramel Protein Powder and around 1,450 boxes of Caramel Protein Bars. We will therefore need to consider how this will be allocated between the two customers and whether this might create any issues. We could decide to fully satisfy the order of one of the customers, with the rest being sent to the other customer. For example, we could choose to fully satisfy the order of Customer 2, because it is a larger order, but that would leave Customer 1 with just over half of the pouches ordered

and very few boxes of bars. This could be detrimental to any future trading relationship with Customer 1. Alternatively we could 100% satisfy Customer 1's order for pouches and Customer 2's order for boxes, leaving them both with very few of the other product. It will be sensible to discuss whether these customers might have a preference before proceeding.

The optimal production plan is based on maximising profit in light of the constraints for whey powder and caramel flavouring and takes a short-term view of the decision. These are new customers and if we expect significant future sales it might be better to fully satisfy both of these orders. We should therefore consider if there is scope to change budgeted production to free up the resources. We would need to weigh up the cost of doing this in terms of any potential lost sales from existing customers against the additional contribution from the orders by being able to fully satisfy them, but also the potential for increased sales and contribution in the future.

We should consider if it would be worth buying in any additional resources. Both whey powder and caramel flavouring are binding constraints and so we need to first determine the shadow price for each ingredient. This is the contribution gained from one more kilogramme of each ingredient. The amount that we would be prepared to pay for each of these ingredients would be its shadow price plus the normal cost per kilogramme. It's possible that despite the significant premium that we would need to pay for more of these ingredients next week, that it would be worthwhile paying this in order to generate the additional contribution.

SECTION 4

Sales variances

Sales price variances

The sales price variances indicate whether we have sold boxes of Protein Bars for more or less than our standard selling price. The variances for the website and app sales channels are adverse which indicates that across the period on average we sold our boxes of Protein Bars for less than the standard selling price in each channel. A reason for this will be the additional discounts that Penny Sanchez introduced in each channel across the period. In addition, for app sales, it could be that more subscribers than planned subscribed for longer periods to take advantage of the additional discount available. The sales price variance for retailers is favourable, which indicates that across the period, the average selling price was higher than the standard selling price. It would appear that the Sales Managers were able to negotiate better selling prices with the new retailers signed up during the period than expected.

Sales mix profit variances

The total sales mix profit variances indicates the change in profit as a result of the mix of sales between the sales channels being different to that budgeted. Website sales has the highest standard gross profit per box and the adverse variance indicates that we sold proportionately less in this our most profitable sales channel. Sales to retailers has the lowest standard gross profit per box and this favourable variance indicates that we sold proportionately less in this our least profitable sales channel. The variance for app sales is favourable, which indicates that we sold proportionately more in this sales channel than we expected to, as the standard gross profit per box at C\$7.57 is higher than the weighted average of C\$6.64. Overall, given that the mix variance for retailers is relatively small, it would appear that within the period the main change in sales mix has been from website to app sales. It's possible that our budgeted mix was incorrect and that we underestimated the popularity of the PBKeto app. It could be that some of our regular website customers have signed up to the app because of the extra discounts available.

Sales quantity profit variance

The sales quantity profit variance indicates the change in gross profit as a result of selling more or less, in the standard mix, than the budgeted volume. This needs to be considered in total, and the favourable variance indicates that profit is increased by C\$46,506 as a result of selling more Protein Bars in standard mix than budgeted. We are targeting a new market and it's possible that our original estimates for this market are understated. Alternatively it could be that the social media marketing campaign has been more effective than we expected. Or it could be that the additional discounts given have driven extra demand for Protein Bars

Overall performance

Overall, the impact of the adverse price and mix variances outweigh the favourable quantity variance. This would indicate that the additional discounts were not as effective as hoped in generating additional sales volumes. The switch from website sales to app sales could indicate that some of our existing customers that place regular orders are signing up to the app for the additional discount available. Maybe this should have been anticipated better in the plan.

Review of KPIs related to the app

Table 2 clearly indicates that the number of people subscribing to the app is higher than we had expected, which ties in with the change in budgeted mix explained above. Given that the app wasn't launched until 1 March 2024, it is perhaps not surprising that the number of subscribers in total and for 12 month membership is high in April, but then starts to decline. We would expect significant interest in the app at the start leading to a higher than average number of new subscribers. We would also expect this to then tail off over the period to below average.

This is clearly the case for total subscribers, but not so for those signing up for 12 months. The third KPI shows that a greater proportion of people are signing up for the 12 month membership than we expected. This ties in with the comments made above for the sale price variance about people signing up to take advantage of the additional discount available for longer subscriptions, which has the effect of reducing the average sales price achieved. The proportion is particularly high in April, which might be explained by our regular and loyal website customers switching to the app and signing up for 12 month memberships, as suggested above.

The minimum purchase value with the subscription is set at C\$50 per month, and the fourth KPI indicates that average monthly order values are not far above this, and reasonably consistent across the period of review. However, this is significantly below the target of C\$75.00. This could in part be due to the additional discounts offered in April and May, but could also indicate that the target has been set too high.

The percentage of app orders despatched within 1 day is a key measure of the performance of the app sales distribution team because the speed of processing has a direct bearing on customer satisfaction. Clearly, the more orders there are to process, the greater the risk that the 1 day despatch target is not met. It is therefore not surprising that in April, where the number of subscribers and therefore the number of orders was significantly higher than expected, only 84% of orders could be despatched within the target time. The KPI does indicate that this has improved in May and June.

Planning and operational variances

Our standard selling prices for Protein Bars are based on our assessment of what we expected the environment to be and the actions that we expected to take in each sales channel. For example, our standard selling price for app sales was based on the expected mix of membership lengths and the planned level of discounts. However,

sometimes the environment changes or our planned actions change and therefore it is important that we are able to reflect this in the variance analysis. This is achieved by revising the standards based on our new best estimates.

Planning variances are those that are caused by an inappropriate standard whilst operational variances are those which arise because of differences between the revised standard and the actual results. Identifying planning variances (which arise typically from uncontrollable factors) will give us useful information on the accuracy of our initial planning and could help us to improve the accuracy of future plans. It also means that the remaining variances relate to operational issues which should be controllable.

However, there can be difficulties associated with determining what is a planning issue and what is an operational issue. For example, the budget for the period April to June was revised to reflect additional sales from the keto diet market. With respect to selling prices, this included estimates of the numbers of subscribers signing up for different lengths of time. From the above analysis it is clear that this has not been as expected which has affected the price variance. How much of this relates to poor planning (and is therefore uncontrollable) and how much of this relates to marketing or sales team efforts (and is therefore controllable) is hard to judge.

Operational Case Study Examination

November 2023 - February 2024

Pre-seen material



Context Statement

We are aware that there has been, and remains, a significant amount of change globally. To assist with clarity and fairness, we do not expect students to factor these changes in when responding to, or preparing for, case studies. This pre-seen, and its associated exams (while aiming to reflect real life), are set in a context where current and on-going global issues have not had an impact.

Remember, marks in the exam will be awarded for valid arguments that are relevant to the question asked. Answers that make relevant references to current affairs will, of course, be marked on their merits.

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Your role

You are a Finance Officer working within the Finance Department of Personal Best (PB). You are principally involved in the preparation of management accounting information and provide information to managers to assist with planning, control and decision making. At times, you are also expected to assist with the preparation of the financial statements and answer queries regarding financial reporting and other financial matters.

Company background

Personal Best (PB) is a company that manufactures and sells protein bars and protein powders. The products are intended primarily as pre- or post-workout snacks for people who undertake a regular programme of exercise. The company is based in Ceeland, a country in Europe which has the C\$ as its currency.

PB was founded 5 years ago by Julia Matthews, Penny Sanchez and Hema Bhatt. The three founders were all members of the same gym, where they attended the same body building sessions several times each week. Following a particularly gruelling group session, the three founders debated what their ideal post-workout snack would be. As all three had busy careers with limited free time, convenience was high on the list of priorities, and they decided unanimously that an individually wrapped snack bar would be best. All three concurred that the snack had to be high protein and should contain no added sugar because it had to satiate and not spike blood sugar levels. The gym manager overheard the conversation and argued that the perfect snack was already for sale in the gym's cafe in the form of the WDW high protein snack bar. The three founders then added a further pre-requisite....it also had to taste good. Thus, the idea for PB was born.

Over the next few months, the founders experimented with diverse types and combinations of ingredients in their attempt to create their personal best protein bar. Working in Julia's own domestic kitchen, they selected and mixed the ingredients and then rolled the dough until they produced a 60-gram protein bar which included 22 grams of protein, 14 grams of fibre, less than a gram of sugar and was only 198 calories. It tasted fabulous. The three founders replicated this feat to create ten amazing differently flavoured bars.

Convinced that they had a successful product on their hands, the founders approached several manufacturing companies with a view to outsourcing production. They were turned down by them all. Trusting that their instinct was correct, and that the protein bar would be a success, the founders re-mortgaged their homes and invested their life savings in setting up a small manufacturing plant. Both Julia and Hema quit their jobs to work full time at PB and in the early days worked 18 hours a day: sourcing suppliers, taking orders, unloading deliveries, manufacturing the bars, packing and distributing the bars. Penny, while continuing in her employment as a marketing executive, managed to plan and execute a near-perfect marketing campaign using social media to raise awareness and create demand for the protein bars.

Within weeks of the formal product launch, PB was an outstanding success. A gap in the market had just been filled. Many social media influencers with perfectly toned gym bodies praised the delicious flavours and posted image after image of themselves holding PB bars. Following the launch, several innovative fans of PB protein bars began to post recipes on social media for various desserts made using the PB bars as the main ingredient. Videos of how to make cheesecake, warm fudge cake and pancakes with melted PB bars were constantly shared and liked on social media.

The first PB protein bars were offered for sale at the chain of gyms where the idea was first conceived and within a short time other gym chains contacted the founders, as their customers were asking them to stock the products. Growth in the first year of trading was so rapid that new premises and additional plant and machinery had to be acquired in order to keep up with demand.

In the first year of trading, the range of protein bars increased to 16 flavours and, in the second year of trading, six additional flavours were offered as limited editions. All new flavours were tested (for no charge) by selected influencers. Also, in the second year of trading, Penny, who now also worked full time at PB, relaunched the basic website and a distribution team was recruited.

During the third year of trading, the founders introduced a new product, protein powder, under the PB brand. This product was also an outstanding success. A protein powder that transformed into a smooth, creamy, delicious shake when water was added, seemed too good to be true to the tens of thousands of PB devotees. PB's revenue has continued to grow rapidly. At each stage of growth, the founders found the time and energy to recruit like-minded, innovative and enthusiastic staff, and it was felt growth was driven by the company's entrepreneurial culture.

PB has experienced sales growth every month since its foundation. The three founders all have their own specialisms which enable them to work together in a remarkably smooth and collegiate manner. By common consent, Hema, an engineer who designed and built the first production machinery is now the Managing Director, Julia is the Finance Director and Penny is the Sales & Marketing Director. In the year to 30 June 2023, the company's revenue was C\$23.9 million, gross profit was C\$8.4 million and profit before tax was C\$1.2 million.

PB's mission statement and ethos

PB's mission statement is "To help all customers to achieve their own personal best and to live their best life". It is this mission that guides most of the decisions at PB. Alongside the products themselves, the website offers the vast PB community nutritional and fitness advice, hosts support chat rooms, offers prizes for the best recipe using PB's snack bars or protein powder every month and has links to other relevant websites.

The founders are also concerned with sustainability and ensure that the ingredients used in production are ethically and sustainably sourced. From the early days of PB's existence, where suppliers were begged and charmed into offering advantageous credit terms, relationships with suppliers are seen as vital to PBs' success. The company has an aim to be carbon neutral within 4 years and is continually striving to improve its supply chain, manufacturing processes and outward logistics to get closer to this. For example, in the first few months of production, peanut butter was sourced from suppliers that imported from South America. In late 2018, PB began sourcing raw peanuts from a grower in Europe and now roasts and grinds these in-house to produce its own peanut butter.

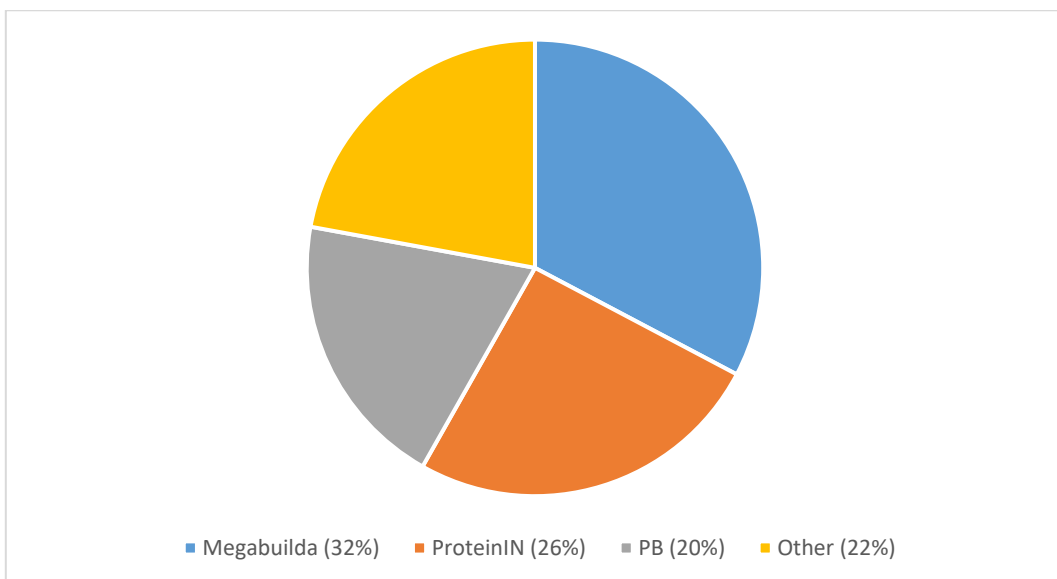
The industry

Until quite recently, protein powders and related products were confined to a relatively niche market, generally male weightlifters and bodybuilders. However, medical reports linking sugar and other “beige” carbohydrates to weight increase has revolutionised thinking about weight loss. This has given rise to the concept of the “keto diet”, a way of eating that combines very low carbohydrate with relatively high protein and high fat foods in order to send a body into “ketosis” (in other words, a state where fat is being burned).

This revolution has reduced demand for traditional diet products that tended to be “low fat” but relatively high carbohydrate, in favour of low carbohydrate, high protein, higher fat snacks and meal replacement products. As a result, the protein bar/protein powder industry has grown rapidly during the past 6 years and is expected to continue to grow for at least the next 4 years. The European market growth rate reflects the patterns observed in Ceeland and has similar levels of competition in most countries.

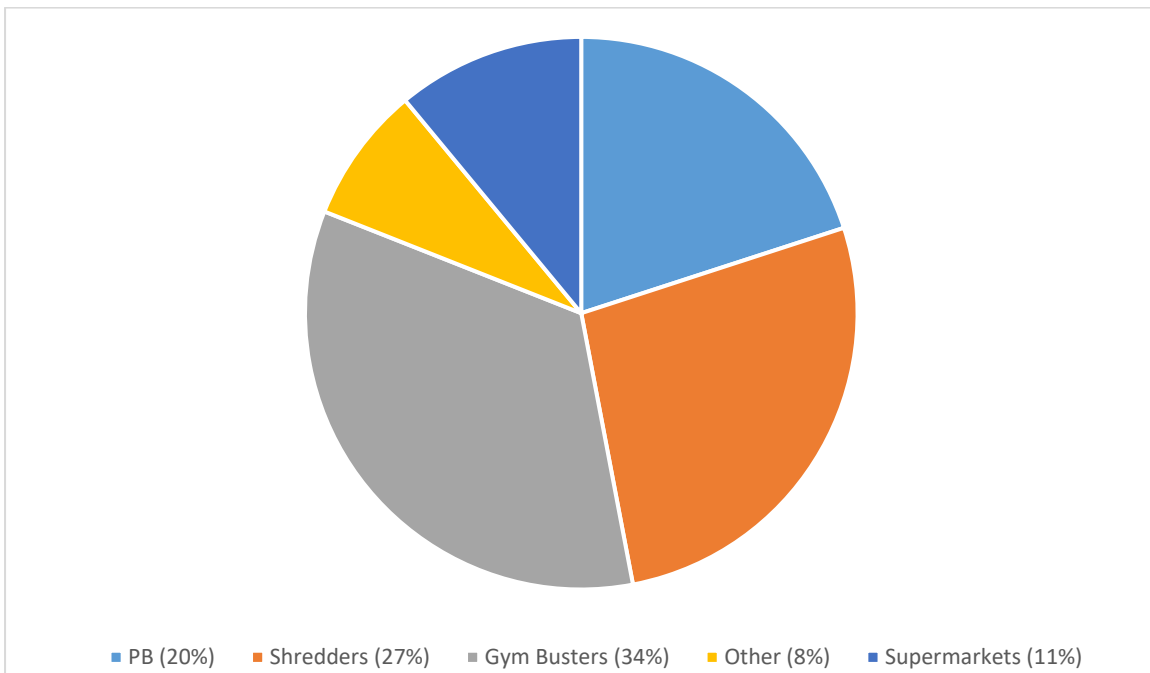
The Ceeland market for protein powder

The protein powder market in Ceeland is dominated by three companies: PB, Megabuilda and ProteinIN. PB is the only company that is based in Ceeland and has the smallest market share of the three, although their share is growing. The market revenue for protein powder in Ceeland in 2022 was C\$30 million and is expected to grow by 5% year on year for the foreseeable future. Market share, based on sales revenues for 2022, was as follows:





The Ceeland market for protein bars

The protein bar market is much more fractured than the protein powder market, as start-up costs are relatively low and the market base appeals to a much wider segment than protein powder (which is predominately the post-workout market). The total market for protein bars can be loosely divided into three sub-segments: post-workout bars, diet bars (including those suitable for the keto-diet market) and general snack bars. Different brands lead in these sub-segments, but some appeal to more than one segment. The total market revenue in Ceeland for all protein bars in 2022 was C\$156 million, split roughly as follows: C\$80 million pre- and post-workout, C\$60 million diet and C\$16 million general snack. PB protein bars currently targets the pre- and post-workout segment. Market share for this segment, based on sales revenues for 2022, was as follows:



Extracts from the PB website

HomeProductsOur story

BE YOUR PERSONAL BEST

with our delicious protein bars and protein powders

At PB, we want to help you be your personal best, whatever that means for you.

We know that your time is precious and that you don't always have the resources to cook the perfect post-workout meal or low-calorie lunch, so we have created delicious and convenient alternatives, allowing you to get out there and live your best life!

Penny's Page

Co-founder Penny Sanchez has had a busy week

- Interview with TV's Della Moss
- Results of the "what new product" poll
- Workout wonder tips

This week's top recipe

PB bar devotee Eli Sess created these protein packed truffle treats.

PB's online community

Get tips, support and inspiration from the PB squad. Join now.

Answers and advice

PB answers individual questions on nutrition and exercise here.

OUR PRODUCTS

PB has developed a range of protein bars and protein powders that are unique. Not only is each portion packed with enough protein to repair and rebuild muscle after a workout, but it tastes delicious. In addition, each serving satiates and keeps blood sugar levels stable until the next mealtime.

Protein bars

As well as our peanut-based protein bars, we have also developed a range of bars using almond and cashew nut butters. Each bar combines nut butter with whey powder and flavouring.

Peanut Protein Bars

Our range now comes in 16 delicious flavours (click [here](#) for full details), all of which are available throughout the year. In addition, we offer special flavours for a limited time throughout the year. We make our own peanut butter in-house using locally-sourced peanuts. This ensures quality and freshness.

Almond Protein Bars and Cashew Protein Bars

Both types of bar are available throughout the year in 12 sensational flavours (click [here](#) for full details). These bars have a soft creamy texture. In 2022, our Blackberry blast flavour won the prestigious Sports nutrition bar award.

Our bars are sold through gyms and other leading retailers as individual bars or in packs of ten bars as well as through this website (click [here](#) to shop).

Protein powders

Although our protein powders contain the same high nutritional content as other leading brands, they taste entirely different. PB protein powders mix easily with water (or milk) and have none of the gritty or chalky residue that other brands have. In fact, they taste like the best thick creamy milkshake! Available in 7 dreamy flavours (click [here](#) for full details and to shop), with a further 3 planned for late 2023.

All of our products are made from high-quality whey powder sourced locally. All of our products are gluten free.

OUR STORY

PB was founded in 2018 by three women who, craving a perfect post-workout snack, developed the first PB bar in their kitchen at home. When they failed to find a suitable company to make the bar on their behalf, they invested every cent they owned (or could borrow) and manufactured the bar themselves. The rest, as they say, is history. All three founders are dedicated to their products and work full time at PB.

The founders



Managing Director: Hema Bhatt

Hema represented Ceeland in the 64kg weightlifting category in the 2012 Olympic games. She qualified as a mechanical design engineer in 2013 and worked in this role for various companies until 2018, when she gave everything up to work full time for PB. Hema used her engineering skills to upgrade the second-hand manufacturing machinery to produce the first PB bars and has since found practical solutions to many different business problems.



Finance Director: Julia Matthews

Julia worked in the food industry as a development chef for many years. There is very little that Julia does not know about great-tasting food! Julia loves a challenge and also qualified as an accountant in 2009. Julia is the first to admit she is a chocoholic and after she qualified found herself very overweight. She joined a gym and discovered that she loved workouts as much as she did desserts (well almost). It was Julia who created the now famous 3PB.



Sales & Marketing Director: Penny Sanchez

Penny's career started in events management when she left school at 16. To the amazement of her teachers and parents, Penny proved to be a natural when it came to marketing and secured a senior position in a top corporation before she was 30. Penny has endless energy and enthusiasm, she trains 6 days a week, is at her desk for 6.30 am and answers every question posed by PB customers personally. Penny is PB's powerhouse.


The founders are passionate about nutrition, health and happiness. For them, this is what PB stands for: helping people to achieve their personal best.

PENNY'S PAGE

Everybody in Ceeland (except maybe those hiding in a floatation tank) has been following the life story of the fabulous Della Moss. Della hit our TV screens as a reality-show contestant back in 2017 and is now the best-known TV presenter in Ceeland. I met with Della this week to ask her how she manages to exercise during her gruelling filming schedule and how she managed to maintain her weight loss (famously Della lost 30kg after winning "Personality Shines").

Turns out that Della is a huge PB fan and that she lost weight using our original 3PB (Personal Best's Peanut Butter Protein Bar) as a replacement for meals. She raves about our products as post-workout "must haves", regularly has a PB protein powder as a breakfast shake and has a few incredible PB recipes too. Della told me why her new partner, super vet Stuart Lamb, is THE ONE. Wedding bells soon? Click [here](#) to listen to the full interview and find out.

AT LAST, the results of the PB new product poll are in. We asked you to tell us what you want us to add to the PB range in 2024 and thousands of you replied.

Drumroll please  the winner iswell we have joint winners:

- A PB protein biscuit. You told us that you would love us to make a baked treat, high in protein, low in calories and delicious.
- A vegan PB range. It would be made using vegan whey protein powder (pea and rice protein) rather than dairy whey protein powder. Julia was particularly keen on this range as not only would it allow vegans to benefit from PB's expertise but it would suit those who are lactose-intolerant.

We are working on raising finances for these exciting new products and will keep you posted!!!

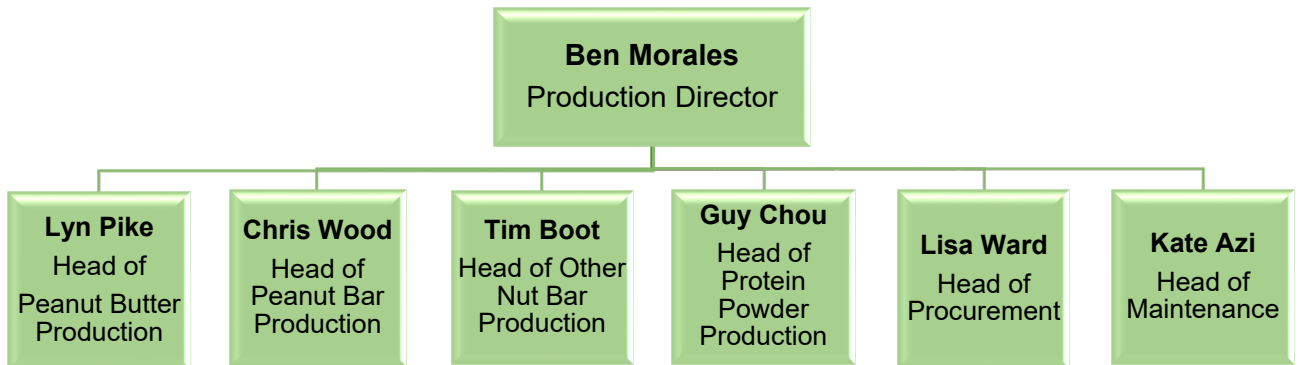
ANSWERS AND ADVICE

Q. What specific actions do you take to minimise waste and harm to the environment while making peanut butter?

A. We buy our peanuts locally, rather than importing them from South America, reducing the food miles as far as possible. In addition, the natural wastage from the production process is never sent to landfill. Our peanut skins are sold to farmers and peanut hearts sold for birdfeed. In addition, we use no artificial preservatives. Our peanut butter is made from peanuts and a small amount of salt.

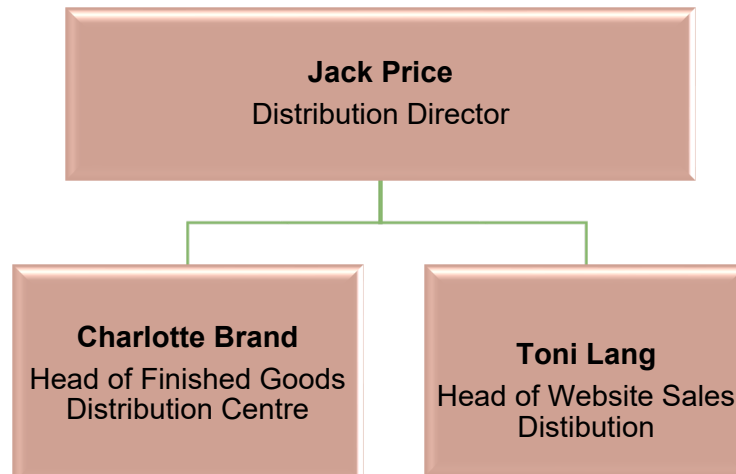
Key management teams

Production



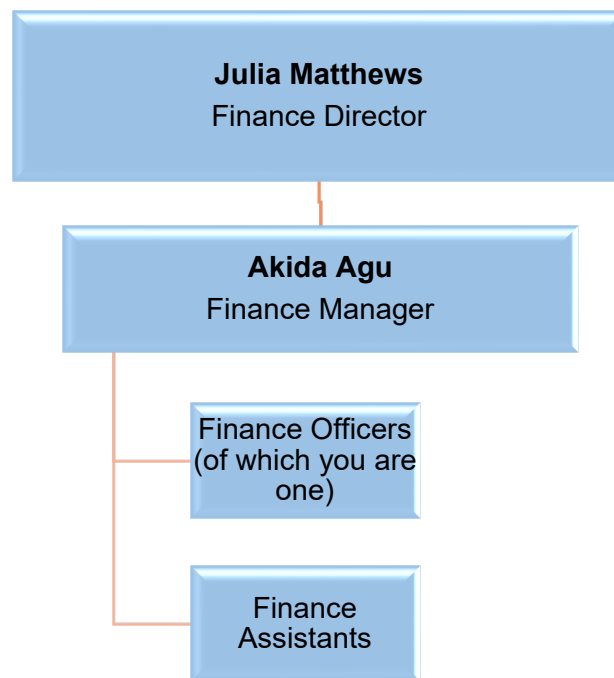
The largest department in terms of employees, the production team, is also the most complex to manage. Ben Morales was recruited as Production Director in 2020, when demand for PB accelerated and the founders realised the business would fail without more formal organisation and someone with large-scale production experience. Ben worked in food manufacturing for 11 years before joining PB and has introduced many efficiencies in the Protein Bar and Protein Powder Production Departments. Due to financial constraints, Ben has yet to make any significant improvements to the Peanut Butter Production Department, which is still using the machines that were nearing the end of their useful life when Hema bought them second hand in 2018.

Distribution



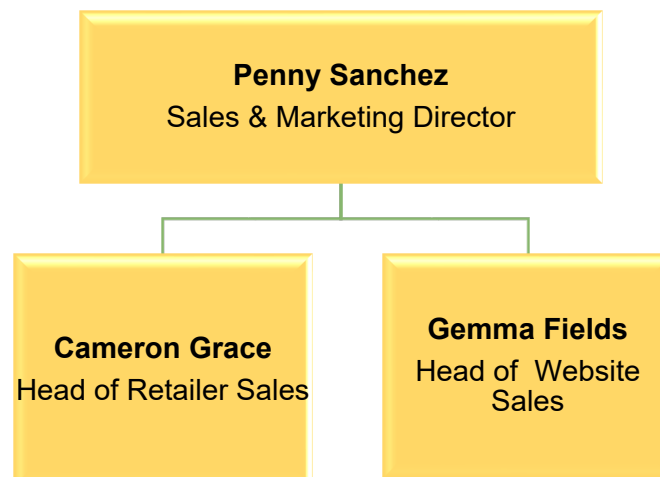
Jack Price is responsible for the Distribution Centre. He was recruited at the same time as Ben Morales, when PB was finding it impossible to produce and ship enough bars to satisfy demand. Prior to joining PB, Jack worked for 7 years as a logistics manager for a distribution company that specialises in perishable goods. Jack has installed many new systems since joining PB and is keen to ensure that the company continues to grow.

Finance



Although Julia Matthews is very hands-on and remains quite closely involved in some day-to-day finance matters, Akida Agu is responsible for most of the management accounting information and reports produced, as well as the preparation of the financial statements. There are two Finance Officers and three Finance Assistants working in the Finance Department.

Sales & Marketing



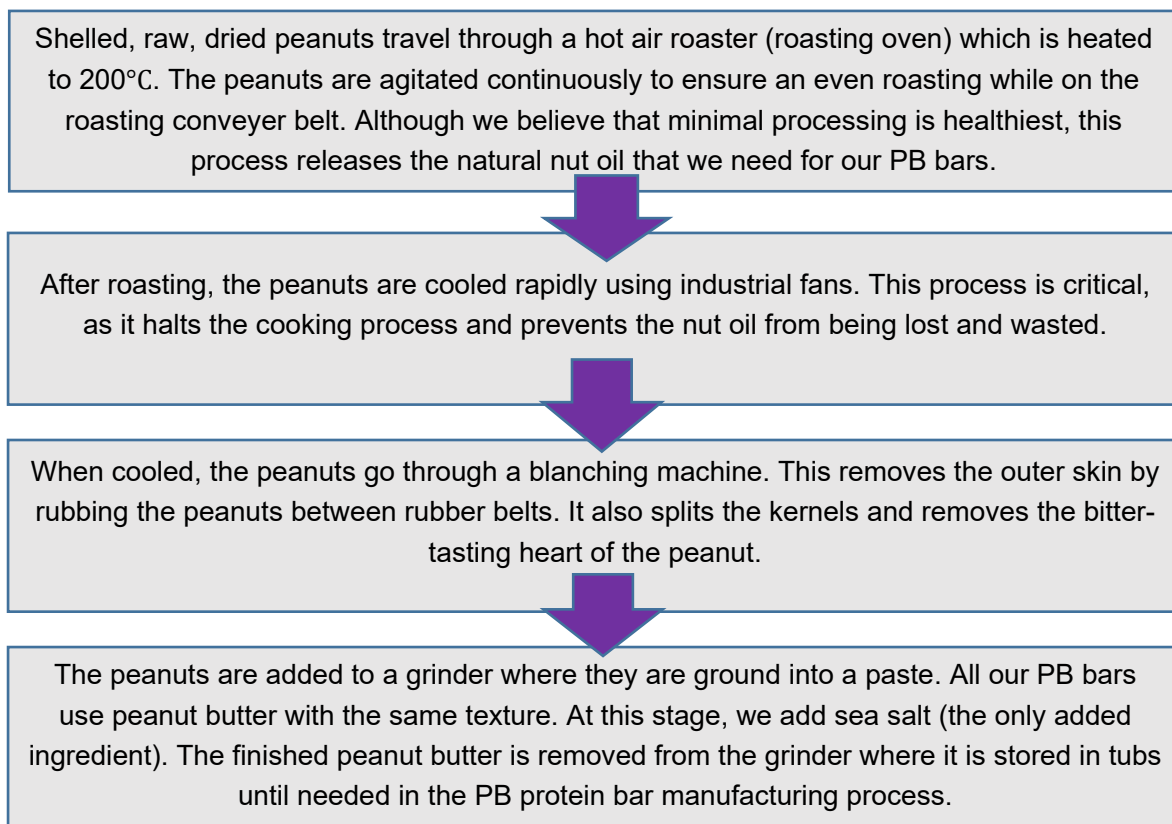
The sales & marketing employees work extremely closely as a team and are always finding new ways to promote PB as well as to maintain and build relationships with the existing clients.

Extract from the employee induction manual: Overview of the manufacturing process

Introduction

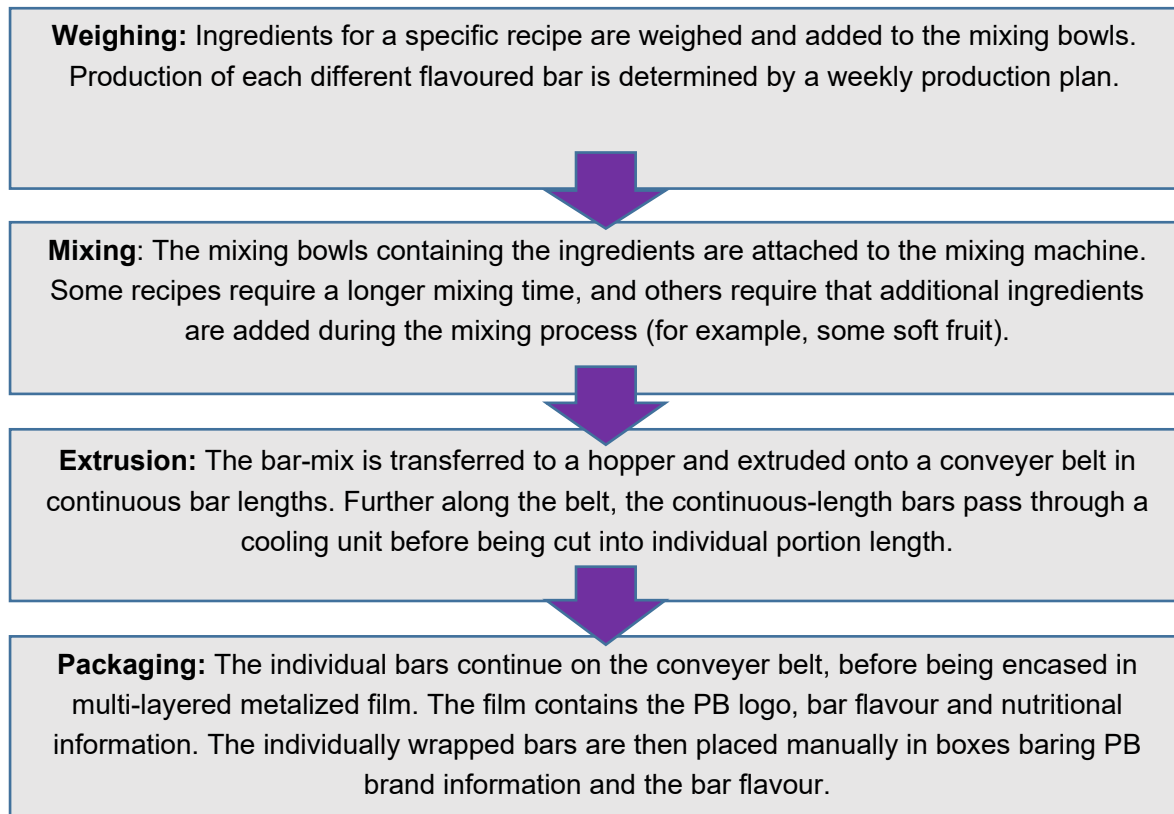
We have four distinct manufacturing areas: peanut butter production, peanut butter bar production, other nut (almond and cashew) bar production and protein powder production.

The peanut butter manufacturing process



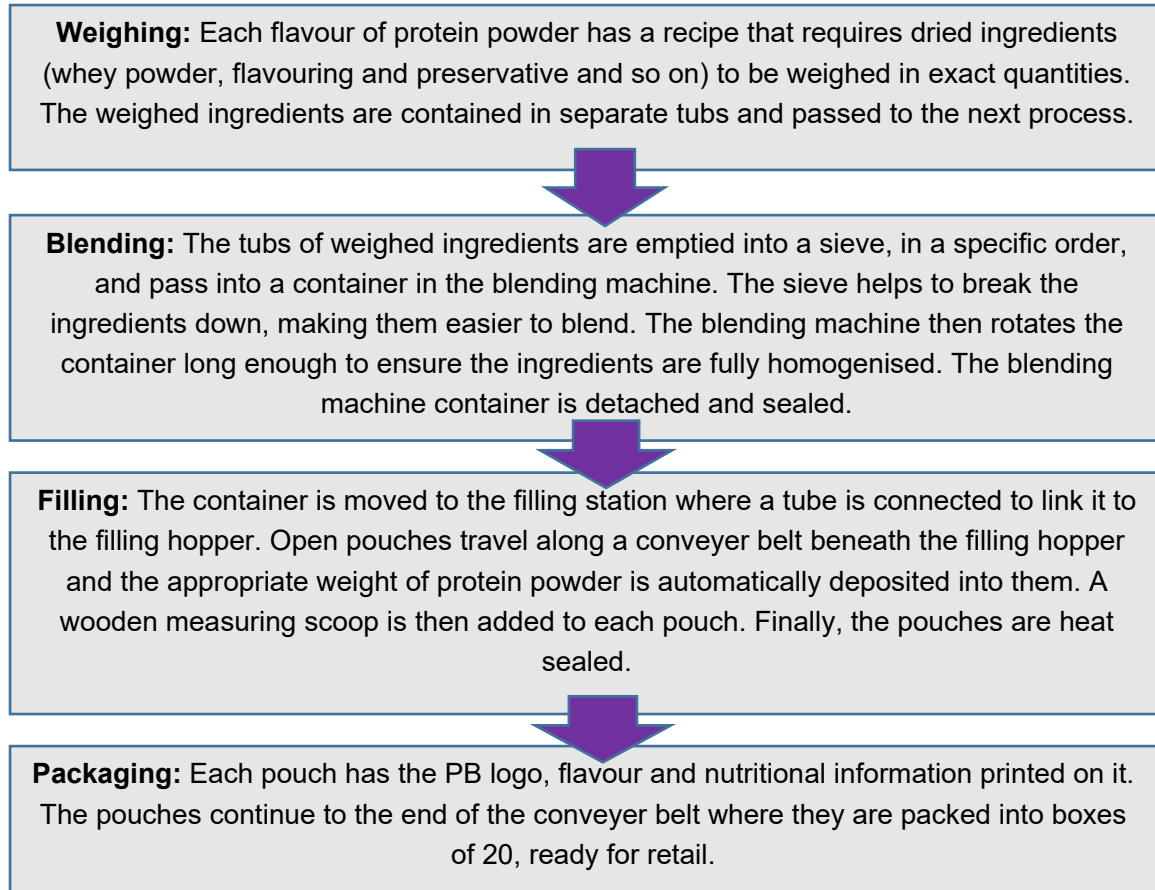
The protein bar manufacturing process

Although the peanut bars are made in a different part of the facility to the other nut bars, the manufacturing process for all types is identical. This process is essentially a “blending” exercise, as we believe less processing means a healthier product.



The protein powder manufacturing process

The protein powder manufacturing process is less complicated than the other production processes.



Other information about company operations

Production Facility

All PB products are manufactured at the company's single Production Facility. Peanut butter, Peanut Protein Bars, other nut Protein Bars and Protein Powder are made in different locations within the Production Facility. There is capacity at the facility for further expansion.

The Production Facility site also includes a Raw Materials Warehouse, a Distribution Centre and offices for the senior management team and administration staff.

Purchasing and suppliers

The raw material inputs to the production process are:

Whey powder	Whey is a by-product of the cheese-making process. Liquid whey is dehydrated to make whey powder. High-quality whey powder is purchased from suppliers local to PB's own Production Facility and is the most important raw material of every PB product. PB has established excellent relations with a few trusted suppliers.
Peanuts	Peanuts are purchased raw, dried and shelled. Peanuts are sourced within Europe from a single supplier that PB has used since the start of its peanut butter production in 2018. The supplier is a farmer who allows PB extremely favourable credit terms. Order quantities are determined using the economic order quantity model.
Nut butters	Almond and cashew nut butters are readily available from a number of different suppliers. Almond nut butter is made extensively in Spain, Europe and so as far as possible this is sourced from suppliers in Spain. Cashew nut butter and the remaining almond nut butter has to be imported from South America and Asia. PB buys nut butter in bulk to take advantage of volume discounts, which is possible as these products have a long shelf-life.
Protein powder flavouring	This flavouring is a highly technical mix, created in a lab. Developing and batch-replicating the right powder to mix with the whey is more chemistry than creative cooking and this is entrusted to a single company. Julia Matthews worked for this company when she left university.
Other raw materials	Stevia, sucralose, soluble corn fibre, sea salt, erythritol, dried berries and other flavourings are purchased from a large number of suppliers via competitive tenders. Where possible, longer life raw materials (stevia, sucralose, sea salt) are bought in bulk to take advantage of volume discounts.
Packaging and accessories	All wrappers, pouches and retail boxes are customised to include PB's logos and design. These products are an important part of the brand identity, and care is taken to ensure that the quality is right. The more general packaging, scoops and stationery are sourced based on lowest price.

Note: The price of nuts, nut butters and a large number of flavourings can fluctuate in price due to exchange rates, harvest yields and/or the time of year. PB's credit payment periods range from 30 days to 75 days.

Sales markets and sales channels

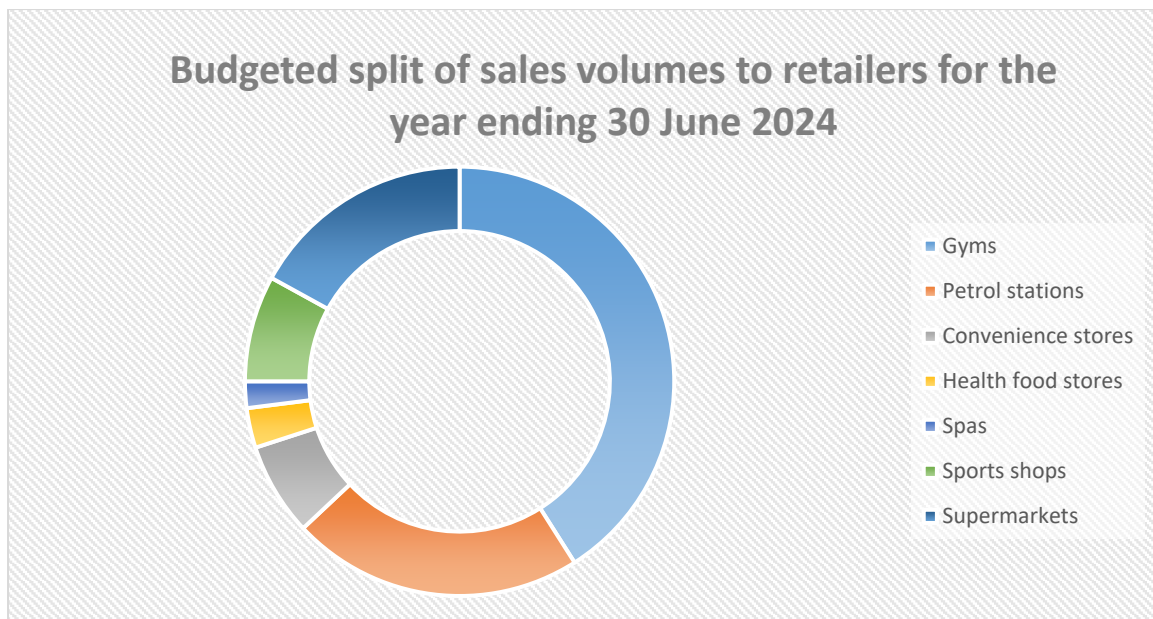
PB currently sells its products via selected retailers in Ceeland and direct to customers in Ceeland through its own website. The company does not currently sell any of its products outside of Ceeland.

At present, PB does not have a physical presence (manufacturing, distribution or sales office) in any country except Ceeland. However, awareness of PB products in other countries has grown due mainly to online magazine articles and social media influencers. A team of Sales Managers has recently been sent to Meland (a large European country a significant distance from Ceeland, which uses the C\$) with a view to expanding the PB brand presence there. This team will be headed by a Divisional Manager responsible for generating profit in Meland. The intention is to rent a small distribution centre that will be fully operational from 1 January 2024.

Ceeland Retailers

PB began trading by selling its first product, 3PB (Personal Best's Peanut Butter Protein Bar), via local gym chains. By the time PB secured its first national gym chain contract, demand for 3PB exceeded all expectations and other, more diverse, organisations were contacting PB asking to retail the bars.

PB currently sells its full range of products via retail outlets such as: gyms, petrol stations, convenience stores, specialist health food stores, spas, sports shops and (more recently) supermarkets. In the year to 30 June 2024, it is expected that 60% of PB's sales volume will be through retailers.



Website

In the year to 30 June 2024, it is expected that PB will sell 40% of its total sales volume through the PB website. The website not only offers visitors the full range of PB products for purchase, but also an extensive interactive information source. There is a community section with various discussion threads centred around fitness, diet and wellbeing, a recipe page, links to various websites that are likely to appeal to the PB market, Penny's Page (a PB blog) and nutritional and allergy information relating to all products.

Distribution Centre and logistics

The company has a small Distribution Centre on the same site as the Production Facility, in which finished goods are stored. From here, goods are shipped to retailers and to website customers. Currently, PB uses a third-party logistics company to transport goods to retailers. Third-party couriers are used to deliver to website customers.

Employees

PB had the following number of employees on 30 June 2023:

	Number
Production	110
Distribution	21
Head Office	28
	159

Standard costing and budgets

The company operates a standard absorption costing system using departmental overhead absorption rates based on either direct labour hours or machine hours. Standard cost cards are updated annually. Standard costs are used for the purposes of valuing inventory in the financial statements.

Budgets are prepared annually on an incremental basis. Although many new operational managers have been recruited in the past 2 years, they have limited involvement in budget setting. At present, Julia Matthews sets the budgets for all departments (with help from members of the Finance Department), as she has done since PB was formed.

Financial statements for the year ended 30 June 2023

Personal Best

Statement of profit or loss for the year ended 30 June 2023

	2023 C\$000	2022 C\$000
Revenue	23,867	19,741
Cost of sales	(15,442)	(13,086)
Gross profit	8,425	6,655
Selling, distribution and marketing costs	(4,916)	(4,008)
Administrative expenses	(1,900)	(1,830)
Operating profit	1,609	817
Finance costs	(416)	(428)
Profit before tax	1,193	389
Income tax expense	(301)	(99)
Profit for the year	892	290

Personal Best
Statement of financial position at 30 June 2023

	2023 C\$000	2023 C\$000	2022 C\$000	2022 C\$000
ASSETS				
Non-current assets				
Property, plant and equipment	6,920		7,860	
Right-of-use assets	1,302		1,470	
		8,222		9,330
Current assets				
Inventory	1,140		1,004	
Trade receivables	2,395		1,817	
Prepayments and other receivables	260		192	
Cash and cash equivalents	730		0	
		4,525		3,013
Total assets		12,747		12,343
EQUITY AND LIABILITIES				
Issued C\$1 equity share capital	300		300	
Share premium	834		834	
Retained earnings	1,534		642	
Total equity		2,668		1,776
Non-current liabilities				
Borrowings	5,000		5,000	
Lease liability	986		1,112	
		5,986		6,112
Current liabilities				
Overdraft	0		1,116	
Trade payables	2,750		2,291	
Accruals and other payables	916		823	
Tax liability	301		99	
Lease liability	126		126	
		4,093		4,455
Total equity and liabilities		12,747		12,343

Personal Best
Statement of cash flows for the year ended 30 June 2023

	2023 C\$000	2023 C\$000
Cash flows from operating activities		
Profit before tax		1,193
Adjustments		
Depreciation for property, plant and equipment	1,234	
Depreciation on right-of-use asset	168	
Finance costs	416	
		1,818
Movements in working capital		
Increase in inventory	(136)	
Increase in trade and other receivables	(646)	
Increase in trade and other payables	552	
		(230)
Cash generated from operations		2,781
Tax paid		(99)
Interest paid		(416)
Net cash inflow from operating activities		2,266
Cash flows from investing activities		
Purchase of property, plant and equipment	(294)	
Net cash outflow from investing activities		(294)
Cash flows from financing activities		
Repayment of lease principal	(126)	
Net cash outflow from financing activities		(126)
Net increase in cash and cash equivalents		1,846
Cash and cash equivalents at the start of the year		(1,116)
Cash and cash equivalents at the end of the year		730

Budget information for the year ending 30 June 2024

Total budgeted gross profit

	Protein bars C\$000	Protein powders C\$000	Total C\$000
Sales revenue	21,437	6,512	27,949
Cost of sales	(13,842)	(3,945)	(17,787)
Gross profit	7,595	2,567	10,162
Gross profit margin	35.4%	39.4%	36.4%

Protein bars (sold in boxes of 10 bars)

Sales revenue

	Peanut	Almond	Cashew	Total
Sales volumes (number of boxes):				
Website	268,000	116,000	80,000	464,000
Retailers	402,000	174,000	120,000	696,000
Total	670,000	290,000	200,000	1,160,000
Average sales prices per box:	C\$	C\$	C\$	
Website	21.00	21.00	21.00	
Retailers	16.80	16.80	16.80	
Sales revenue:	C\$000	C\$000	C\$000	C\$000
Website	5,628	2,436	1,680	9,744
Retailers	6,754	2,923	2,016	11,693
Total sales revenue	12,382	5,359	3,696	21,437

Cost of sales

	Peanut	Almond	Cashew	Total
Total sales volumes	670,000	290,000	200,000	1,160,000
Production cost per box:	C\$	C\$	C\$	
Raw materials	5.66	7.91	8.02	
Direct labour	3.00	2.60	3.00	
Variable production overhead	0.49	0.43	0.50	
Fixed production overhead	1.99	1.73	2.00	
Total cost per unit	11.14	12.67	13.52	
	C\$000	C\$000	C\$000	C\$000
Total cost of sales	7,464	3,674	2,704	13,842

Protein powders

Sales revenue

	Size of pouch		Total
	0.5 KG	1 KG	
Sales volumes:			
Website	40,000	60,000	100,000
Retailers	60,000	90,000	150,000
Total	100,000	150,000	250,000
Average sales prices:	C\$	C\$	
Website	20.00	36.00	
Retailers	16.00	28.80	
Sales revenue:	C\$000	C\$000	C\$000
Website	800	2,160	2,960
Retailers	960	2,592	3,552
Total sales revenue	1,760	4,752	6,512

Cost of sales

	Size of pouch		Total
	0.5 KG	1 KG	
Total sales volumes	100,000	150,000	250,000
Production cost per unit:	C\$	C\$	
Raw materials	4.26	7.51	
Direct labour	1.00	2.00	
Variable production overhead	1.00	1.99	
Fixed production overhead	3.98	7.97	
Total cost per unit	10.24	19.47	
	C\$000	C\$000	C\$000
Total cost of sales	1,024	2,921	3,945

Example standard cost cards

Peanut Protein Bar (box of 10 bars)				
	Quantity / hours	Standard price / rate C\$	Standard cost C\$	Standard cost C\$
Materials:				
Peanuts	0.38 KG	1.00 per KG	0.38	
Whey powder	0.30 KG	1.25 per KG	0.38	
Flavourings and other ingredients			3.70	
Packaging			1.20	
Total				5.66
Direct labour:				
Peanut butter production	0.05 hours	20.00	1.00	
Protein bar production	0.10 hours	20.00	2.00	
Total				3.00
Variable production overheads:				
Peanut butter production	0.15 MH*	1.09	0.16	
Protein bar production	0.10 DLH*	3.33	0.33	
Total				0.49
Fixed production overheads:				
Peanut butter production	0.15 MH*	4.38	0.66	
Protein bar production	0.10 DLH*	13.34	1.33	
Total				1.99
Total production cost				11.14

Protein Powder 0.5 KG				
	Quantity / hours	Standard price / rate C\$	Standard cost C\$	Standard cost C\$
Materials:				
Whey powder	0.53 KG	1.25 per KG	0.66	
Flavourings and other ingredients			2.10	
Packaging			1.50	
Total				4.26
Direct labour:				
Powder production	0.05 hours	20.00	1.00	
Total				1.00
Variable production overheads:				
Powder production	0.20 MH*	4.98	1.00	
Total				1.00
Fixed production overheads:				
Powder production	0.20 MH*	19.92	3.98	
Total				3.98
Total production cost				10.24

* MH is machine hours and DLH is direct labour hours.

Notes on standards and budget preparation

1. Standards are reviewed and updated annually.
2. Normal raw material losses are included in the standard cost of each product.
3. All direct labour overtime premium is treated as variable production overhead.
4. Idle time is not budgeted for.
5. Production overheads are allocated and apportioned to production cost centres and absorbed on either a direct labour hour or a machine hour basis.

Extracts from Senior Management Team meeting minutes

Date: 2 October 2023

Present: Hema Bhatt, Penny Sanchez, Julia Matthews, Ben Morales, Jack Price

Agenda point 2: New products

PB Protein Biscuit

- a. Julia confirmed that finance for production of the new Protein Biscuit range is secured and the SMT agreed to launch mid-April 2024 as planned.
- b. Penny reported that initial taste trials indicate the launch flavours should be: peanut, chocolate and coconut. The sales volumes for coconut are expected to be half that of the other two flavours, but the SMT agreed that the range should be launched with three flavours.
- c. Penny commented that the individually wrapped giant protein biscuits had the potential to appeal to a wider market than our existing fitness segment. She believes this will be a benefit to PB as the brand is robust enough to extend into the general diet industry without diluting its niche appeal. Product launch plans to be finalised by end of December 2023.
- d. Ben reported that the production space for the new product is now cleared and clean. Orders for the baking oven and other major machinery and equipment will be placed soon. Ben is confident that production will start in February, as provisionally scheduled at the last meeting, ready for the official April launch. He confirmed that, while baked products are new to PB, the process is relatively simple, and staff skilling will not be a major issue.
- e. Jack referred to an incident this year where retailers did not have sufficient supplies of a new seasonal flavour PB bar when it was launched, due to a communication error between the marketing, production and distribution departments. He confirmed that this will not happen again but that any change in production schedule or launch date must be reported to him at the earliest opportunity.

PB vegan products

- a. Penny confirmed that the new vegan range will be branded as PB-V and will be launched to the market in April 2024. She reported that, given the increase in veganism over the past few years, many gym chains have been offering these products for a few years. Supermarkets have been slower to focus on this market but are now starting to expand their vegan offerings. Therefore, there is still significant scope to build the PB-V customer base.
- b. Penny reported that the range will initially consist of 12 flavoured protein bars and five flavours of protein powder (which will be available in 0.5 kilogram pouches). The protein bars will use cashew nut butter as a base.
- c. Ben confirmed that the new PB-V range will need its own Production Facility. It will be completely separate from the main facility to protect its vegan and lactose free status.
- d. Ben reported that, whilst it has already been agreed that there will be a single supplier of the base vegan protein powder, this supplier still needs to be selected.

Date: 6 November 2023

Present: Hema Bhatt, Penny Sanchez, Julia Matthews, Ben Morales, Jack Price

Agenda point 2. Future of the Peanut Butter Department

- a. Ben stated that due to the age and inefficiencies of the machinery, the Peanut Butter Department was a drain on profit. He praised Lyn Pike for introducing weekly “cost-crunching” team meetings, where all members of the department compete for the 3PB award (Personal Best’s Peanut Butter Profit Brainbox), but stated that this was not enough.
- b. Ben said that the only way the department could add to the profitability of the business is to invest in new machinery and start selling peanut butter as a stand-alone product. He stated that, if the finance needed to buy new machinery could not be found, the only alternative was to close the Peanut Butter Department and buy-in peanut butter.
- c. Ben presented key facts as follows:
 - The “cost-crunching” ideas implemented saved 1.5% of yearly cost.
 - The variable cost to make peanut butter in-house remains slightly more expensive than the cheapest buy-in option.
 - 94% of our customers rank sustainability in the top 3 reasons they buy PB products.
 - Further key facts were used to explain the cost drivers and inefficiencies within this department to prove that the current operation is not viable in the medium to long term.
- d. Penny reported on the survey she undertook last month, at the request of the SMT. It revealed that 74% of PB’s consumers would buy single serving sachets of peanut butter. This percentage increased to 91% when consumers were told that the innovative packaging for the sachets would be made from compostable plastic and waxed paper. Only 29% of PB’s consumers thought they would buy PB peanut butter in a traditional 340g jar size, although this increased to 40% if the jars were made from glass. Penny also added that one of the consumers in the survey ran a guest house and thought the single serving sachets would be ideal for that business. Penny revealed the price points peanut butter would sell for in jars and sachets.
- e. Julia confirmed that Ben’s financial presentations were correct (having collaborated to help him produce them).
- f. Julia also stated that selling the peanut butter in 30g sachets at the price point Penny suggested would be 10 times more profitable than selling it in jars.
- g. Julia added that, although selling peanut butter in sachets alone would generate enough margin to match the investment in new machinery within 5 years, financing for the investment is not available at this time.
- h. It was agreed that: manufacturing peanut butter in-house was a valued USP and the department should not be closed, that the SMT would revisit the plan to sell peanut butter in 6 months time and that in the meantime Ben would continue to try and find more cost savings.

Tax regime in Ceeland

- The corporate income tax rate to be applied to taxable profits is 25%.
- Unless otherwise stated below, accounting rules on recognition and measurement are followed for tax purposes.
- The following expenses are not allowable for tax purposes:
 - accounting depreciation
 - amortisation
 - impairment charges
 - entertaining expenditure
 - donations to political parties
 - taxes paid to other public bodies
- Tax depreciation allowances are available on all items of plant and equipment (including computer equipment) at a rate of 25% per year on a reducing balance basis. A full year's allowance is available in the year that the asset is acquired. Tax depreciation allowances are not available for property assets.
- Tax losses can be carried forward indefinitely to offset against future taxable profits from the same business.
- Sales tax is charged on all standard rated goods and services at a rate of 20%. Tax paid on inputs into a business can be netted off against the tax charged on outputs from that business. All businesses are required to pay over the net amount due on a monthly basis.

Operational Level Case Study – Examiner’s report

November 2023 – February 2024 exam sessions

This document should be read in conjunction with the examiner’s suggested answers and marking guidance.

General comments

The Operational Case Study examinations for November 2023 and February 2024 were based on Personal Best (PB), a company that manufactures and sells protein bars and protein powders. The products are intended primarily as pre- or post-workout snacks for people who undertake a regular programme of exercise. The company is based in Ceeland, a country in Europe which has the C\$ as its currency.

PB has experienced sales growth every month since its foundation 5 years ago. The three founders all have their own specialisms which enable them to work together in a remarkably smooth and collegiate manner. By common consent, Hema Bhatt, an engineer who designed and built the first production machinery, is now the Managing Director, Julia Matthews is the Finance Director and Penny Sanchez is the Sales & Marketing Director.

PB’s mission statement is “To help all customers to achieve their own personal best and to live their best life”. It is this mission that guides most of the decisions at PB. Alongside the products themselves, the website offers the vast PB community nutritional and fitness advice, hosts support chat rooms, offers prizes for the best recipe using PB’s snack bars or protein powder every month and has links to other relevant websites.

In the year to 30 June 2023, the company’s revenue was C\$23.9 million, gross profit was C\$8.4 million and profit before tax was C\$1.2 million.

Six variants were written based on Personal Best. The focus of each variant was as follows:

- Variant 1: Launch of a new range of protein biscuits
- Variant 2: Focus on the Peanut Butter Production Department

- Variant 3: Expansion of sales internationally into a new market
- Variant 4: Launch of a new vegan range
- Variant 5: Launch of a new range of ready mixed shakes
- Variant 6: Expansion of domestic sales into the keto diet market

Each variant was based on the OCS case study blueprint and covered all core activities in accordance with the weightings prescribed. A levels-based approach was used for marking candidate answers. Each variant consisted of four tasks and each of these tasks was broken down into between two and four sub-tasks. Each sub-task was then broken down into between one and five traits for marking. For each trait, there was a detailed marking guide which split the total mark available into three levels: level 1, level 2 and level 3. It was also possible to achieve a score of zero for a trait if there was no rewardable material.

If a candidate scored only at a level 1 on a trait, it is likely that they did some or all of the following:

- Demonstrated limited technical understanding of the topic area, showing clear gaps in knowledge and understanding.
- Identified issues and points rather than explained or justified why the issue or point being made was relevant or important.
- Provided answers that were too brief or lacked clarity.
- Failed to reference the information given in the unseen information or failed to relate their answer to the task scenario and the specifics of PB.
- Failed to answer the task given, instead providing the answer to a different task from a previous OCS exam.

As is always the case, to achieve a level 3 on a trait, it was expected that a candidate would demonstrate good technical understanding of the topic being tested and apply this technical understanding to PB and the particular scenario within the task, providing clear and comprehensive explanations that referenced the information given.

As is mentioned in each and every examiner's report, demonstrating good technical understanding is not enough on its own to pass. Candidates need to demonstrate technical understanding in the context of the scenario and the particulars of the issue being addressed. Information given to candidates as part of the task is there for a reason and should be, as far as possible, incorporated into answers, along with relevant information from the pre-seen. Application to the scenario is key to achieving high level 2 and level 3 scores. Clearly where there are gaps in knowledge, application is not possible and therefore the importance of candidates ensuring that their knowledge base is complete needs to be reiterated. In addition, to score at high level 2 or level 3, answers need to be an explanation or justification rather than a description, identification or simple statement.

Candidate Performance

As is usually the case, candidate performance was varied:

- Consistent with previous sessions, there were a significant number of candidates that achieved less than 25% of the marks available, which is very disappointing. Most of these candidates attempted to answer all sub-tasks, but seemed wholly unprepared for the exam, with their answers demonstrating poor technical understanding and completely lacking in depth and clarity.
- However, there were some excellent answers, with more candidates achieving above 80% of the marks available than has been the case in previous sessions. These candidates gave well-structured, clear and comprehensively explained answers to the specific task given that demonstrated technical understanding in an applied way, by fully utilising the information given in the pre-seen and the unseen materials.
- As to be expected, the majority of candidates were in the mid-range overall. Some of these candidates were mid-range because they had specific gaps in technical knowledge, which meant that they scored poorly on some sub-tasks but did well in other sub-tasks. For most candidates in the mid-range though, answers for sub-tasks were consistently at level 2, usually because of a lack of depth in answers or because they had mis-read the task.

Specific topic areas where many candidates demonstrated good technical understanding (and usually good application) included IAS 16, IFRS 5 criteria for reclassification, EOQ, decision making with risk, beyond budgeting, digital costing systems, credit control and basic variances (raw materials, direct labour and sales price). The areas where candidates demonstrated a lack of technical understanding included variable and fixed overhead variances, sales mix and quantity variances, taxation issues, rolling budgets, flexible budgets, constructing functional budgets, the ABC cost hierarchy, IAS 10 and measurement of assets held for sale.

There continues to be a lack of depth of explanation or justification in some of the tasks, especially in relation to financial reporting tasks. Remember, an explanation requires more than a short sentence on a point or simple identification of a rule in a financial reporting standard. Application to the specifics of the scenario by referencing the information given is also lacking at times. There was also a lack of clarity in certain areas such as explaining the meaning of an adverse or favourable variance or how a KPI would be measured.

With respect to the core activities, for this session, candidate performance was typically best for F (working capital), C (performance evaluation) and E (decision making). The less competent core activities appeared to be A (costing), B (budgeting), D (financial reporting), but this often depended on the topic area that the task was based on. Most answers were clearly laid out, with heading and sub-headings, and timing did not seem to be an issue for most candidates.

To sum up, as has been noted many times before, the difference between a fail/bare pass and a good pass is often a candidate's ability to apply their technical understanding to the scenario and to incorporate this application into their answers consistently. Candidates should also pay attention to their clarity of explanation and ensure that they have addressed all parts of the sub-task. The same general advice to candidates applies to this session as much as all the previous sessions: answer the sub-task set (not what you wish had been set based on your pre-prepared answer), answer all parts of the sub-task and demonstrate technical understanding within the context of the business and the sub-task, referring as much as possible to the information given to you.

Variant 1

Task 1

The first sub-task asked for an explanation of how an oven would be classified and initially measured in the financial statements. It also asked for an explanation of the impact of the oven on the reported profit for the year ending 30 June 2024. This tested core activity D. Most candidates correctly identified the oven as part of property, plant and equipment, but many failed to justify why this was the case. Similarly, most candidates were able to state that the asset should be initially measured at purchase cost plus directly attributable costs, but then failed to explain this rule in the context of the information given in the scenario, which limited many scores to a lower level 2. There was some confusion about the training costs. However, it was good to see that most candidates recognised the need to treat the heating elements and the oven separately for depreciation purposes, and, on the whole, this part was well answered. Some candidates did miss the fact that depreciation would start from the point that the asset was available for use, which was from 1 February 2024.

The second sub-task asked for an explanation of how the lease for wrapping and packing equipment would be initially recorded and subsequently measured in the financial statements for the year ending 30 June 2024. This tested core activity D. This was not well answered, which was surprising given that this type of task has arisen many times before. Many candidates demonstrated a lack of knowledge and understanding on how to account for a lease and were confused between the initial measurement of the right-of-use asset and the lease liability. Very few candidates were clear about the lease liability, only including the future seven payments and that this would be at present value. Many candidates did though recognise that the right-of-use asset needed to be depreciated for 10 years, although some did reference 8 years instead, which was incorrect. As a result of the lack of technical understanding and lack of clarity, many candidates scored at only level 1.

The third sub-task asked for suggestions of three KPIs that were appropriate to monitor the performance of the Protein Biscuit Production Department when it started production. It also asked for an explanation of how each KPI would be measured and why it would be appropriate. This tested core activity C. This was quite a wide-ranging scenario and therefore any sensible KPI linked to production could have been given. Answers were generally disappointing. Many candidates gave measures that were either not KPIs, not SMART or not related to production (for example, customer satisfaction or marketing-related measures). Some candidates gave simple variances or merely stated actions such as 'quality control' and 'staff training', which are not KPIs. Few candidates scored above a mid-level 2 here.

Task 2

The first sub-task asked for an explanation of how the features of a digital costing system could benefit the business, using the information in Table 1 to support the explanation. This tested core activity A. Overall, this was well answered, with many high level 2 or level 3 answers. These candidates made good use of the exhibit to help them with a range of ideas and therefore most answers were well applied to the case context. Weaker answers tended to be descriptive of a digital costing system, rather than using the information provided.

The second sub-task asked for an explanation of how to use a zero based budgeting (ZBB) approach to determine the marketing budget for protein biscuits, using the information in Table 2 to support the explanation. This tested core activity B. This was poorly attempted on the whole. Some candidates explained the relative benefits and drawbacks of ZBB versus incremental budgeting, which was not asked for. Other candidates did a “brain-dump” of the basics of the ZBB process but did not use the marketing scenarios provided to explain how ZBB could be used for this budget. Other candidates seemed confused between ZBB and activity based costing.

The third sub-task asked for an explanation of the potential limitations of using a ZBB approach to determine all discretionary budgets across the business each year. This tested core activity B. Most candidates mentioned time and cost, but unfortunately few answers went further than this. Some mentioned the need for additional training and others did recognise that there might be potential resistance, but these were often not well explained in the context of the scenario. Some candidates wasted time by commenting on the benefits of using a ZBB approach.

Task 3

The first sub-task asked for an explanation of how to use the decision tree shown in Chart 1 to decide which marketing option should be chosen, assuming that the SMT had a risk neutral attitude. It also asked for an explanation of any limitations of the data used to compile the decision tree. This tested core activity E. Many candidates showed a surprising lack of understanding of decision trees and expected values for this task. Many answers were too brief, with candidates jumping to a conclusion without an adequate explanation of the decision tree. Other candidates worked from left to right, instead of right to left, across the decision tree. A few candidates also misread the decision tree as being costs rather than contribution and recommended Company 1 as the “lowest cost”. The limitations part of this task was also not well answered. Candidates made a number of points, but most of these were usually about the limitations of using the EV approach, rather than limitations of the data use in the decision tree. Overall, few candidates scored higher than a mid-level 2.

The second sub-task asked for an explanation of how a decision maker with either a risk averse or risk seeking attitude would use this information. It also asked for statement of which marketing campaign would be chosen by each type of decision maker. This tested core activity E. This was either answered very well or very badly. Some candidates scored at level 3 because they clearly understood and explained how the two types of decision maker would use the information and gave the correct decisions for the correct reasons. However, more candidates demonstrated confusion between risk and uncertainty and commented on maximax and maximin approaches, which were not relevant here. Some candidate answers were very brief, indicating a lack of technical knowledge and understanding.

The third sub-task asked for an explanation of how the management of working capital differed between Company 1 and Company 2, using the information in Table 1 to illustrate. This tested core activity F. Many candidates simply paraphrased the data provided by comparing the two companies in terms of which was better or worse, rather than focus on what the information indicated about how each managed its working capital. There was also a wrong focus in many answers where candidates assumed, incorrectly, that they were being asked for a recommendation on which of the two companies PB should select. As a result, few candidates scored above a mid-level 2.

Task 4

The first sub-task asked for an explanation of what each of the variances shown in Schedule 1 meant and possible reasons for their occurrence. This tested core activity C. Most candidates made good use of the notes in Schedule 1 to assist them in their explanation of the reasons for the variances, which was good. As usual, candidates demonstrated less technical understanding of the sales mix variance, perhaps because it was based on weighted average rather than individual units. In addition, many candidates described how the variance would be calculated in general terms but then did not clearly explain what the favourable or adverse variance meant in this context, and hence were not addressing the task given. For the cost variances, many candidates wrote, 'actual versus budget' to explain the meaning of the variances, rather than actual compared to the standard for the actual level of production, demonstrating a lack of understanding about the need to flex the budget.

The second sub-task asked for an explanation of feedback and feedforward control and how each could be used to improve performance, using the variance information in Schedule 1 to illustrate explanations. This tested core activity B. Many answers here were brief, with candidates providing little more than definitions of each type of control. Where candidates did attempt to expand their answers, this was often vague with little reference to the variance information. For feedback control, some candidates commented that it was a process that compared actual results with the budget and focused on changing standards going forward rather than discussing actions that could be taken to prevent adverse variances continuing. For feedforward control, some candidates were confused and thought that feedforward referred to feedback from PBs customers or referred to marketing actions needed to meet competition in the market.

Variant 2

Task 1

The first sub-task asked for an explanation of the assumptions underlying the economic order quantity (EOQ) model used for Supplier 2 and whether these reduced its suitability as a method of determining order sizes for peanuts, referring to the information in Schedule 1 in the explanation. This tested core activity F. Many candidates answered this very well, demonstrating good technical knowledge with good reference to the information given. Those that did not score at level 3 were candidates that had the knowledge and were able to site: constant demand, price and known lead time, but failed to apply it to the context of the case study scenario. The candidates that scored at level 1 or lower demonstrated little or no knowledge of the EOQ.

The second sub-task asked for an explanation of how the choice of suppliers would affect PB's working capital level, assuming that if Supplier 2 was used, the company continued to use the EOQ model to determine order size. This tested core activity F. To achieve a level 3, candidates needed to identify and explain the effect that the choice of supplier would have on working capital (therefore, on inventory and payables). Many candidates wasted time trying to explain the effect on receivables, which, in addition to being impossible, was also outside the scope of the task and earned no credit. Many candidates chose to explain the impact on working capital of choosing a new supplier as opposed to retaining the existing supplier. This did gain some credit, but it did not answer the task posed.

The third sub-task asked for an explanation of the three areas of the CGMA cost transformation model identified and how these applied to the Peanut Butter Department, using points discussed at the SMT meeting held on 6 November 2023 in the explanation. This tested core activity A. While there were a few very good level 3 answers, most were very limited. Disappointingly, many candidates did not apply the facts from the preseen, despite them being presented in the examination material as a reminder. One of the keys to passing OCS is the application of facts presented to models, theories and techniques. Without this, application answers can score a low level 2 at best.

Task 2

The first sub-task asked for an explanation of how the maximin, maximax and minimax regret decision criteria would be used to select the maintenance contract, stating the contract that would be chosen under each criterion. This tested core activity E. This type of task has been asked many times before and it was clear that a good proportion of candidates had prepared for such a task. These candidates scored a high level 3. However, it was disappointing that a number of candidates could not explain and apply the three-decision criteria well. The most common errors were mistaking costs for revenues, making the decision on the state of nature and not the choice of contracts and adding up the columns in the regret table and using that number to make the decision.

The second sub-task asked for an explanation of what each of the variances in the exception report meant and possible reasons why the grinding machine breakdown caused them to occur. This tested core activity C. There were plenty of events detailed in the case scenario to explain the possible causes of the variances and it was encouraging that most candidates used these details correctly in

their answers. However, less than half the answers submitted explained the meaning of the variances and this meant that candidates were depriving themselves of the opportunity to some of the marks on offer. It is essential that candidates take the time to read and answer the full task posed. Almost all answers scored higher marks on the variable cost variances than they did on the fixed overhead variances. Most answers only scored on the fixed overhead expenditure variance and either failed to attempt or completely misunderstood the efficiency and capacity variances.

Task 3

The first sub-task asked for an explanation of how the old roasting oven would be presented in the financial statements for the year ending 30 June 2024. This tested core activity D. There were some excellent answers to the criteria for classification as an asset held for sale, although some answers did not apply these criteria to the facts presented in the scenario and therefore restricted themselves to a level 2 mark for this trait. The presentation and measurement of the asset held for sale in the financial statements was less well answered and many candidates appeared to be making the standard up as they went along, an approach that earned minimal credit.

The second sub-task asked for an explanation of the method used to determine each trend line in Schedule 1 and which of the two methods was the most accurate. It also asked for an explanation of two reasons why even the most accurate trend line based on this data might not be suitable as the basis of the sales forecast. This tested core activity B. Most answers did not answer the task given and instead explained what the trend line meant, limiting the score that could be awarded. The suitability of the trend lines for forecasting future sales was generally well answered, with many candidates commenting about the base data.

The third sub-task asked for an explanation of what a rolling budget is and the potential benefits of using rolling budgets for the Peanut Butter Department. This also tested core activity B. Unfortunately, very few candidates actually explained what a rolling budget is, despite the task clearly asking for this. As a result, some marks were lost. The benefits that were explained were often very generic and vague. For example, “A rolling budget will lead to better planning and control” is a statement that might apply to any type of budget depending on circumstances and it is not an explanation. An explanation adds value to a statement. As a result, most candidates scored at the lower end of level 2 here.

Task 4

The first sub-task asked for an explanation of how each inventory issue should be treated in the financial statements for the year ended 30 June 2024. This tested core activity D. Generally, this was badly answered, as most answers were technically inaccurate and/or incomplete. This was a straightforward question, and it is disappointing that there is such a dearth of knowledge in this area, especially in relation to IAS 10. Most candidates scored at level 1 here.

The second sub-task asked for an explanation of what the expected values shown in Schedule 1 meant and how they could be used to make a decision on whether to check every sachet for faults. It also asked for an explanation of the limitations of using this information

to make the decision. This tested core activity E. This was well answered by most and exceptionally well by some. Clearly, this is an area that candidates feel comfortable with and had prepared for.

The third sub-task asked for suggestions of, for each of the three different manufacturing processes within the Peanut Butter Department, a KPI suitable to monitor performance. It also asked for an explanation of how each KPI could be measured and why it would be appropriate. This tested core activity C. There were some heavy hints presented in the case study exhibit and therefore it was disappointing that there were so many poor answers. Few candidates seemed to realise that each KPI needed three elements: first, a suggested KPI, second, an explanation of how to measure the suggested KPI and third, why the suggested KPI was appropriate. Unless all three of these elements was addressed, candidates could not achieve a level 3 and unless two were addressed most answers only scored at level 1. Many candidates correctly explained that KPIs should be SMART, but then suggested KPIs that were not SMART, as they lacked a time reference. It was disappointing that some obviously able candidates could not be awarded marks because they did not answer all parts of this task.

Variant 3

Task 1

The first sub-task asked for an explanation of the importance of sales budgets for the purpose of control, co-ordination and authorisation at PB. It also asked candidates to address the questions in Schedule 1. This tested core activity B. To score well here, candidates needed to demonstrate that they understood these three core purposes of budgets in the context of the new operation in Meland and, in doing so, directly address the concerns of the managers. Most candidates were able to explain control within context, however, many struggled with co-ordination and authorisation. Those candidates scoring at level 1 or low level 2 tended to produce vague answers and were unable to articulate each discrete purpose. Some candidate answers were clear and technically correct but generic and not applied to the scenario, which limited scores as well to the lower end of level 2.

The second sub-task asked for an explanation of the potential advantages and disadvantages to the Meland sales managers of a participative approach to budget setting. This tested core activity B. There were some good level 3 answers where candidates covered a range of advantages and disadvantages and related these to the new Meland operation and to the Meland sales managers. There were a considerable number of candidates that did not apply to the case and these answers, although correct, did not score as highly.

The third sub-task asked for an explanation of what Chart 1 indicated about the effect that the promotional campaign would have on costs, revenues, profit and risk. It also asked for an explanation of the importance of accurate sales forecasts in interpreting the chart. This tested core activity E. Candidates are reminded in tasks such as this that they need to use the information in the chart in their explanations. For example, a good answer in relation to the impact of the promotional campaign on fixed costs would state that fixed costs were expected to increase from C\$600k to C\$700k and not just that fixed costs increased. Some candidates did not understand that the sales revenue increased due to the reduction of planned discounts rather than an increase in sales volumes. Many candidates explained the movement in the breakeven point as an impact of the campaign. However, relatively few went on to discuss the margin of safety which is the key measure of risk. Some candidates discussed risk in more general terms, but the task required candidates to show how the chart could be used to assess risk and hence consideration of the impact on the margin of safety was expected here.

Task 2

The first sub-task asked for an explanation of the 'what-if' information shown in Table 1 and the potential financial impact of each draft budget. This tested core activity B. This task was not well done. To explain the information in Table 1, candidates needed to demonstrate an understanding of cost behaviour caused by the two scenarios and what this meant about the alternatives. In alternative 1, many candidates made the error of saying that revenue had increased due to an increase in volume. In doing so, they missed that variable costs had stayed the same and hence the increase in revenue was caused by a reduction in discounts which in turn increased the contribution available to cover the increased fixed costs of the campaign. It is not enough to just repeat the information in the table and answers that did this did not score well.

The second sub-task asked for an explanation of the benefits of using either: (1) a bank loan, (2) an overdraft, or (3) invoice discounting to finance an expected cash deficit. It also asked for an explanation of which of the three would be considered the most appropriate, given that PB were expected to return to a cash surplus in February. This tested core activity F. Most candidates were able to explain the main benefits of the loan and the overdraft and, in doing so, demonstrate they had technical understanding of these financial products. However, quite a few candidates confused invoice discounting either with factoring in general or with settlement discounts granted to the customers of PB. Some candidates stated that if early payment discounts were offered to customers, then there would be no cost to the company. Some answers lacked clarity in explanation and were not able to clearly articulate the actual benefits to PB.

The third sub-task asked for an explanation of the differences in the cost of sales and profit figures using absorption costing and marginal costing. It also asked for an explanation of how the profit figures could be reconciled. This tested core activity A. Most candidates explained that absorption costing includes fixed production overheads in the product cost and hence in the inventory valuation, although most did not reference the actual overhead absorption rate given. Some candidates thought that the profit differences were to do with over or under absorption and hence did not score well. Other answers were just lacking in clarity. However, there were some good answers that clearly explained how changes in inventory can impact profit using absorption costing and illustrated this using the financial statements provided in the case. These answers scored at level 3.

The fourth sub-task asked for an explanation of the overabsorption figures in the absorption costing profit statements and why these are not included in marginal costing profit statements. This tested core activity A. Most candidates explained that overabsorption means that PB absorbed too much into cost of sales but did not expand on this. For example, few candidates explained the nature of the overhead absorption rate and how overabsorption can occur due to this being estimated and that elements of the overhead absorption rate could be inaccurate. Not many answers stated that over and under absorption is the difference between overhead incurred and overhead absorbed. Most candidates did however demonstrate an understanding of how overheads are treated in marginal costing.

Task 3

The first sub-task asked for an explanation of how each of the items in Schedule 1 would be treated in the financial statements for the year ending 30 June 2024, including any impact on profit. This tested core activity D. The first of these items was a potential impairment to a forklift truck. Answers for this part were mixed. Where candidates had prepared well, they were able to cite the impairment rule and then apply this well using the information given.

A common error was to omit the C\$3,000 costs of repair from the value in use calculation. Some candidates presented the sale and the repair as choices rather than as an application of IAS 36. The second of these items required candidates to apply IAS 2 to two scenarios concerning protein bars and protein powder. Candidates did better on this part of the task, and most were able to cite the rule as well as apply it well. Common errors included omitting to say what the impact on the statement of financial position or statement of profit or loss would be.

The second sub-task asked for an explanation of the principles behind a production schedule and how it had been used to determine the number of boxes PB should make of each of three types of protein bar. This tested core activity E. There were very few candidates that explained the principles behind the schedule. For example, why contribution is used rather than profit and why contribution per limiting factor. Most answers were limited to the process of how the schedule had been used, and whilst this was done well by most candidates, this was only half of the task, which limited most scores to a lower level 2.

The third sub-task asked for an explanation, if, from a financial and a non-financial perspective, it would be worth buying the extra whey powder at the higher price. This tested core activity E. Most candidates were able to articulate reasons from a non-financial perspective why it would be worthwhile to purchase additional whey. Some better candidates picked up that the cost would still be less than contribution generated and, as such, were on the right track. However, for full marks here, a clear definition of shadow price and the implications of this on the total price paid needed to be made clear.

Task 4

The first sub-task asked for an explanation of the meaning of the sales variances in Table 1 and possible reasons for their occurrence. This tested core activity C. Most candidates were able to explain the meaning of the price variance and provide reasons linked to the information given. For the mix variance, many candidates demonstrated confusion between the weighted average method and individual units method. The same candidates then struggled to pick up marks for the reasons as, although they cited the influencer and the mispricing, they did not explain sufficiently why this impacted mix. Candidates could explain the meaning of the favourable quantity variance, although weren't always clear that this was at budgeted mix. Scores were typically within level 2 here.

The second sub-task asked for an explanation of the differences in both the receivables days and the levels of irrecoverable debt in Meland compared to Ceeland. It also asked for an explanation of one action that the Credit Control Department could take to improve each difference. This tested core activity F. Some candidates decided that the reason was the fact that different credit terms were being offered even though it was very clear from the scenario that the same credit terms were offered in both countries and the same team managed the receivables. However, many candidates did well on this task and were able to come up with good actions to address the Meland credit control issues.

The third sub-task asked for suggestions of three KPIs that were appropriate to monitor the performance of the Credit Control Department for the Meland operation, explaining how each KPI would be measured and justify why it would be appropriate. This tested core activity C. Most candidates could come up with KPIs and explain why they would be appropriate. However, many candidates did not adequately explain how they would be measured. Some poorer scripts suggested KPIs that were not about monitoring the credit control team but more about the sales teams.

Variant 3

Task 1

The first sub-task asked for an explanation of how the calculations of gross profit shown in Tables 1 and 2 differed and why the two approaches resulted in different gross profit figures. This tested core activity A. This was not well answered. Most candidates seemed to know how the two approaches differed but were unable to articulate this through clear explanation. There was very little reference to the scenario, except to mention the different gross profit figure and often explanation of the over-absorption adjustment was missing. Some poorer candidates did not seem to understand the difference between contribution and gross profit. When explaining why the gross profit figures were different, most candidates knew that this had something to do with the movement in inventory. However, most did not explain the concept that carrying forward some of the fixed cost in the inventory valuation meant that the absorption costing profit was higher when less goods were sold than produced. Most candidates scored at lower level 2 for this sub-task.

The second sub-task asked for an explanation of the arguments for and against using marginal costing rather than absorption costing as the costing approach for the new PB-V Production Facility. This tested core activity A. The arguments for and against marginal costing were often long-winded with little application to the scenario. Many candidates mentioned short-termism but could not explain what that meant in this situation. Some candidates misread the question and discussed the merits and drawbacks of activity based costing.

The third sub-task asked for an explanation of what the three trend lines and the seasonal variations information shown in Schedule 1 indicated about sales of vegan protein bars in Ceeland. This tested core activity B. This was reasonably well answered. Many candidates made sensible comments about the different trend lines and the relative growth rates in the different markets. Most candidates also commented on the seasonal variations, but often these comments were brief and did not link this to the trend lines. There were a sizeable number of candidates that seemed to misread the scenario and assumed that the data was for sales of PB products rather than about vegan protein bars sold in the market. Most candidates scored at mid to higher level 2 here.

The fourth sub-task asked for an explanation of three factors affecting the accuracy of any PB-V sales forecasts based on the trend and seasonal variations information. This tested core activity B. Answers here were mixed. Some candidate answers were very good, making relevant points about the data in relation to PB, that scored at level 3. Weaker candidate answers listed bullet point style textbook factors with no application at all. These answers typically scored at level 1.

Task 2

The first sub-task asked for an explanation of how to construct the production, material usage and material purchases budgets for PB-V Protein Bars for the period ending June 2024, making reference to the information in Table 1 in the explanation. This tested core activity B. This was intended to be a relatively straight-forward task, but the quality of answers was disappointing. Many candidates did start their answers by stating that the production budget would be based on sales volumes, but then failed to comment on the need to reflect any changes in inventory levels. The material usage and purchases budgets were often listed in the wrong order, so answers started with purchases and then usage was a repeat of this. Again, inventory levels were usually ignored as well as considerations such as waste and lead times. Many candidates did try and use the scenario material, but not in a sensible way. There were a few excellent answers, that scored at level 3, but most candidates were at lower level 2 or level 1.

The second sub-task asked for an explanation of what Chart 1 indicated about the cost structure of the two options for the supply of PB-V Protein Powder. It also asked for explanation of, using Table 2, whether it was appropriate to base the decision about which option to take on the expected value of the volume of annual demand, stating what the decision would be on that basis. This tested core activity E. The first element of this about the different cost structures of the two options was answered reasonably well by most candidates, with good use of the scenario information to support explanations. Some candidates failed to mention variable and stepped fixed costs, maybe thinking it was too obvious to state. The second element about the use of expected value was less well answered. Many candidates did not read the task carefully enough and based their recommendation on the fact that the largest % outcomes were between 80,000 and 90,000, so it would depend on attitude to risk, rather than on the basis of the expected value of demand given. Despite the problems of using expected value being tested many times before, this was not answered well, with little reference to the scenario, with some candidates describing maximax and maximin, which was not relevant.

The third-sub task asked for an explanation of three factors that needed to be considered before making a final decision about whether to buy-in from the supplier or produce PB-V Protein Powder in-house. This tested core activity E. This was answered well by most candidate with good reference to PB, who scored at high level 2 or level 3. Those candidates scoring at level 1 often gave a list of one-word bullet points that made no reference to the scenario.

Task 3

The first sub-task asked for an explanation of what Chart 1 indicated about the PB-V budget and break-even position. It also asked for an explanation of how the chart and break-even position would be affected by an increase in the proportion of sales of PB-V products sold through the website compared to the budget and an increase in the cost per kilogram of vegan whey powder. This tested core activity E. Most candidates demonstrated good understanding of fixed costs and breakeven points, with many highlighting the total budgeted profit and revenue.

Only a few candidates explained why the two breakeven points differed. In terms of the changes, it was pleasing to see that many candidates could identify the overall impact on the break-even position and the general direction that the lines would move. However, many failed to distinguish between the two lines when explaining this movement. For the increase in website sales, many of those candidates that did comment on the different lines thought the gradient of the bowed line would change and not that the elements of the line would lengthen and shorten.

The second sub-task asked for an explanation of how each of the property-related expenditure items in Table 1 would be initially recorded and subsequently measured in the financial statements for the year ending 30 June 2024. This tested core activity D. Most candidates demonstrated understanding of the key principles of asset recognition, but often failed to provide enough justification for each of the various elements of expenditure to score at level 3. Again, understanding of the general principles of subsequent measurement was demonstrated in terms of depreciation. However, few candidates went beyond this to explain the prepayment for maintenance or the correct period to pro-rate the depreciation (which should start from the date that property was available for use, being the end of March rather than the date the property was acquired).

The third sub-task asked for an explanation of how the lease liability associated with the leased equipment detailed in Table 1 would be initially recorded and subsequently measured in the financial statements for the year ending 30 June 2024. This tested core activity D. Answers here were generally very poor. This task was specifically about the lease liability and many candidates wasted time describing the right-of-use asset. This has been tested many times before and so it is disappointing that many candidates are still unable to explain how to measure a lease liability, let alone illustrate this by using the information given. Few candidates scored at more than level 1 here.

Task 4

The first sub-task asked for an explanation of how the fixed production overhead expenditure, efficiency and capacity variances for the PB-V Production Facility in May could be calculated based on the information in Table 1, and whether they would be adverse or favourable. It also asked for possible reasons for each variance. This tested core activity C. This was either answered well or very poorly, the latter perhaps because the style of task was different from previous sittings. Many candidates related the correct reasons to the correct variances but could not explain with accuracy how the variances would be calculated. For the efficiency and capacity variances, some candidates correctly identified the relative hours correctly but failed to put a value on the difference to fully explain how the variance would be calculated. On the whole, the expenditure variance was answered the best and capacity the worst because many candidates still think this is about production volume.

The second sub-task asked for an explanation of what the KPIs shown in Table 2 indicated about website sales for the period. This tested core activity C. Most candidates were able to demonstrate understanding of the KPI measures and make general comments about overall performance against target. However, many candidate answers were let down by poor application to the scenario and limited, if any, attempt to link the measures to each other. For example, few candidates linked the relative website order value and number of orders and there was little reference to the promotion in March and how that affected April compared to May.

The third sub-task asked for an explanation of how the company could change the way that it managed raw material inventory and payables to reduce the risk of a cash deficit occurring, including any potential issues associated with doing so. This tested core activity F. Most candidates had the right idea and knew they had to discuss the levels of inventory and suppliers. However, some candidates did spend time explaining irrelevant issues like how to reduce receivables. Many candidates scored at mid level 2 upwards, although many candidates failed to achieve level 3 because of a lack of application.

Variant 5

Task 1

The first sub-task asked for an explanation of what is meant by each category of the activity cost hierarchy in the context of the Production Facility, with specific reference to the mixing and bottling process in Schedule 1, including examples of overhead costs for each of these categories. This tested core activity A. This was not well answered on the whole, with many candidates' score at lower level 2. Some candidates missed that the task asked for examples of overhead costs and instead gave examples such as raw materials and direct labour, particularly in relation to unit driven costs. Most candidates demonstrated a vague understanding of the different cost categories but failed to provide clarity and depth when explaining what there are and in justifying why their examples were relevant to a category. For example, there were a lot of answers which merely stated that 'a unit level cost is a cost driven by units' with nothing more to explain this or apply this to the scenario.

The second sub-task asked for an explanation of how to make the decision between Option A or Option B from a financial perspective, giving reasons why each cost and revenue item in Schedule 2 would or would not be included in this decision process. It also asked for an explanation of two other factors to consider before making a final decision. This tested core activity E. Most candidates recognised that this was a relevant costing exercise, although there were some candidates that approached this from a financial reporting perspective and hence did not score well. Another reason why candidates did not score well was failing to justify why each item was included or excluded. Some candidate answers were just lists of what was to be included with an attempt to calculate the net benefit of each option, rather than an explanation of what to include. There were some candidates that did justify all of the items but then failed to explain how the decision would be made, therefore missing out on maximum marks. Most candidates did come up with some other factors to consider but many did not apply these to the scenario and hence scores here were often limited to lower level 2.

The third sub-task asked for an explanation of the impact of the new asset on the calculation of corporate income tax payable for the year ending 30 June 2024, if the company take advantage of the special first year tax depreciation allowance. This tested core activity D. This was not answered well. Most candidates were able to explain that the accounting depreciation was not allowable for tax purposes and even calculate the relevant depreciation applicable for the year. However, they seemed unsure as to how tax depreciation would be applied and of the impact on tax payable. Some better answers were able to compare the accounting depreciation with tax depreciation or explain the impact of a 100% tax depreciation allowance with a 25% allowance which would normally have been applied. These types of approaches often scored at level 3.

Task 2

The first sub-task asked for an explanation of how decision packages could be developed as part of determining the promotional budget for PB-Ready. It also asked for an explanation of two challenges that the company might face when doing this. This tested core activity B. This was generally attempted well and there was some good application to the information provided in the unseen material. However, some candidates did not apply their answer at all to the case despite providing a good explanation of the stages of forming decision packages and hence limited their score. Some candidates spent too much time explaining ZBB more widely rather than focusing on decision packages. To score high marks in this task, candidates needed to have explained both incremental and mutually exclusive packages and how these could be constructed based on the unseen information, explaining the need to analyse costs and benefits. Most candidates were able to identify challenges but again many lacked application to the scenario.

The second sub-task asked for an explanation of what the EOQ of 150,000 meant and the variables that will have been used to determine it. It also asked for an explanation of how the lead time would affect the ordering process and how the company would determine whether it would be advisable to order in bulk to take advantage of the discount available. This tested core activity F. This first element of this sub-task was answered reasonably well, with many at level 3. Some explanations did lack depth however, in that they did not make clear that the EOQ aimed to minimise the total cost of ordering and holding costs. Good explanations did so and explained what ordering and holding costs were when explaining the input factors. The second element was less well answered. Most candidates did not seem to know what to say about the lead time and most did not mention that 1 week's inventory represented the re-order point. Many did however point out that if the lead time were to be at risk, this would require additional buffer inventory. Some candidates were able to articulate the process of determining whether to take the bulk discount, but most did not do this with clarity.

The third sub-task asked for an explanation of how PB-Ready finished goods inventory would be valued in the financial statements, with reference to the information in Table 1 and to the relevant financial reporting standard. This tested core activity D. The key to a level 3 answer for this task was recognising the distinction between inventory for normal sale and that for farmers. For a full answer, candidates needed to explain the rule (which many did), define cost and net realisable value and then apply this to each type of inventory. Most candidates did reasonably well in this question, but it was mainly clarity and depth of explanation that prevented candidates from scoring at level 3.

Task 3

The first sub-task asked for an explanation of the payoff and statistical information in Schedule 1. This tested core activity E. Most candidates could explain the expected value, standard deviation and coefficient of variation. However, although many candidates described the payoff table, they failed to add value to the information to make it an explanation. As a result, most candidates scored at lower level 2 here.

The second sub-task asked for an explanation of how the company would apply a risk neutral, risk seeking and risk averse approach to this decision, giving the decision that would be taken using each approach. It also asked for an explanation of one limitation associated with each approach. This tested core activity E. This type of task should be familiar to candidates, and most did score well. However, a considerable number of candidates still mix up standard deviation and coefficient of variation. A risk averse decision maker will choose the lower coefficient of variation as this is a relative measure. Some candidates confused risk and uncertainty and used maximin rather than using the risk measures given. In explaining limitations, good answers made use of the information in the tables rather than giving generic answers.

The third sub-task asked for an explanation of the features of a beyond budgeting approach and how the company might apply these. It also asked for an explanation of the benefits to the business of using a beyond budgeting approach. This tested core activity B. This was reasonably well answered. Most candidates were able to explain rolling budgets and the move to a more participative approach to budgeting. Some candidates did include the use of KPIs in their answers but gave examples of these which were internally, as opposed to externally focused (such as KPIs to facilitate benchmarking against competitors). In explaining the benefits, candidates lost marks due to a lack of application to the scenario.

Task 4

The first sub-task asked for an explanation of what each of the variances shown in Table 1 meant and possible reasons for their occurrence. This tested core activity C. As has been noted many times before, candidates are reminded that when asked to explain the meaning of a variance, they need to explain what favourable or adverse means in the context of the variance. It is not enough to explain how the variance is calculated and it is not necessary to explain how it is calculated unless expressly asked to do so. A lot of candidates lost marks here as, although they may have known what the variance meant, they stopped short of explaining this properly. In suggesting reasons, most candidates were able to suggest reasons that were suggested in the unseen information. Labour variances were done reasonably well, although many candidates did not make it clear that an adverse idle time variance means that the company paid for hours that were not productive. The variable overhead variances were poorly done by many candidates. Overheads were absorbed on machine hours and many answers ignored this or even talked about labour in explaining both the meaning and the reason for the variances. Many candidates could not distinguish between the variable overhead and the fixed overhead expenditure variance. The fixed overhead capacity variance was poorly understood, and many candidates confused the fixed overhead efficiency and capacity variance.

The second-sub-task asked for suggestions of three suitable KPIs, relating to the sustainability of the PB-Ready production process, that could be included in a dashboard for PB-Ready. It also asked for an explanation of how each KPI would be measured and why it would be appropriate.

This tested core activity C. When answering tasks such as this, candidates should think of each KPI in three parts (a suitable measure, how measured and justification for the measure) and ensure that the KPIs are SMART. Many candidates did well here but those who did less well failed to focus on the production process and considered sustainability of other aspects of the business. Also, lower scoring candidates were often not clear in their explanations of measurement or why it was appropriate.

Variant 6

Task 1

The first sub-task asked for an explanation of how to determine the cost per subscriber of the PBKeto app and the difficulties associated with doing this. This tested core activity A. Most candidates could identify the different costs associated with the app, but often could not clearly explain how the cost per subscriber would be determined. Some candidates described whether costs would be relevant or not and suggested a marginal, rather than full cost approach. Other candidates also thought the task was about whether the costs identified should be treated as capital or revenue expenditures. Clearly these approaches scored few if any marks. Those candidates that did focus on costing of the app were able to explain difficulties in the context of determining the number of subscribers and the lifetime of the app, but very few explained the issue of how to determine a fair share of indirect costs, such as IT costs, for the app. Some candidate scores were also limited here by a lack of clarity and application to the scenario.

The second-sub-task asked for an explanation of the information shown in Table 1 and which option would be chosen if the SMT took a risk neutral approach to this decision. It also asked for an explanation of three issues to be considered before making a final decision about which option to choose. This tested core activity E. Many candidates lost marks by failing to explain the table comparing the three options in sufficient detail, often just saying that option 1 would be chosen when taking a risk neutral approach without any further explanation. This type of approach scored at level 1. A minority of candidates incorrectly recommended either options 2 or 3, demonstrating a lack of technical understanding. In contrast, most candidates were able to explain some relevant issues such as the reliability of the probabilities. There were many high level 2 and level 3 answers for this element of the sub-task.

Task 2

The first sub-task asked for an explanation of the sources of big data that would assist with creating a forecast of the additional sales from the keto diet market. It also asked for an explanation of the potential problems that the agency would need to overcome when using big data analytics to establish this forecast. This tested core activity B. Although candidates' answers usually demonstrated an understanding of big data, some of the sources suggested showed either a lack of understanding of the scenario provided or showed a lack of business awareness. A common error made by candidates was to suggest using internal data from the app, which failed to recognise that the app was only just being developed and that the company was trying to establish a forecast for keto diet sales for the first 6 months of the year. Another common error was to suggest using competitor data as a source for the sales forecast without explaining how this kind of data, which would probably be confidential, could be sourced.

As a result, many candidates only scored at lower level 2 here. However, most candidates could explain some potential problems that the agency would need to overcome, usually using the framework of the 4V's, which was appropriate and typically scored at higher level 2.

The second-sub-task asked for an explanation of how the original cost budget for January to June 2024, shown in Table 1, would be revised using a flexible budgeting approach. This tested core activity B. This was badly answered by many candidates, which showed poor technical understanding in a core area of budgeting. Some candidates attempted to answer the task by describing incremental budgeting versus zero based budgeting, and some candidates thought that an explanation of beyond budgeting was needed. Some candidates also thought that flexible budgeting was about how often the budget should be prepared, explaining the benefits of monthly or quarterly budget reviews instead of annual preparation of budgets. Candidates who could correctly explain the principles of flexible budgeting often failed to recognise that some costs such as production overheads, selling, distribution and marketing costs and administration expenses may not be wholly fixed and may require some flexing of the original cost budget for variable cost elements in the budgets. On the whole, few candidates scored above a low level 2.

The third sub-task asked for an explanation of the factors to be considered when setting credit limits for Keto Warriors, referring to the information in Table 2 when explaining these factors. This tested core activity F. Many candidates could have earned better marks by answering the task in a more focused and applied way. There was a tendency to explain the data provided in terms of what the information illustrated about Keto Warriors approach to their working capital management. Whilst this was part of the answer expected, many answers needed to be more closely linked to the actual task. This was to explain how the data could be used in setting credit limits for this retailer, that is in terms of the amount of credit and the period terms. Very few candidates commented that the information for Keto Warriors was now over one year out of date, despite this being flagged up in a bullet point in the table provided.

Task 3

The first sub-task asked for an explanation of how the old mixing machine identified in Table 1 would be classified and measured in the financial statements for the year ending 30 June 2024. This tested core activity D. This was well answered by many candidates who demonstrated sound technical knowledge and understanding. Most candidates recognised that this was an issue of whether the old mixing machine could be reclassified as an asset held for sale. Many candidates scored at level 3 or high level 2 in relation to classification because they could explain the criteria for reclassification and applied these to justify the asset as held for sale. Explanation of the measurement of the old mixing machine on 30 June 2024 was also usually well attempted, although the majority of candidates suggested stopping depreciation from 1 April, rather than 1 May, and some candidates incorrectly said that the machine should be valued at the higher of its carrying amount and fair value less costs to sell.

The second sub-task asked for an explanation of how the old weighing scale identified in Table 1 would be classified and measured in the financial statements for the year ending 30 June 2024. This tested core activity D. There was a lot more uncertainty demonstrated in candidates' answers, compared with the first sub-task. Although most candidates recognised that the weighing scale did not meet the criteria for being treated as an asset held for sale, many candidates were unsure about how to value the asset on 30 June 2024. Most candidates failed to recognise that ongoing depreciation should now be based on the 2-years anticipated useful life of the asset, rather than 4 years. More worryingly, some candidates were confused about the impairment rules for this asset and suggested valuing the old scale at C\$3,150, the expected net proceeds of sale, because this was higher than the carrying amount, with the increase in value taken to either a revaluation reserve or profits in 2024.

The third sub-task asked for an explanation of two ways, either using the graph or otherwise, to determine which of Point 1 or Point 2 gave the optimal production plan on financial grounds. It also asked for an explanation of the factors to be considered before going ahead with the optimal production plan identified from the graph. This tested core activity E. This was not well answered by the majority of candidates. Most candidates could only explain one way of establishing the production plan, and that was to move the iso-contribution line outwards until it reached the farthest point that was still within the feasible region. There were also very few good answers for the explanation of other factors to consider. Some candidates simply did not attempt this part of the task, and those that did often described potential limitations of the graph provided rather than, for example, explaining if more resources could be made available.

Task 4

The first sub-task asked for an explanation of what the sales price, sales mix profit and sales quantity profit variances shown in Table 1 indicated, possible reasons for their occurrence and what the variances indicated about overall sales performance of Protein Bars. This tested core activity C. This was generally well attempted, and many candidates earned scored at the higher end of level 2. Although the explanation of the sales mix profit variance was sometimes not very clear, most candidates recognised the implications of the different standard gross profits across the three sales channels in their answers.

The second sub-task asked for an explanation of what the KPIs related to the app, as shown in Table 2, indicated about actual performance against target, for the period April to June 2024. This tested core activity C. This was not as well answered. Too many candidate answers were very descriptive, often just saying whether or not each KPI was showing an improving trend over the 3 months and against the target. This was just really stating the obvious and what was expected was some attempt at possible reasons for the data. In other words, application was often poor here. There was sufficient information provided for candidates to make relevant comments, for example, the newness of the app, the sales discounts only being given in April and May and the impact of the high number of subscribers on the performance of the KPI app orders despatched in April.

The third sub-task asked for an explanation of whether it would be beneficial to split the sales variances into planning and operational elements, and any possible problems the company would face when doing so. This tested core activity C. This was not well attempted

by most candidates. Many answers were very brief, and it wasn't apparent whether this was due to poor technical knowledge or simply candidate fatigue at the end of the examination. Candidates were often not clear in their explanations of the difference between a planning and operational variance in the context of the sales price variances but did usually comment that it was something to do with control. Although most answers were far too brief, candidates could usually provide a benefit of splitting the variance, but very few explained any possible problems.

Tips for Future candidates

There are several key points to take into account when preparing for future Operational Level Case Study examinations. These points are the same as in previous reports and are:

- Key to achieving a score at level 2 and above is to ensure that:
 - You have the technical knowledge and understanding of all of topics included in each of the core activities. It is not sufficient to rely on the fact that you remember it from the OTQ exams or from your FLP studies, because the chances are you won't. You need to revise technical material: if you don't have the knowledge, you can't score well.
 - You are able to apply your technical knowledge and understanding within the case study context. Simply reproducing rote-learned answers or pure knowledge of a topic area will score very few, if any, marks. Similarly, taking a non-targeted approach to an issue and commenting on everything that you know about it from a theoretical point of view will score few marks.
 - You are able to explain with clarity and comprehensively, rather than making unsupported statements. Writing comments such as, "this improves decision making", "this graph is essential" or "planning is enhanced" is not enough to gain any marks. Candidates must explain "how" and "why" this is the case. Explanations can quite often be improved by adding "because of ..." at the end of a sentence. Explanations should also utilise the information given to you within the case study itself, especially financial information. For example, reasons for variances are often given to you in the unseen information, the skill is to pick this out and use it.

- To help you achieve this, you need to:
 - Study the pre-seen material in depth. Ensure that you are very familiar with the business, especially the financial information, before the exam as this will help you with applying your knowledge and will save you time. Similarly, an awareness of the industry that the business is in will help you to think of the wider issues that might impact on decisions that you could be asked to comment on.
 - Practise, practise, practise past OCS exam tasks. Practising past tasks and then checking against the published answers will help you to understand what the examiner is looking for.
- On the day:
 - It is important to take time to plan your answer so that you are able to apply your knowledge to the specifics of the case. I suggest that for certain tasks you plan your answers in the answer screen itself. For example, if you are asked for the potential benefits and problems of activity based costing, I suggest that you first note down headings for benefits and problems. Under each heading, list your benefits and problems; these will become your sub-headings. Then you can write a short paragraph under each sub-heading. This will allow you time to think about all of the points that you want to make and will help to give your answer a clear format. Ultimately, it should save you time.
 - Please take care over how your answer looks. Some answers are very difficult to read because of poor spelling and grammar. Whilst this examination is not a test of English, it is important that answers are presented well so that markers can see that you have demonstrated clear understanding of the issues.

Operational Level Case Study November 2023 & February 2024

Marking Guidance

Variant 1

About this marking scheme

This marking scheme has been prepared for the 2019 CGMA Professional Qualification Operational Case Study [November 2023 & February 2024].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.

- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.
- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.

- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	32%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	32%
(c)	C	Analyse performance using financial and non-financial information.	36%
Section 2			
(a)	A	Prepare costing information for different purposes to meet the needs of management.	52%
(b)	B	Prepare budget information and assess its use for planning and control purposes.	24%
(c)	B	Prepare budget information and assess its use for planning and control purposes.	24%
Section 3			
(a)	E	Prepare information to support short-term decision making.	48%
(b)	E	Prepare information to support short-term decision making.	24%
(c)	F	Prepare information to manage working capital.	28%
Section 4			
(a)	C	Analyse performance using financial and non-financial information.	64%
(b)	B	Prepare budget information and assess its use for planning and control purposes.	36%

SECTION 1			
Task (a): Explain how the oven will be classified and initially measured in our financial statements. Please also explain the impact of the oven on our reported profit for the year ending 30 June 2024.			
Trait			
Initially measured	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates understanding that the oven is classified as property, plant and equipment (PPE) but fails to justify why this is the case. Is unlikely to comment on the initial measurement of the asset.	1
	Level 2	Demonstrates understanding that the oven is classified as PPE and attempts to justify why this is the case. Recognises the initial measurement rules in IAS 16 but fails to fully or accurately apply these to the scenario.	2 – 3
	Level 3	Demonstrates understanding that the oven is classified as PPE and makes a good attempt to justify why this is the case. Recognises the initial measurement rules in IAS 16 and applies these fully and accurately to the scenario.	4
Impact on profit	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates understanding that there will be a depreciation charge but fails to explain how this will be determined and its impact on reported profit.	1
	Level 2	Demonstrates understanding that there will be a depreciation charge and attempts to explain how this will be determined and its impact on reported profit. The explanation lacks clarity or may be incomplete or may not reference the scenario.	2 – 3
	Level 3	Demonstrates understanding that there will be a depreciation charge and attempts to explain how this will be determined and its impact on reported profit. The explanation is mostly clear, complete and references the scenario.	4

SECTION 1 continued			
Task (b): Explain how the lease for the wrapping and packing equipment will be initially recorded and subsequently measured in our financial statements for the year ending 30 June 2024.			
Right-of-use asset	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to initially and subsequently measure the right-of-use asset. The explanation lacks technical accuracy, depth and application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of how to initially and subsequently measure the right-of-use asset. The explanation may lack some technical accuracy, depth and / or application to the scenario.	2 – 3
	Level 3	Demonstrates good understanding of how to initially and subsequently measure the right-of-use asset. The explanation is technically accurate, comprehensive and applied to the scenario.	4
Lease liability	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to initially and subsequently measure the lease liability. The explanation lacks technical accuracy, depth and application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of how to initially and subsequently measure the lease liability. The explanation may lack some technical accuracy, depth and / or application to the scenario.	2 – 3
	Level 3	Demonstrates good understanding of how to initially and subsequently measure the lease liability. The explanation is technically accurate, comprehensive and applied to the scenario.	4

SECTION 1 continued			
Task (c): Suggest three KPIs that are appropriate to monitor the performance of the Protein Biscuit Production Department when it starts production. Please explain how each KPI would be measured and why it would be appropriate.			
Trait			
KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Suggests at least one KPI that is appropriate to monitor the performance of the Protein Biscuit Production Department. The explanation of how the KPI(s) would be measured and why it (they) would be appropriate lacks clarity, depth and application to the scenario.	1 – 3
	Level 2	Suggests at least two KPIs that are appropriate to monitor the performance of the Protein Biscuit Production Department. The explanation of how the KPIs would be measured and why they would be appropriate may lack some clarity, depth and / or application to the scenario.	4 – 6
	Level 3	Suggests three KPIs that are appropriate to monitor the performance of the Protein Biscuit Production Department. The explanation of how the KPIs would be measured and why they would be appropriate is mostly clear and applied to the scenario.	7 – 9

SECTION 2

Task (a): Explain how the features of a digital costing system could benefit our business, using the information in Table 1 to support your explanation.

Trait			
Digital costing system	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates understanding of some of the features of a digital costing system and makes some attempt to explain the benefits of such a system. The explanation lacks clarity, depth, and application to the scenario / reference to the information given.	1 – 4
	Level 2	Demonstrates understanding of the features of a digital costing system and makes a reasonable attempt to explain the benefits of such a system. The explanation may lack some clarity and / or depth. There is some application to the scenario and / or some reference to the information given.	5 – 9
	Level 3	Demonstrates understanding of the features of a digital costing system and makes a good attempt to explain the benefits of such a system. The explanation is mostly clear and comprehensive. There is application to the scenario and reference to the information given.	10 – 13

SECTION 2 (continued)			
Task (b): Explain how to use a zero based budgeting (ZBB) approach to determine the marketing budget for our protein biscuits. Please use the information in Table 2 to support your explanation.			
Trait			
ZBB approach	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how ZBB will be used to prepare the marketing budget. The explanation lacks clarity, depth and reference to the scenario and the information given.	1 – 2
	Level 2	Demonstrates reasonable understanding of how ZBB will be used to prepare the marketing budget. The explanation may lack some clarity, depth and / or reference to the scenario or the information given.	3 – 4
	Level 3	Demonstrates good understanding of how ZBB will be used to prepare the marketing budget. The explanation is clear, comprehensive and refers to the scenario and the information given.	5 – 6
Task (c): Explain the potential limitations of using a ZBB approach to determine all of our discretionary budgets across the business each year.			
ZBB limitations	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one limitation of using ZBB across the business. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Explains at least two limitations of using ZBB across the business. The explanation may lack some clarity, depth and / or application to the scenario.	3 – 4
	Level 3	Explains at least three limitations of using ZBB across the business. The explanation is mostly clear, comprehensive, and applied to the scenario.	5 – 6

SECTION 3			
Task (a): Explain how to use the decision tree shown in Chart 1 to decide which marketing option should be chosen, assuming that the SMT has a risk neutral attitude. Please also explain any limitations of the data used to compile the decision tree.			
Trait			
Decision tree	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of how to use the decision tree to make the decision. The explanation lacks clarity, depth and has little / no application to the scenario.	1 – 3
	Level 2	Demonstrates reasonable technical understanding of how to use the decision tree to make the decision. The explanation lacks some clarity and / or depth and has only limited application to the scenario.	4 – 6
	Level 3	Demonstrates clear technical understanding of how to use the decision tree to make the decision. The explanation is mostly clear, comprehensive, and applied to the scenario.	7 – 8
Limitations	Level	Descriptor	Marks
	Level 1	Explains at least one limitation of the data used in the decision tree. The explanation is likely to lack clarity, depth and application to the scenario.	1
	Level 2	Explains at least one limitation of the data used in the decision tree. The explanation may lack some clarity, depth and / or application to the scenario.	2 – 3
	Level 3	Explains at least two limitations of the data used in the decision tree. The explanation is mostly clear, comprehensive and applied to the scenario.	4

SECTION 3 (continued)

Task (b): Explain how a decision maker with either a risk averse or risk seeking attitude would use this information. Please state which marketing campaign would be chosen by each type of decision maker.

Trait			
Attitude to risk	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains how at least one type of decision maker would use the information provided to make the decision. The explanation is likely to lack technical accuracy, clarity, depth and application to the scenario.	1 – 2
	Level 2	Explains how at least one type of decision maker would use the information provided to make the decision. The explanation may lack some technical accuracy, clarity, depth and / or application to the scenario.	3 – 4
	Level 3	Explains both types of decision maker would use the information provided to make the decision. The explanation is mostly technically accurate, clear, comprehensive and applied to the scenario.	5 – 6

SECTION 3 (continued)			
Task (c): Explain how the management of working capital differs between Company 1 and Company 2. Please use the information in Table 1 to illustrate.			
Trait			
Working capital	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how the two companies manage working capital. The explanation lacks clarity, depth and reference to the information given.	1 – 2
	Level 2	Demonstrates reasonable understanding of how the two companies manage working capital. The explanation lacks some clarity, depth and / or reference to the information given.	3 – 5
	Level 3	Demonstrates good understanding of how the two companies manage working capital. The explanation is mostly clear, comprehensive and references the information given.	6 – 7

SECTION 4			
Task (a): Explain what each of the variances shown in schedule 1 means and possible reasons for their occurrence.			
Trait			
Sales variances	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains what the sales variances mean with some technical accuracy but with limited explanation of how these variances have arisen.	1 – 3
	Level 2	Explains what the sales variances mean with reasonable technical accuracy. Gives reasonable explanations of the reasons why most of these variances have occurred mainly drawn from the information given in the scenario.	4 – 6
	Level 3	Explains what the sales variances mean with technical accuracy. Gives good explanations of the reasons why these variances have occurred clearly drawn from the information presented in the scenario.	7 – 8
Cost variances	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains what the cost variances mean with some technical accuracy but with limited explanation of how these variances have arisen.	1 – 3
	Level 2	Explains what the cost variances mean with reasonable technical accuracy. Gives reasonable explanations of the reasons why most of these variances have occurred mainly drawn from the information given in the scenario.	4 – 6
	Level 3	Explains what the cost variances mean with technical accuracy. Gives good explanations of the reasons why these variances have occurred clearly drawn from the information presented in the scenario.	7 – 8

SECTION 4 (continued)			
Task (b): Explain feedback and feedforward control and how each could be used to improve our performance. Please use the variance information in Schedule 1 to illustrate your explanations.			
Trait			
Feedback	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of feedback control and how it is used to improve performance. The explanation lacks technical accuracy, depth and application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of feedback control and how it is used to improve performance. The explanation may lack some technical accuracy, depth and / or application to the scenario.	3 – 4
	Level 3	Demonstrates good understanding of feedback control and how it is used to improve performance. The explanation is technically accurate, comprehensive and applied to the scenario.	5
Feedforward	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of feedforward control and how it can be used to improve performance. The explanation lacks technical accuracy, depth and application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of feedforward control and how it can be used to improve performance. The explanation may lack some technical accuracy, depth and / or application to the scenario.	2 – 3
	Level 3	Demonstrates good understanding of feedforward control and how it can be used to improve performance. The explanation is technically accurate, comprehensive and applied to the scenario.	4

Operational Level Case Study November 2023 & February 2024

Marking Guidance

Variant 2

About this marking scheme

This marking scheme has been prepared for the 2019 CGMA Professional Qualification Operational Case Study [November 2023 & February 2024].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.

- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.
- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.

- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	F	Prepare information to manage working capital.	28%
(b)	F	Prepare information to manage working capital.	24%
(c)	A	Prepare costing information for different purposes to meet the needs of management.	48%
Section 2			
(a)	E	Prepare information to support short-term decision making.	36%
(b)	C	Analyse performance using financial and non-financial information.	64%
Section 3			
(a)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	32%
(b)	B	Prepare budget information and assess its use for planning and control purposes.	36%
(c)	B	Prepare budget information and assess its use for planning and control purposes.	32%
Section 4			
(a)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	28%
(b)	E	Prepare information to support short-term decision making.	36%
(c)	C	Analyse performance using financial and non-financial information.	36%

SECTION 1			
Task (a): Explain the assumptions underlying the EOQ model used for Supplier 2 and whether these reduce its suitability as a method of determining order sizes for peanuts. Please refer to the information in Schedule 1 in your explanation.			
Trait			
EOQ	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the EOQ model and how its assumptions affect its suitability as a method of inventory management. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of the EOQ model and how its assumptions affect its suitability as a method of inventory management. The explanation may lack some clarity, depth and / or application to the scenario.	3 – 5
	Level 3	Demonstrates good understanding of the EOQ model and how its assumptions affect its suitability as a method of inventory management. The explanation is mostly clear, comprehensive and applied to the scenario.	6 – 7
Task (b): Explain how the choice of suppliers would affect PB's working capital level, assuming that if Supplier 2 was used, we continued to use the EOQ model to determine order size.			
Working capital	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how the choice of supplier would affect the working capital level. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of how the choice of supplier would affect the working capital level. The explanation may lack some clarity, depth and application to the scenario.	3 – 4
	Level 3	Demonstrates good understanding of how the choice of supplier would affect the working capital level. The explanation is mostly clear, comprehensive and applied to the scenario.	5 – 6

SECTION 1 continued			
Task (c): Explain the three areas of the CGMA cost transformation model identified above and how these apply to our Peanut Butter Department. Please use points discussed at the SMT meeting held on 6 November 2023 in your explanation.			
New products	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of this part of the model. The explanation lacks clarity, depth, with no application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of this part of the CGMA model. The explanation may lack some clarity and / or depth. Application to the scenario may be limited.	2 – 3
	Level 3	Demonstrates good understanding of this part of the model. The explanation is mostly clear, detailed and applied to the scenario.	4
Cost culture	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of this part of the model. The explanation lacks clarity, depth, with no application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of this part of the CGMA model. The explanation may lack some clarity and / or depth. Application to the scenario may be limited.	2 – 3
	Level 3	Demonstrates good understanding of this part of the model. The explanation is mostly clear, detailed and applied to the scenario.	4
Sustainability	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of this part of the model. The explanation lacks clarity, depth, with no application to the scenario.	1
	Level 2	Demonstrates reasonable understanding of this part of the CGMA model. The explanation may lack some clarity and / or depth. Application to the scenario may be limited.	2 – 3
	Level 3	Demonstrates good understanding of this part of the model. The explanation is mostly clear, detailed and applied to the scenario.	4

SECTION 2

Task (a): Explain how the maximin, maximax and minimax regret decision criteria would be used to select the maintenance contract. Please state the contract that would be chosen under each criterion.

Trait			
Decision criterion	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates technical understanding of at least one of the decision criteria. The explanation lacks clarity, and the correct option may not be selected.	1 – 3
	Level 2	Demonstrates technical understanding of at least two of the decision criteria. The explanation may lack some clarity and the correct option may not always be selected.	4 – 6
	Level 3	Demonstrates technical understanding of all three decision criteria. The explanation is mostly clear and the correct options are mostly selected.	7 – 9

SECTION 2 (continued)			
Task (b): Explain what each of the variances in the exception report mean and possible reasons why the grinding machine breakdown caused them to occur.			
Trait			
Fixed overhead variances	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one of the variances with technical accuracy. The explanation of the variances may lack clarity and the reasons for the variances may be missing or not related to the scenario.	1 – 3
	Level 2	Explains at least two of the variances with technical accuracy. The explanation of the variances may lack some clarity. Reasons for the variances will be given but may not always relate to the correct variance or be applied to the machine breakdown in the task.	4 – 6
	Level 3	Explains the three variances with technical accuracy. The explanation is mostly clear, the reasons given relate to the specific variance and are correctly applied to the machine breakdown detailed in the task.	7 – 8
Variable cost variances	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates technical understanding of at least one of the variances, but the explanation lacks clarity and application to the scenario.	1 – 3
	Level 2	Demonstrates technical understanding of at least two of the variances, but the explanation may lack some clarity. The reasons for and / or what the variances mean may not be clear or appropriate for the machine breakdown scenario.	4 – 6
	Level 3	Demonstrates technical understanding of all the variances. The reasons are mostly clear and appropriate to the machine breakdown scenario.	7 – 8

SECTION 3			
Task (a): Explain how the old roasting oven will be presented in our financial statements for the year ending 30 June 2024.			
Trait			
Criteria	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates technical understanding of a limited number of the criteria for reclassification as an asset held for sale. The explanation of these criteria lacks clarity, depth and application to the scenario.	1
	Level 2	Demonstrates technical understanding of some of the criteria for reclassification as an asset held for sale. The explanation of these criteria may lack some clarity and application to the scenario may be limited.	2 – 3
	Level 3	Demonstrates technical understanding of many of the criteria for reclassification as an asset held for sale. The explanation of these criteria is mostly clear and applied to the scenario.	4
Financial statements	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of how the asset held for sale should be recorded and measured in the financial statements. The explanation lacks clarity and application to the scenario.	1
	Level 2	Demonstrates technical understanding of how the asset held for sale should be recorded and measured in the financial statements. The explanation may lack some clarity and may not be well applied to the scenario.	2 – 3
	Level 3	Demonstrates technical understanding of how the assets held for sale should be recorded and measured in the financial statements. The explanation is mostly clear and applied to the scenario.	4

SECTION 3 (continued)			
Task (b): Explain the method used to determine each trend line in Schedule 1 and which of the two methods is the most accurate. Please also include two reasons why even the most accurate trend line based on this data may not be suitable as the basis of our sales forecast.			
Trait			
Forecast method	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates technical understanding of at least one of the methods for determining the trend line. The explanation lacks clarity, and the more accurate option may not be identified.	1 – 2
	Level 2	Demonstrates technical understanding of at least one of the methods for determining the trend line. The explanation may lack some clarity and the more accurate option may not be identified.	3 – 4
	Level 3	Demonstrates technical understanding of both methods for determining the trend line. The explanation may lack a little clarity, but the more accurate method is identified.	5
Unsuitable	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies at least one valid reason why the trend line may not be suitable to forecast PB sales. The explanation lacks clarity, and application to the scenario.	1
	Level 2	Identifies at least one valid reason why the trend line may not be suitable to forecast PB sales. The explanation lack some clarity, and application to the scenario.	2 – 3
	Level 3	Identifies two valid reasons why the trend line may not be suitable to forecast PB sales. The explanation is mostly clear and applied to the scenario.	4

SECTION 3 (continued)			
Task (c): Explain what a rolling budget is and the potential benefits of using rolling budgets for the Peanut Butter Department.			
Trait			
Rolling Budget	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates weak understanding of how a rolling budget operates and offers little in terms of the benefits of rolling budgets. No application to the peanut butter scenario.	1 – 3
	Level 2	Demonstrates reasonable understanding of how a rolling budget operates and explains some of the benefits. Limited application to the peanut butter scenario.	4 – 6
	Level 3	Demonstrates good understanding of how a rolling budget operates and explains a range of benefits. Good application to the peanut butter scenario.	7 – 8

SECTION 4			
Task (a): Explain how each inventory issue should be treated in our financial statements for the year ended 30 June 2024.			
Trait			
IAS10/IAS2	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of adjusting/non-adjusting events. The explanation of how the two events will be treated in the financial statements lacks technical accuracy and clarity.	1 – 2
	Level 2	Demonstrates general understanding of adjusting/non-adjusting events. The explanation of how the two events will be treated in the financial statements may lack some technical accuracy and clarity.	3 – 5
	Level 3	Demonstrates general understanding of adjusting/non-adjusting events. The explanation of how the two events will be treated in the financial statements is mostly technically accurate and clear.	6 – 7

SECTION 4 (continued)			
Task (b): Explain what the expected values shown in Schedule 1 mean and how they can be used to make a decision on whether to check every sachet for faults. Please also explain the limitations of using this information to make the decision.			
Trait			
Expected value	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the meaning of the expected values and how to make the decision. The explanation lacks clarity and makes little if any reference to the figures shown.	1
	Level 2	Demonstrates reasonable understanding of the meaning of the expected values and how to make the decision. The explanation may lack a little clarity but makes reference to the figures shown.	2 – 3
	Level 3	Demonstrates good understanding of the meaning of the expected values and how to make the decision. The explanation is clear and makes good reference to the figures shown.	4
Limitations	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of at least one limitation but the explanation lacks clarity, depth and technical accuracy.	1 – 2
	Level 2	Demonstrates some understanding of at least two limitations. The explanation may lack some clarity, depth and /or technical accuracy.	3 – 4
	Level 3	Demonstrates good understanding of at least two limitations. The explanation is mostly clear, detailed and technically accurate.	5

SECTION 4 (continued)

Task (c): Suggest, for each of the three different manufacturing processes within the Peanut Butter Department, a KPI suitable to monitor performance. Please explain how each could be measured and why it would be appropriate.

Trait			
KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies at least one KPI which is appropriate for assessing the performance of a manufacturing process within the Peanut Butter Department. The justification / explanation may be missing or lack clarity.	1 – 3
	Level 2	Identifies at least two KPIs which are appropriate for assessing the performance of two different manufacturing processes within the Peanut Butter Department. The justification / explanation may lack some clarity or depth.	4 – 6
	Level 3	Identifies at least three KPIs which are appropriate for assessing the performance of three different manufacturing processes within the Peanut butter Department. These are mostly well justified and explained.	7 – 9

Operational Level Case Study November 2023 & February 2024

Marking Guidance

Variant 3

About this marking scheme

This marking scheme has been prepared for the 2019 CGMA Professional Qualification Operational Case Study [November 2023 & February 2024].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.

- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.
- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.

- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	B	Prepare budget information and assess its use for planning and control purposes	36%
(b)	B	Prepare budget information and assess its use for planning and control purposes	28%
(c)	E	Prepare information to support short-term decision making.	36%
Section 2			
(a)	B	Prepare budget information and assess its use for planning and control purposes	24%
(b)	F	Prepare information to manage working capital.	28%
(c)	A	Prepare costing information for different purposes to meet the needs of management	28%
(c)	A	Prepare costing information for different purposes to meet the needs of management	20%
Section 3			
(a)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	52%
(b)	E	Prepare information to support short-term decision making.	24%
(c)	E	Prepare information to support short-term decision making.	24%
Section 4			
(a)	C	Analyse performance using financial and non-financial information	44%
(b)	F	Prepare information to manage working capital	20%
(c)	C	Analyse performance using financial and non-financial information	36%

SECTION 1			
Task (a): Explain the importance of sales budgets for the purpose of control, co-ordination and authorisation at PB. Within your explanations, please ensure that you address the questions in Schedule 1.			
Trait			
Budget purposes	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains the importance of sales budgets for the purpose of control and/or co-ordination and/or authority. The explanation lacks clarity, depth and application to the scenario.	1 – 3
	Level 2	Explains the importance of sales budgets for the purpose of control and/or co-ordination and/or authority. The explanation has reasonable clarity and depth and some application to the scenario.	4 – 6
	Level 3	Explains the importance of sales budgets for the purposes of control, co-ordination and authority. The explanation is mostly clear, comprehensive and applied to the scenario.	7 – 9
Task (b): Explain the potential advantages and disadvantages to the Meland sales managers of a participative approach to budget setting.			
Participation	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates weak understanding of participative budgeting. May only explain generic advantages or disadvantages of the approach. No application to the company or specific scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of participative budgeting. Will explain both advantages and disadvantages of the approach. Limited application to the company or specific scenario.	3 – 5
	Level 3	Demonstrates good understanding of participative budgeting. Will explain both advantages and disadvantages of the approach. Good application to the company or specific scenario.	6 – 7

SECTION 1 continued			
Task (c): Explain what Chart 1 indicates about the effect the promotional campaign would have on costs, revenues, profit, and risk. Please also explain the importance of accurate sales forecasts in interpreting the chart.			
Trait			
Cost and revenues	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of what the chart indicates about the impacts of the promotional campaign on costs and revenues. The explanation lacks technical accuracy, clarity and makes little reference to the chart.	1
	Level 2	Demonstrates reasonable understanding of what the chart indicates about the impacts of the promotional campaign on costs and revenues. The explanation may lack some technical accuracy, clarity and / or reference to the chart.	2 – 3
	Level 3	Demonstrates good understanding of what the chart indicates about the impacts of the promotional campaign on costs and revenues. The explanation is mostly technically accurate, clear and makes good reference to the chart.	4
Profit and risk	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of what the chart indicates about the impacts of the promotional campaign on profit and risk. The explanation lacks technical accuracy, clarity and makes little reference to the chart.	1 – 2
	Level 2	Demonstrates reasonable understanding of what the chart indicates about the impacts of the promotional campaign on profit and risk. The explanation may lack some technical accuracy, clarity and / or reference to the chart.	3 – 4
	Level 3	Demonstrates good understanding of what the chart indicates about the impacts of the promotional campaign on profit and risk. The explanation is mostly technically accurate, clear and makes good reference to the chart.	5

SECTION 2			
Task (a): Explain the “what-if” information shown in Table 1 and the potential financial impact of each draft budget.			
Trait			
What-if	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the “what-if” information. The explanation lacks some technical accuracy, clarity and application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of the “what-if” information. The explanation may lack some technical accuracy, clarity and / or application to the scenario.	3 – 4
	Level 3	Demonstrates good understanding of the “what-if” information. The explanation is mostly technically accurate, clear and applied to the scenario.	5 – 6
Task (b): Explain the benefits of using either: (1) a bank loan, (2) an overdraft or (3) invoice discounting to finance the expected cash deficit. Please also explain which of the three you would consider the most appropriate given that we expect PB to return to a cash surplus in February.			
Trait			
Short-term finance	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates poor technical understanding of the benefits of each financing method. The explanation is not clear and lacks depth and application. The most suitable option is not identified and/or explained.	1 – 2
	Level 2	Demonstrates reasonable technical understanding of the benefits of each financing method. The explanation lacks clarity, depth and has limited application to the scenario. The most suitable option may not be identified and/or explained.	3 – 5
	Level 3	Demonstrates good technical understanding of the benefits of each financing method. The explanation is clear and well applied to the scenario. The most suitable option is identified and explained.	6 – 7

SECTION 2 continued			
Task (c): Explain the differences in the cost of sales and profit figures using absorption costing and marginal costing. Please also explain how the profit figures can be reconciled.			
Trait			
Cost of sales and profit	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains either the differences in the cost of sales or profit figures. The explanation lacks clarity, depth and application to the figures in the table.	1 – 2
	Level 2	Explains either or both of the differences in the cost of sales or profit figures. The explanation may lack some clarity, depth and application to the figures in the table.	3 – 5
	Level 3	Explains the differences in both the cost of sales and profit figures. The explanation is mostly clear, applied to the figures in the table and accurate. The reconciliation is clearly explained	6 – 7
Task (d): Explain the overabsorption figures in the absorption costing profit statements and why these are not included in the marginal costing profit statements.			
Trait			
Overabsorption	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Provides partially technically correct explanation for the overabsorption. The explanation lacks clarity and depth.	1 – 2
	Level 2	Provides reasonably technically accurate explanation of the overabsorption. The explanation may lack some clarity or depth.	3 – 4
	Level 3	Provides a technically good explanation of the overabsorption. The explanation is clear and accurate.	5

SECTION 3

Task (a): Explain how each of the items in Schedule 1 will be reflected in our financial statements for the year ending 30 June 2024. Please also explain any impact on profit.

Trait			
Forklift	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to account for the damaged forklift. The explanation lacks technical accuracy, clarity, depth and reference to the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of how to account for the damaged forklift. The explanation lacks some technical accuracy, clarity, depth and / or reference to the scenario.	3 – 4
	Level 3	Demonstrates good understanding of how to account for the damaged forklift. The explanation is mostly technically accurate, clear, comprehensive and references the scenario.	5 – 6
Inventory	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to account for the damaged inventory. The explanation lacks technical accuracy, clarity, depth, and application to the specific scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of how to account for the damaged inventory. The explanation lacks some technical accuracy, clarity, depth, and application to the specific scenario.	3 – 5
	Level 3	Demonstrates good understanding of how to account for the damaged inventory. The explanation is mostly clear comprehensive and technically accurate. There is application to the specific scenario.	6 – 7

SECTION 3 (continued)			
Task (b): Explain the principles behind the production schedule and how it has been used to determine the number of boxes we should make of each of the three types of protein bars			
Trait			
Limiting factor	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of the principles of short-term decision making relating to limiting factor analysis. The explanation lacks clarity, depth, and has little/no application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable technical understanding of the principles of short-term decision making relating to limiting factor analysis. The explanation has reasonable clarity, depth, and there is some application to the scenario.	3 – 4
	Level 3	Demonstrates good technical understanding of the principles of limiting factor analysis. The explanation is mostly clear, comprehensive and is applied to the scenario.	5 – 6
Task (c): Explain if, from both a financial and non-financial perspective, it is worth buying the extra whey powder at the higher price.			
Trait			
Whey purchase	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of the principles of shadow price or makes some attempt to explain a non-financial reason for the purchase. The explanation lacks clarity, depth, and has little/no application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable technical understanding of the principles of shadow price and/or offers a reasonable explanation of a non-financial reason for the purchase. The explanation has reasonable clarity, depth, but has limited application to the scenario.	3 – 4
	Level 3	Demonstrates good technical understanding of the principles of shadow price and offers a good explanation of a non-financial reason for the purchase. The explanation is mostly clear, comprehensive and is applied to the scenario.	5 – 6

SECTION 4			
Task (a): Explain what the sales variances in Table 1 mean and possible reasons for their occurrence.			
Trait			
Sales variances	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains the meaning of at least one type of sales variance (price, mix or quantity) with technical accuracy. The explanation lacks clarity and the reasons given might not be related to the correct variance.	1 – 4
	Level 2	Explains the meaning of at least two types of sales variance (price, mix and/or quantity) with technical accuracy. The explanation may lack some clarity and the reasons given might not always be related to the correct variance.	5 – 8
	Level 3	Explains the meaning of all three types of sales variance (price, mix and quantity) with technical accuracy. The explanation is mostly clear and the reasons given do mostly relate to the correct variance.	9 – 11

SECTION 4 (continued)			
Task (b): Explain the differences in both the receivable days and levels of irrecoverable debt in Meland compared to Ceeland. Please include in your explanations one action the Credit Control Department could take to improve each difference.			
Trait			
CC actions	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one difference and/or action. The explanation lacks clarity depth and application.	1 – 2
	Level 2	Explains at least one difference and/or action. The explanation may lack some clarity, depth and / or application.	3 – 4
	Level 3	Explains two differences and actions. The explanation is mostly clear and applied.	5
Task (c): Suggest three KPIs that are appropriate to monitor the performance of the Credit Control Department for the Meland operations. Please explain how each KPI would be measured and justify why it would be appropriate.			
Trait			
KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Suggests at least one sensible KPI. The explanation of how measured and why appropriate is likely to lack clarity, depth and application to the scenario.	1 – 3
	Level 2	Suggests at least two sensible KPIs. The explanation of how measured and why appropriate may lack some clarity, depth and / or application to the scenario.	4 – 6
	Level 3	Suggests at least three sensible KPIs. The explanation of how measured and why appropriate is mostly clear, comprehensive and applied to the scenario.	7 – 9

Operational Level Case Study November 2023 & February 2024

Marking Guidance

Variant 4

About this marking scheme

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The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

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- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	A	Prepare costing information for different purposes to meet the needs of management.	32%
(b)	A	Prepare costing information for different purposes to meet the needs of management.	24%
(c)	B	Prepare budget information and assess its use for planning and control purposes.	20%
(d)	B	Prepare budget information and assess its use for planning and control purposes.	24%
Section 2			
(a)	B	Prepare budget information and assess its use for planning and control purposes.	36%
(b)	E	Prepare information to support short-term decision making.	40%
(c)	E	Prepare information to support short-term decision making.	24%
Section 3			
(a)	E	Prepare information to support short-term decision making.	36%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	44%
(c)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	20%
Section 4			
(a)	C	Analyse performance using financial and non-financial information.	36%
(b)	C	Analyse performance using financial and non-financial information.	36%
(c)	F	Prepare information to manage working capital.	28%

SECTION 1			
Task (a): Explain how the calculations of gross profit shown in Tables 1 and 2 differ and why the two approaches result in different gross profit figures.			
Trait			
Calcs differ	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of how the calculations differ. The explanation lacks clarity and/or reference to the information given.	1 - 2
	Level 2	Demonstrates reasonable understanding of how the calculations differ. The explanation lacks some clarity and/or reference to the information given.	3 - 4
	Level 3	Demonstrates good understanding of how the calculations differ. The explanation is clear and references the information given.	5
Different profit	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Recognises that changes in inventory levels result in the differences in a general sense, but does not explain this in the context of the information give.	1
	Level 2	Recognises that changes in inventory levels result in the differences in a general sense and makes some attempt to explain this in the context of the information give.	2
	Level 3	Recognises that changes in inventory levels result in the differences in a general sense and makes a good attempt to explain this in the context of the information give.	3

SECTION 1 continued			
Task (b): Explain the arguments for and against using marginal costing rather than absorption costing as the costing approach for the new PB-V Production Facility.			
Trait			
For and against	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one argument for or against using marginal costing compared to absorption costing. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Explains at least two arguments for or against using marginal costing compared to absorption costing. The explanation may lack some clarity, depth and/or application to the scenario.	3 – 4
	Level 3	Explains at least three arguments for or against using marginal costing compared to absorption costing and provides a balanced argument. The explanation is mostly clear and applied to the scenario.	5 – 6
Task (c): Explain what the three trend lines and the seasonal variations information shown in Schedule 1 indicate about sales of vegan protein bars in Ceeland.			
Trait			
Trend & seasonal variations	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of the trend lines and seasonal variations information. The explanation lacks clarity, depth and reference to the information given.	1 – 2
	Level 2	Demonstrates reasonable technical understanding of the trend lines and seasonal variations information. The explanation may lack some clarity, depth and/or reference to the information given.	3 – 4
	Level 3	Demonstrates good technical understanding of the trend lines and seasonal variations information. The explanation is mostly clear, comprehensive and references the information given.	5

SECTION 1 continued			
Task (d): Explain three factors affecting the accuracy of any PB-V sales forecasts based on this trend and seasonal variations information.			
Trait			
Factors affecting accuracy	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one appropriate factor which affects the accuracy of any sales forecasts. The explanation lacks clarity and application to the scenario.	1 – 2
	Level 2	Explains at least two appropriate factors which affect the accuracy of any sales forecasts. The explanation may lack some clarity and application to the scenario.	3 – 4
	Level 3	Explains three appropriate factors which affect the accuracy of any sales forecasts. The explanation is mostly clear and applied to the scenario.	5 – 6

SECTION 2

Task (a): Explain how to construct the production, material usage and material purchases budgets for PB-V Protein Bars for the period ending June 2024. Please make reference to the information in Table 1 in your explanation.

Trait	Level	Descriptor	Marks
Functional budgets		No rewardable material	0
	Level 1	Demonstrates some understanding of how to construct the production, material usage and material purchases budget for the period. Makes little if any reference to the information or to the scenario. The explanation lacks clarity, technical accuracy and depth.	1 – 3
	Level 2	Demonstrates reasonable understanding of how to construct the production, material usage and material purchases budget for the period. Makes some reference to the information and/or to the scenario. The explanation may lack some clarity, technical accuracy and depth.	4 – 6
	Level 3	Demonstrates good understanding of how to construct the production, material usage and material purchases budget for the period. Makes good reference to the information and to the scenario. The explanation is mostly clear, technically accurate and comprehensive.	7 – 9

SECTION 2 (continued)

Task (b): Explain what Chart 1 indicates about the cost structure of the two options for the supply of PB-V Protein Powder. Please also explain, using Table 2, whether it is appropriate to base our decision about which option to take on the expected value of the volume of annual demand, and state what the decision would be on that basis

Trait			
Chart 1	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the cost structures indicated by Chart 1. The explanation lacks clarity and reference to the information in the chart.	1 – 2
	Level 2	Demonstrates reasonable understanding of the cost structures indicated by Chart 1. The explanation may lack some clarity and reference to the information in the chart.	3 – 4
	Level 3	Demonstrates good understanding of the cost structures indicated by Chart 1. The explanation is mostly clear and references the information in the chart.	5
Use of EV	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Provides at least one argument about the appropriateness of using EV for this decision. The explanation lacks clarity and depth. The correct decision may not be stated.	1 – 2
	Level 2	Provides at least two arguments about the appropriateness of using EV for this decision. The explanation may lack some clarity and depth. The correct decision is likely to be stated.	3 – 4
	Level 3	Provides at least two arguments about the appropriateness of using EV for this decision. The explanation is mostly clear and comprehensive. The correct decision is stated.	5

SECTION 2 (continued)			
Task (c): Explain three factors that need to be considered before making a final decision about whether to buy-in from the supplier or produce PB-V Protein Powder in-house.			
Trait			
Factors to consider	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one factor to consider. The explanation lacks clarity and application to the scenario.	1 – 2
	Level 2	Explains at least two factors to consider. The explanation may lack some clarity and application to the scenario.	3 – 4
	Level 3	Explains three factors to consider. The explanation is mostly clear and applied to the scenario.	5 – 6

SECTION 3			
<p>Task (a): Explain what Chart 1 indicates about the PB-V budget and break-even position. Please also explain how the chart and break-even position would be affected by the following changes to the budget (considering each change independently):</p> <ul style="list-style-type: none"> ○ An increase in the proportion of sales of PB-V products through the website compared to the budget. ○ An increase in the cost per kilogram of vegan whey powder. 			
Trait			
PV chart	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of what the chart indicates about the budget and break-even. The explanation lacks clarity and reference to the information in the chart.	1 – 2
	Level 2	Demonstrates reasonable understanding of what the chart indicates about the budget and break-even. The explanation may lack some clarity and reference to the information in the chart.	3 – 4
	Level 3	Demonstrates good understanding of what the chart indicates about the budget and break-even. The explanation is mostly clear and references the information in the chart.	5
Changes	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains how the chart and/or break-even position would be affected by one of the changes. The explanation lacks clarity and technical accuracy.	1
	Level 2	Explains how the chart and/ or break-even position would be affected by at least one of the changes. The explanation lacks some clarity and technical accuracy.	2 – 3
	Level 3	Explains how the chart and break-even position would be affected by both changes. The explanation is mostly clear and technically accurate.	4

SECTION 3 (continued)			
Task (b): Explain how each of the property-related expenditure items in Table 1 will be initially recorded and subsequently measured in our financial statements for the year ending 30 June 2024.			
Trait			
Initially recorded	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of the initial recognition rules. The explanation lacks clarity, depth and is likely to include technical inaccuracies. There is limited reference to the information given.	1 – 2
	Level 2	Demonstrates reasonable technical understanding of the initial recognition rules. The explanation may lack some clarity or depth or include some technical inaccuracies. There is a reasonable attempt to reference the information given.	3 – 4
	Level 3	Demonstrates good technical understanding of the initial recognition rules. The explanation is mostly clear, comprehensive and technically accurate. There is a good attempt to reference the information given in the scenario.	5
Subsequently measured	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of the subsequent measurement rules. The explanation lacks clarity, depth and is likely to include technical inaccuracies. There is limited reference to the information given in the scenario.	1 – 2
	Level 2	Demonstrates reasonable technical understanding of the subsequent measurement rules. The explanation may lack some clarity or depth or include some technical inaccuracies. There is a reasonable attempt to reference the information given.	3 – 4
	Level 3	Demonstrates good technical understanding of the subsequent measurement rules. The explanation is mostly clear, comprehensive and technically accurate. There is a good attempt to reference the information given in the scenario.	5 – 6

SECTION 3 (continued)			
Task (c): Explain how the lease liability associated with the leased equipment detailed in Table 1 will be initially recorded and subsequently measured in our financial statements for the year ending 30 June 2024.			
Trait			
Lease liability	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of how to initially and subsequently measure a lease liability. The explanation lacks clarity, depth and is likely to include technical inaccuracies. There is limited reference to the information given in the scenario.	1 – 2
	Level 2	Demonstrates reasonable technical understanding of how to initially and subsequently measure a lease liability. The explanation may lack some clarity or depth or include some technical inaccuracies. There is a reasonable attempt to reference the information given.	3 – 4
	Level 3	Demonstrates good technical understanding of how to initially and subsequently measure a lease liability. The explanation is mostly clear, comprehensive and technically accurate. There is a good attempt to reference the information given in the scenario.	5

SECTION 4

Task (a): Explain how the fixed production overhead expenditure, efficiency and capacity variances for the PB-V Production Facility in May could be calculated based on the information in Table 1, and whether they will be adverse or favourable. Please also give possible reasons for each variance.

Trait			
Variances	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains with technical accuracy how at least one of the variances will be calculated and whether it is adverse or favourable. The explanation is likely to lack clarity and reference to the information given. Reasons given for the variances do not necessarily relate to the correct variance.	1 – 3
	Level 2	Explains with technical accuracy how at least two of the variances will be calculated and whether they are adverse or favourable. The explanation may lack clarity and reference to the information given. Reasons given for the variances may not necessarily relate to the correct variance.	4 – 6
	Level 3	Explains with technical accuracy how all three variances will be calculated and whether they are adverse or favourable. The explanation is mostly clear with reference to the information given. Reasons given for the variances mostly relate to the correct variance.	7 – 9

SECTION 4 (continued)			
Task (b): Explain what the KPIs shown in Table 2 indicate about website sales for the period.			
Trait			
KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the KPIs and what these indicate about website sales during the period. The explanation lacks clarity, depth and application to the scenario.	1 – 3
	Level 2	Demonstrates reasonable understanding of the KPIs and what these indicate about website sales during the period. The explanation lacks some clarity, depth and application to the scenario.	4 – 6
	Level 3	Demonstrates good understanding of the KPIs and what these indicate about website sales during the period. The explanation is mostly clear, comprehensive and applied to the scenario.	7 – 9
Task (c): Explain how we could change the way that we manage our raw material inventory and payables to reduce the risk of a cash deficit occurring, including any potential issues associated with doing so.			
Trait			
Cash deficit	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of changes that could be made, but makes little reference to any potential issues. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of changes that could be made and does make some reference to potential issues. The explanation may lack some clarity, depth and/or application to the scenario.	3 – 5
	Level 3	Demonstrates good understanding of changes that could be made and makes reference to potential issues. The explanation is mostly clear, comprehensive and applied to the scenario.	6 – 7

Operational Level Case Study November 2023 & February 2024

Marking Guidance

Variant 5

About this marking scheme

This marking scheme has been prepared for the 2019 CGMA Professional Qualification Operational Case Study [November 2023 & February 2024].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.

- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.
- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.

- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	A	Prepare costing information for different purposes to meet the needs of management.	48%
(b)	E	Prepare information to support short-term decision making.	32%
(c)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	20%
Section 2			
(a)	B	Prepare budget information and assess its use for planning and control purposes.	36%
(b)	F	Prepare information to manage working capital.	32%
(c)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	32%
Section 3			
(a)	E	Prepare information to support short-term decision making.	20%
(b)	E	Prepare information to support short-term decision making.	36%
(c)	B	Prepare budget information and assess its use for planning and control purposes.	44%
Section 4			
(a)	C	Analyse performance using financial and non-financial information.	64%
(b)	C	Analyse performance using financial and non-financial information.	36%

SECTION 1			
Task (a): Explain what is meant by each category of the activity cost hierarchy in the context of our Production Facility, with specific reference to the mixing and bottling process in Schedule 1. Please include examples of overhead costs for each of these categories.			
Trait			
Unit & batch	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one of the categories with technical accuracy. The explanation lacks clarity and depth. Any examples given are either not related to the scenario or are incorrect for the activity level.	1 – 2
	Level 2	Explains at least one of the categories with technical accuracy. The explanation may lack some clarity and depth. Some of the examples given will be drawn from the scenario and relate to the correct activity level.	3 – 4
	Level 3	Explains both of the categories with technical accuracy. The explanation is mostly clear and detailed. The examples given are mostly drawn from the scenario and relate to the correct activity level.	5 – 6
Product & facility	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one of the categories with technical accuracy. The explanation lacks clarity and depth. Any examples given are either not related to the scenario or are incorrect for the activity level.	1 – 2
	Level 2	Explains at least one of the categories with technical accuracy. The explanation may lack some clarity and depth. Some of the examples given will be drawn from the scenario and relate to the correct activity level.	3 – 4
	Level 3	Explains both of the categories with technical accuracy. The explanation is mostly clear and detailed. The examples given are mostly drawn from the scenario and relate to the correct activity level.	5 – 6

SECTION 1 continued			
Task (b): Explain how we would make the decision between Option A or Option B from a financial perspective, giving reasons why each cost and revenue item in Schedule 2 would or would not be included in this decision process. Please include two other factors to consider before making a final decision.			
Decision	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates understanding that relevant costing is appropriate, but fails to accurately explain those costs and benefits that are relevant. The explanation lacks clarity and depth.	1
	Level 2	Demonstrates understanding that relevant costing is appropriate and does accurately explain some of the costs and benefits that are relevant. The explanation may lack some clarity and/or depth.	2 – 3
	Level 3	Demonstrates understanding that relevant costing is appropriate and does accurately explain the costs and benefits that are relevant. The explanation is clear and comprehensive.	4
Other factors	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains one suitable factor to consider. The explanation lacks clarity and application to the scenario.	1
	Level 2	Explains at least one suitable factor to consider. The explanation may lack some clarity and/or application to the scenario.	2 – 3
	Level 3	Explains two suitable factors to consider. The explanation is mostly clear and applied to the scenario.	4

SECTION 1 continued

Task (c): Explain the impact of the new asset on the calculation of corporate income tax payable for the year ending 30 June 2024, if we take advantage of the special first year tax depreciation allowance.

Trait			
Tax payable	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how the new asset will affect corporate income tax payable for the year ending 30 June 2024. The explanation lacks clarity and reference to the information given.	1 – 2
	Level 2	Demonstrates reasonable understanding of how the new asset will affect corporate income tax payable for the year ending 30 June 2024. The explanation may lack some clarity and reference to the information given.	3 – 4
	Level 3	Demonstrates good understanding of how the new asset will affect corporate income tax payable for the year ending 30 June 2024. The explanation is mostly clear and makes reference to the information given.	5

SECTION 2

Task (a): Explain how decision packages could be developed as part of determining the promotional budget for PB-Ready. Please also include two challenges that we might face when doing this.

Trait			
Decision packages	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to develop decision packages. The explanation lacks clarity, detail and application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of how to develop decision packages. The explanation may lack some clarity, detail and/or application to the scenario.	3 – 4
	Level 3	Demonstrates good understanding of how to develop decision packages. The explanation is clear, detailed and applied to the scenario.	5
Challenges	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains one suitable challenge. The explanation lacks clarity and application to the scenario.	1
	Level 2	Explains at least one suitable challenge. The explanation may lack some clarity and/or application to the scenario.	2 – 3
	Level 3	Explains two suitable challenges. The explanation is mostly clear and applied to the scenario.	4

SECTION 2 (continued)			
Task (b): Explain what the EOQ of 150,000 means and the variables that will have been used to determine it. Please explain how the lead time will affect our ordering process and also explain how we would determine whether it would be advisable to order in bulk to take advantage of the discount available.			
Trait			
EOQ & variables	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of what the EOQ means and the variables used to calculate it. The explain lacks clarity.	1
	Level 2	Demonstrates reasonable understanding of what the EOQ means and the variables used to calculate it. The explain lacks some clarity.	2
	Level 3	Demonstrates good understanding of what the EOQ means and the variables used to calculate it. The explain is mostly clear.	3
Lead time & bulk discount	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to deal with lead time and/or determine whether to order to utilise the bulk discount. The explanation lacks accuracy and clarity and makes little if any reference to the information given.	1 – 2
	Level 2	Demonstrates reasonable understanding of how to deal with lead time and/or determine whether to order to utilise the bulk discount. The explanation lacks some accuracy and/or clarity but does make some reference to the information given.	3 – 4
	Level 3	Demonstrates good understanding of how to deal with lead time and determine whether to order to utilise the bulk discount. The explanation is mostly accurate and clear with reference to the information given.	5

SECTION 2 (continued)			
Task (c): Explain how PB-Ready finished goods inventory will be valued in our financial statements, with reference to the information in Table 1 and to the relevant financial reporting standard.			
FG inventory value	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how inventory is valued in the financial statements in accordance with IAS 2. The explanation lacks technical accuracy, detail, clarity and application to the information given.	1 – 3
	Level 2	Demonstrates reasonable understanding of how inventory is valued in the financial statements in accordance with IAS 2. The explanation may lack some technical accuracy, detail, clarity and/or application to the information given.	4 – 6
	Level 3	Demonstrates good understanding of how inventory is valued in the financial statements in accordance with IAS 2. The explanation is mostly technically accurate, detailed, clear and applied to the information given.	7 – 8

SECTION 3			
Task (a): Explain the payoff and statistical information in Schedule 1.			
Trait			
Schedule 1	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Provides a limited explanation of the information in Schedule 1. The explanation lacks technical accuracy, clarity and depth.	1 – 2
	Level 2	Provides a reasonable explanation of the information in Schedule 1. The explanation lacks some technical accuracy, clarity and/or depth.	3 – 4
	Level 3	Provides a good explanation of the information in Schedule 1. The explanation is technically accurate, clear and detailed.	5
Task (b): Explain how we would apply a risk neutral, risk seeking and risk averse approach to this decision, giving the decision that would be taken using each approach. Please also explain one limitation associated with each approach.			
Trait			
Decision	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains how to apply at least one of the decision approaches with technical accuracy. The correct decisions may not be given and limitations are likely to be missing or inappropriate.	1 – 3
	Level 2	Explains how to apply at least two of the decision approaches with technical accuracy. The correct decisions may not always be given and limitations may not always be appropriate.	4 – 6
	Level 3	Explains how to apply all three decision approaches with technical accuracy. The correct decisions are mostly given and the limitations are mostly appropriate.	7 – 9

SECTION 3 (continued)			
Task (c): Explain the features of a beyond budgeting approach and how we might apply these. Please also explain the benefits to our business of using a beyond budgeting approach.			
Trait			
Features	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the features of beyond budgeting. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of the features of beyond budgeting. The explanation lacks some clarity, depth and/or application to the scenario.	3 – 4
	Level 3	Demonstrates some understanding of the features of beyond budgeting. The explanation lacks clarity, depth and application to the scenario.	5
Benefits	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one benefit. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Explains at least two benefits. The explanation lacks some clarity, depth and/or application to the scenario.	3 – 4
	Level 3	Explains at least three benefits. The explanation is mostly clear, detailed and applied to the scenario.	5 – 6

SECTION 4			
Task (a): Explain what each of the variances shown in Table 1 means and possible reasons for their occurrence.			
Trait			
Direct labour	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains the meaning of at least one of the variances with technical accuracy. The explanation lacks clarity and the reasons given may not relate to the correct variance.	1 – 2
	Level 2	Explains the meaning of at least two of the variances with technical accuracy. The explanation may lack some clarity and the reasons given may not always relate to the correct variance.	3 – 4
	Level 3	Explains the meaning of all three variances with technical accuracy. The explanation is mostly clear and the reasons given relevant to that variance.	5 – 6
Variable overhead	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains the meaning of one of the variances with technical accuracy. The explanation lacks clarity and the reasons given may not relate to the correct variance.	1
	Level 2	Explains the meaning of at least one of the variances with technical accuracy. The explanation may lack some clarity and the reasons given may not always relate to the correct variance.	2 – 3
	Level 3	Explains the meaning of both variances with technical accuracy. The explanation is mostly clear and the reasons given relevant to that variance.	4

SECTION 4 (continued)			
Task (a) continued: Explain what each of the variances shown in Table 1 means and possible reasons for their occurrence.			
Trait			
Fixed overhead	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains the meaning of at least one of the variances with technical accuracy. The explanation lacks clarity and the reasons given may not relate to the correct variance.	1 – 2
	Level 2	Explains the meaning of at least two of the variances with technical accuracy. The explanation may lack some clarity and the reasons given may not always relate to the correct variance.	3 – 4
	Level 3	Explains the meaning of all three variances with technical accuracy. The explanation is mostly clear and the reasons given relevant to that variance.	5 – 6
Task (b): Suggest three suitable KPIs, relating to the sustainability of the PB-Ready production process, that could be included in a dashboard for PB-Ready. Please explain how each KPI would be measured and why it would be appropriate.			
Trait			
KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Suggests at least one suitable KPI. The explanation of measurement and why the KPI is appropriate lacks clarity and application to the scenario.	1 – 3
	Level 2	Suggests at least two suitable KPIs. The explanation of measurement and why the KPI is appropriate lacks some clarity and/or application to the scenario.	4 – 6
	Level 3	Suggests three suitable KPIs. The explanation of measurement and why the KPI is appropriate is mostly clear and applied to the scenario.	7 – 9

Operational Level Case Study November 2023 & February 2024

Marking Guidance

Variant 6

About this marking scheme

This marking scheme has been prepared for the 2019 CGMA Professional Qualification Operational Case Study [November 2023 & February 2024].

The indicative answers will show the expected or most orthodox approach; however the nature of the case study examination tasks means that a range of responses will be valid. The descriptors within this level-based marking scheme are holistic and can accommodate a range of acceptable responses.

General marking guidance is given below, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.

- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.
- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie. Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.

- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	A	Prepare costing information for different purposes to meet the needs of management.	52%
(b)	E	Prepare information to support short-term decision making.	48%
Section 2			
(a)	B	Prepare budget information and assess its use for planning and control purposes.	40%
(b)	B	Prepare budget information and assess its use for planning and control purposes.	28%
(c)	F	Prepare information to manage working capital.	32%
Section 3			
(a)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	32%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	24%
(c)	E	Prepare information to support short-term decision making.	44%
Section 4			
(a)	C	Analyse performance using financial and non-financial information.	40%
(b)	C	Analyse performance using financial and non-financial information.	36%
(c)	C	Analyse performance using financial and non-financial information.	24%

SECTION 1			
Task (a): Explain how to determine the cost per subscriber of the PBKeto app and the difficulties associated with doing this.			
Trait			
Cost per subscriber	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to determine the cost per subscriber. The explanation lacks clarity, depth and reference to the information given.	1 – 2
	Level 2	Demonstrates reasonable understanding of how to determine the cost per subscriber. The explanation may lack some clarity, depth and/or reference to the information given.	3 – 5
	Level 3	Demonstrates good understanding of how to determine the cost per subscriber. The explanation is mostly clear, comprehensive and makes good reference to the information given.	6 – 7
Difficulties	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one relevant difficulty. The explanation lacks clarity and application to the scenario.	1 – 2
	Level 2	Explains at least two relevant difficulties. The explanation lacks some clarity and/or application to the scenario.	3 – 4
	Level 3	Explains at least three relevant difficulties. The explanation is mostly clear and applied to the scenario.	5 – 6

SECTION 1 continued			
Task (b): Explain the information shown in Table 1 and which option would be chosen if the SMT takes a risk neutral approach to this decision. Please also explain three issues to be considered before making a final decision about which option to choose.			
Table 1 & decision	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of the information in Table 1, and application of the risk neutral approach may be inaccurate. The explanation lacks clarity and reference to the information given.	1 – 2
	Level 2	Demonstrates some understanding of the information in Table 1, and application of the risk neutral approach is likely to be accurate. The explanation may lack some clarity and/or reference to the information given.	3 – 4
	Level 3	Demonstrates reasonable understanding of the information in Table 1, and application of the risk neutral approach is accurate. The explanation is mostly clear and makes good reference to the information given.	5 – 6
Issues	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one relevant issue to be considered. The explanation lacks clarity and application to the information given.	1 – 2
	Level 2	Explains at least two relevant issues to be considered. The explanation lacks some clarity and/or application to the information given.	3 – 4
	Level 3	Explains three relevant issues to be considered. The explanation is mostly clear and applied to the information given.	5 – 6

SECTION 2

Task (a): Explain the sources of big data that will assist with creating a forecast of the additional sales from the keto diet market. Please also explain the potential problems that the agency will need to overcome when using big data analytics to establish this forecast.

Trait			
Sources	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one source of big data. The explanation lacks clarity, depth and relevance to the forecast required.	1 – 2
	Level 2	Explains at least one source of big data. The explanation lacks some clarity, depth and relevance to the forecast required.	3 – 4
	Level 3	Explains at least two sources of big data. The explanation is mostly clear and relevant to the forecast required.	5
Potential problems	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one potential problem to be overcome. The explanation lacks clarity and application to the scenario.	1 – 2
	Level 2	Explains at least two potential problems to be overcome. The explanation may lack some clarity and application to the scenario.	3 – 4
	Level 3	Explains at least three potential problems to be overcome. The explanation is mostly clear and applied to the scenario.	5

SECTION 2 (continued)			
Task (b): Explain how the original cost budget for January to June 2024, shown in Table 1, will be revised using a flexible budgeting approach.			
Trait			
Flexible budget	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of how the cost budget will be revised using a flexible budgeting approach. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of how the cost budget will be revised using a flexible budgeting approach. The explanation may lack some clarity, depth and/or application to the scenario.	3 – 5
	Level 3	Demonstrates good understanding of how the cost budget will be revised using a flexible budgeting approach. The explanation is mostly clear and applied to the scenario.	6 – 7
Task (c): Explain the factors to be considered when setting credit limits for Keto Warriors. Please refer to the information in Table 2 when explaining these factors.			
Credit limits	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of the factors to be considered. The explanation lacks clarity, depth and reference to the information given.	1 – 3
	Level 2	Demonstrates reasonable understanding of the factors to be considered. The explanation may lack some clarity, depth and/or reference to the information given.	4 – 6
	Level 3	Demonstrates good understanding of the factors to be considered. The explanation is mostly clear and references the information given.	7 – 8

SECTION 3			
Task (a): Explain how the old mixing machine identified in Table 1 will be classified and measured in our financial statements for the year ending 30 June 2024.			
Trait			
Classification	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of the criteria for classifying an asset as held for sale. The explanation lacks clarity, depth and reference to the information given.	1
	Level 2	Demonstrates reasonable understanding of the criteria for classifying an asset as held for sale. The explanation may lack some clarity, depth and/or reference to the information given	2 – 3
	Level 3	Demonstrates good understanding of the criteria for classifying an asset as held for sale. The explanation is mostly clear and references the information given.	4
Measurement	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of how the asset will be measured. The explanation lacks clarity, depth and reference to the information given.	1
	Level 2	Demonstrates reasonable understanding of how the asset will be measured. The explanation may lack some clarity, depth and/or reference to the information given	2 – 3
	Level 3	Demonstrates good understanding of how the asset will be measured. The explanation is mostly clear and references the information given	4

SECTION 3 (continued)

Task (b): Explain how the old weighing scale identified in Table 1 will be classified and measured in our financial statements for the year ending 30 June 2024.

Trait			
Weighing scale	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates limited understanding of how the weighing scale will be classified and measured. The explanation lacks clarity, depth and reference to the information given.	1 – 2
	Level 2	Demonstrates reasonable understanding of how the weighing scale will be classified and measured. The explanation may lack some clarity, depth and/or reference to the information given.	3 – 4
	Level 3	Demonstrates good understanding of how the weighing scale will be classified and measured. The explanation is mostly clear and references the information given.	5 – 6

SECTION 3 (continued)			
Task (c): Explain two ways, either using the graph or otherwise, to determine which of Point 1 or Point 2 gives us the optimal production plan on financial grounds. Please also explain the factors to be considered before going ahead with the optimal production plan identified from the graph.			
Trait			
Optimal production plan	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one way to determine the optimal production plan. The explanation lacks clarity and reference to the information given.	1 – 2
	Level 2	Explains at least one way to determine the optimal production plan. The explanation may lack some clarity and/or reference to the information given.	3 – 4
	Level 3	Explains two ways to determine the optimal production plan. The explanation is mostly clear and references the information given.	5
Factors to consider	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains at least one factor to be considered. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Explains at least two factors to be considered. The explanation may lack some clarity, depth and/or application to the scenario.	3 – 4
	Level 3	Explains at least three factors to be considered. The explanation is mostly clear and applied to the scenario.	5 – 6

SECTION 4			
Task (a): Explain what the sales price, sales mix profit and sales quantity profit variances shown in Table 1 indicate, possible reasons for their occurrence and what the variances indicate about overall sales performance of Protein Bars.			
Trait			
Variances	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Explains correctly the meaning of at least one of the variances and provides some valid reasons for the variances. The explanation lacks clarity, depth and application to the scenario and does not consider overall performance.	1 – 3
	Level 2	Explains correctly the meaning of at least two of the variances and provides some valid reasons for the variances. The explanation may lack some clarity, depth and/or application to the scenario and is unlikely to consider overall performance.	4 – 7
	Level 3	Explains correctly the meaning of all three variances and provides valid reasons for the variances. The explanation is mostly clear, applied to the scenario and does consider overall performance.	8 – 10
Task (b): Explain what the KPIs related to the app as shown in Table 2 indicate about actual performance against target, for the period April to June 2024.			
Trait			
KPIs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates some understanding of what the KPIs indicate. The explanation lacks clarity, depth and application to the scenario.	1 – 3
	Level 2	Demonstrates reasonable understanding of what the KPIs indicate. The explanation may lack some clarity, depth and/or application to the scenario.	4 – 6
	Level 3	Demonstrates good understanding of what the KPIs indicate. The explanation is mostly clear and applied to the scenario.	7 – 9

SECTION 4 (continued)			
Task (c): Explain whether it would be beneficial to split the sales price variances into planning and operational elements and any possible problems we would face when doing so.			
Planning and operational	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Demonstrates understanding of planning and operational variances in a general sense. Limited explanation of whether it would be beneficial to split the variances in this instance and possible problems. The explanation lacks clarity and application to the scenario.	1 – 2
	Level 2	Demonstrates understanding of planning and operational variances in a general sense. Some explanation of whether it would be beneficial to split the variances in this instance and possible problems. The explanation lacks some clarity and application to the scenario.	3 – 4
	Level 3	Demonstrates understanding of planning and operational variances in a general sense. Reasonable explanation of whether it would be beneficial to split the variances in this instance and possible problems. The explanation is mostly clear and applied to the scenario.	5 – 6