AICPA & CIMA
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May and August 2022 Operational Case Study
2019 CIMA Professional Qualification
Full post exam support materials

Below is the full post-exam supporting material for the operational case study exam.

Pre-seen material

May and August 2022 operational case study pre-seen can be found here

Examiner's report

The May and August 2022 examiner's report can be found here

Exam variants

- Variant 1 can be accessed here
- Variant 2 can be accessed here
- Variant 3 can be accessed here
- Variant 4 can be accessed here
- Variant 5 can be accessed here
- Variant 6 can be accessed here

Suggested solutions

- Suggested solutions for variant 1 can be accessed here
- Suggested solutions for variant 2 can be accessed here
- Suggested solutions for variant 3 can be accessed here
- Suggested solutions for variant 4 can be accessed here
- Suggested solutions for variant 5 can be accessed here
- Suggested solutions for variant 6 can be accessed here

Marking Guidance

- Marking guidance for variant 1 can be accessed here
- Marking guidance for variant 2 can be accessed here
- Marking guidance for variant 3 can be accessed here
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- Marking guidance for variant 5 can be accessed here
- Marking guidance for variant 6 can be accessed here

If you need any further information please contact us here

Operational Case Study Examination

May 2022 - August 2022

Pre-seen material

COVID-19 Statement

This pre-seen and the case study in general (while aiming to reflect real life), are set in a context where the COVID-19 pandemic has 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 the pandemic or social distancing will, of course, be marked on their merits. In most cases, however, candidates may find it helpful to assume that there are no restrictions to the movement of people, goods or services in place.

Contents

Your role

You are a Finance Officer working within the Finance Department of Meals@Home. You are principally involved in the preparation of management accounting information and providing information to managers to assist with 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.

Introduction

Meals@Home is a company that sells meal-kits direct to customers through a digital subscription service. A meal-kit includes the ingredients for a single meal for a set number of portions of that meal, and a recipe card which gives instructions on how to prepare and cook the meal at home. The company is based in Newland, a country in Europe which has the N$ as its currency.

Meals@Home was founded in 2012 by friends Ben Jonas and Ravi Smit. In 2010 both were young professionals working in the capital city of Newland: Ben in marketing and Ravi in IT. Working long hours, both Ben and Ravi found themselves eating takeaways and convenience foods. Despite having a keen interest in cooking and eating healthily, they struggled to find time to plan menus and to get to the supermarket. In 2011 they tried a meal-kit service. They liked the convenience but were not impressed with the variety of the meals and the quality of ingredients. After research, they decided to set up their own meal-kit company.

In 2012, Ben and Ravi engaged the services of Henri Lopez, an experienced chef and recipe developer. Together they developed 20 recipes and set up the company's subscription service. The first meal-kits were sold in January 2013 and were available to customers within a 60-kilometre radius of Newland's capital city. In the first year of trading, Meals@Home made a revenue of N$4,530,000.

Since then, the company's revenue has grown significantly and from 2016 the company has sold meal-kits throughout Newland. For the year to 31 December 2021 revenue was N$62.5 million and the operating loss was N$3.7 million. The budget for the year to 31 December 2022 forecasts revenue of N$75.8 million and an operating profit of N$2.1 million (the company's first operating profit). The survival and growth of the company has been made possible by investment and support from venture capitalists and business angels and the slow path to profit is consistent with other meal-kit companies.

The aim of the company is to provide good quality ingredients and clear recipe instructions, so that the customer can prepare and cook healthy and nutritious meals from scratch at home. The company aims that each meal-kit should take a maximum of 45 minutes to prepare and cook. Each recipe is calorie counted and the focus of many recipes is on low carbohydrate but high nutritional value. The company's Head Office is located 40 kilometres outside of Newland's capital city. This is the location of the company's development kitchen where new meal recipes are developed and tested. Within 5 kilometres of the Head Office is the Production Facility where boxes of meal-kits are assembled.

Ben and Ravi consider sustainability to be at the heart of the business. Meal-kits give customers only enough ingredients to prepare that meal and therefore reduce the amount of food waste at home. Ingredients are ethically sourced with food-kilometres a key consideration when selecting suppliers. There are two key sustainability challenges: the amount of packaging and the distribution of meal-kits to customers.

Extracts from the Meals@Home website:

Why choose Meals@Home?

Flexible subscription service:

With our subscription service you can sign up to receive our meal-kits once a week, once a fortnight or once a month. You can choose to receive meal-kits in either a Small size (sufficient for two portions) or a Large size (sufficient for four portions). For each order you place, you will have the option to include 2, 3 or 4 meal-kits. Your meal-kits are delivered to you in a single box.

You have the freedom to cancel, pause or amend your subscription at any time, without any additional charge to you.

Recipe selection:

With 50 meal-kits to choose from each week, including 20 vegetarian meal-kits, you will be spoilt for choice. Whether you like spicy food or fish or certain vegetables, our weekly selection of meal-kits will have something for everybody.

Our development kitchen works hard to ensure that our recipes are easy to follow, quick to prepare and highly nutritious. All our recipes are calorie counted.

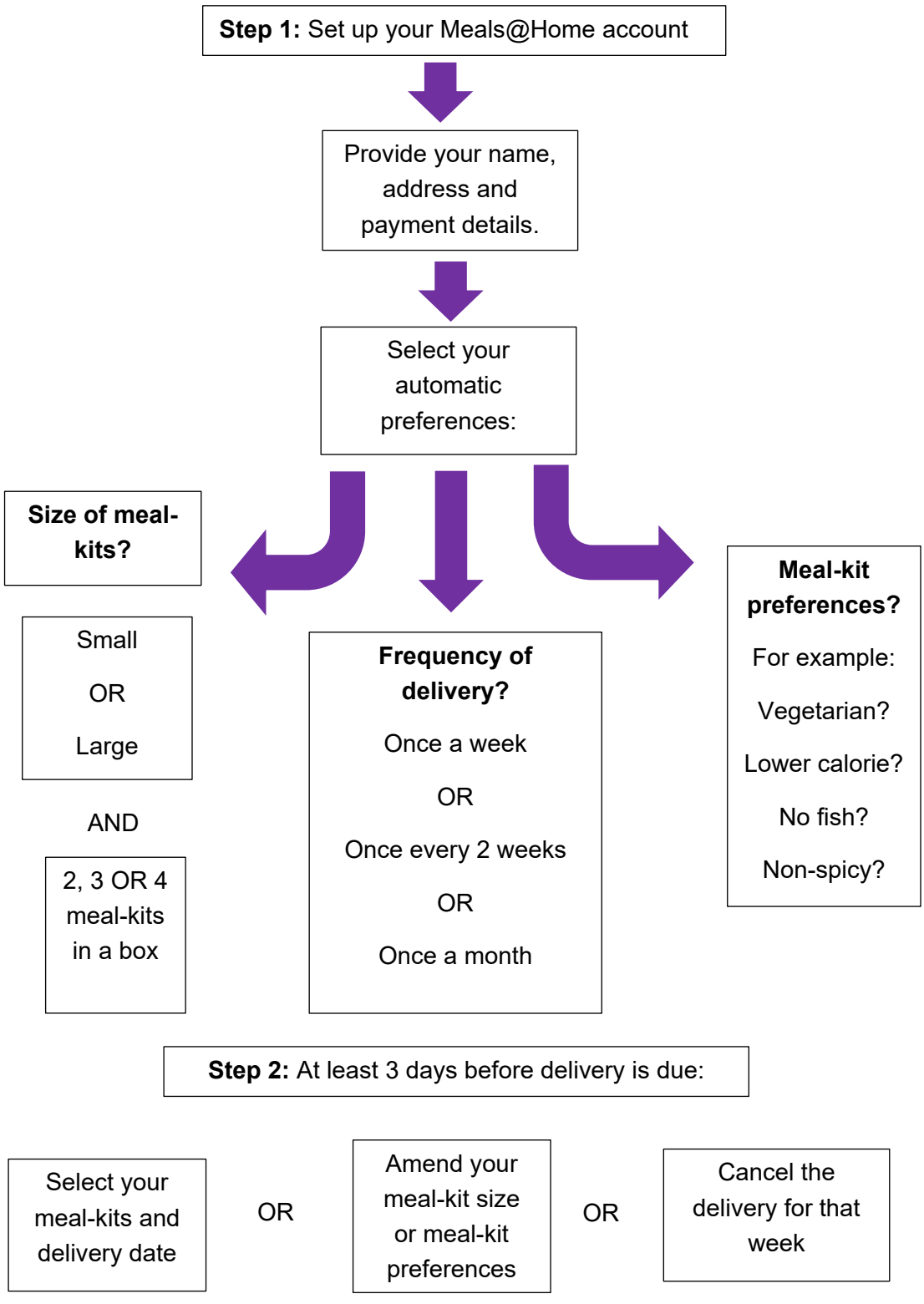
Ingredients:

We have great relationships with all our suppliers, meaning that we will only send you the freshest and best quality ingredients.

All meat and most of our dairy is sourced from Newland producers. Most of our vegetables and fruit are grown in Newland.

We try to source our other ingredients from Newland to limit the kilometres travelled before they reach you.

How to use our subscription service



Remember: if you forget to select your meal-kits or to cancel a delivery, we will automatically send you a box including the appropriate size and number of meal-kits based on your saved preferences.

What to expect when you receive your order

- You'll receive a single box with everything you need for your meal-kits.
- Open the box and you'll find:
  - An inner chill box in which you'll find our eco-chill bag on top of the meat, fish and dairy ingredients required for all of your meal-kits.
  - A meal-kit bag for each meal-kit which contains the tins, packets, herbs & spices mixes required for that meal-kit.
  - And, carefully packed on top of the meal-kit bags, all of the fresh ingredients (short-life baked goods, fruit and vegetables) for all of your meal-kits.
- All you'll need to do is unpack, store the ingredients in your fridge or your cupboards and be ready to prepare and cook fabulous meals.

The Directors

Ben Jonas, Sales & Marketing Director: Ben has overall responsibility for the company's sales, distribution and marketing. He has been instrumental in creating a distinctive Meals@Home brand and is the inspiration behind all of the company's marketing activities which have driven the company's growth. Ben is keen for the business to expand its product base.

Ravi Smit, IT Director: Ravi has overall responsibility for all of the company's IT systems. Ravi was the driving force behind the development of the company's website and subscription app. He is interested in the company making use of artifical intelligence and other emerging technologies.

Henri Lopez, Recipe Development Director: Henri has been with the company from the beginning. He is responsible for developing and testing all recipes and is a fully qualified chef with many years of experience in recipe development. Henri is paricularly interested in the nutritional value of food.

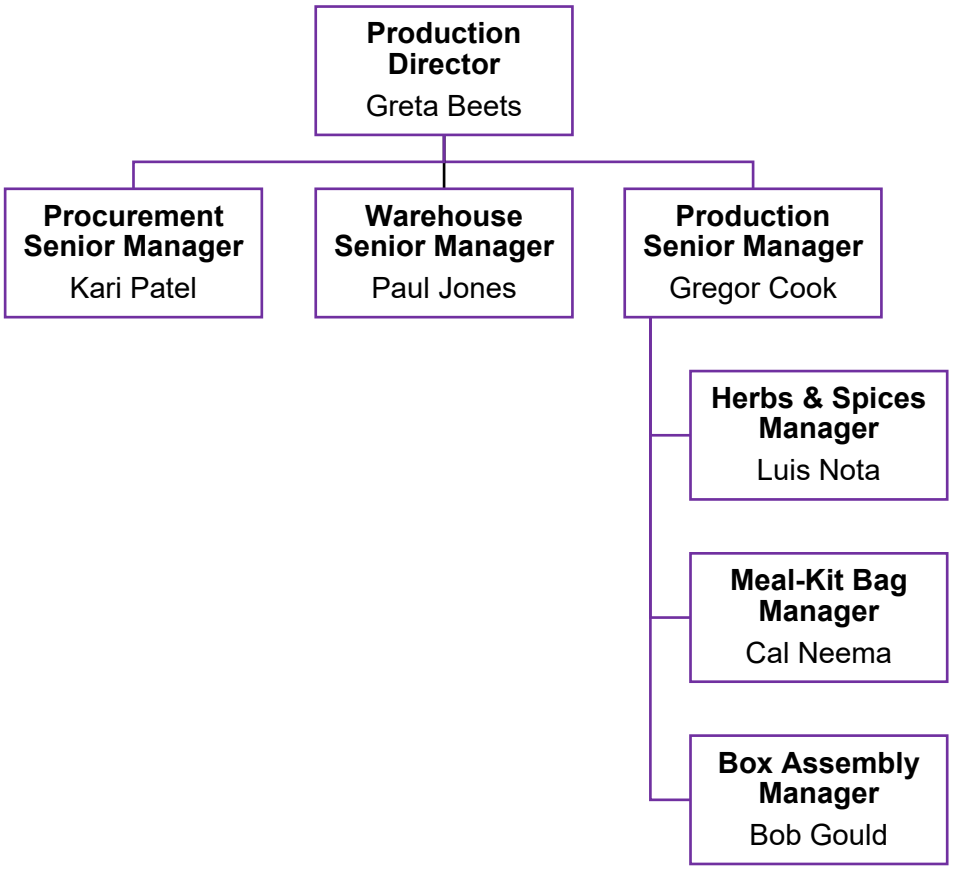
Greta Beets, Production Director: Greta has been with the company since 2018 and is responsible for ingredient procurement and all of the activities at the Production Facility. She previously worked as a senior buyer for a supermarket company. Greta is a champion of sustainability.

Jack Quinn, Finance Director: Jack became a qualified accountant in 2004 and has been with the company since 2014. He is responsible for all finance and human resource issues. He has been instrumental in securing finance from private investors and banks and has built good relationships with financiers.

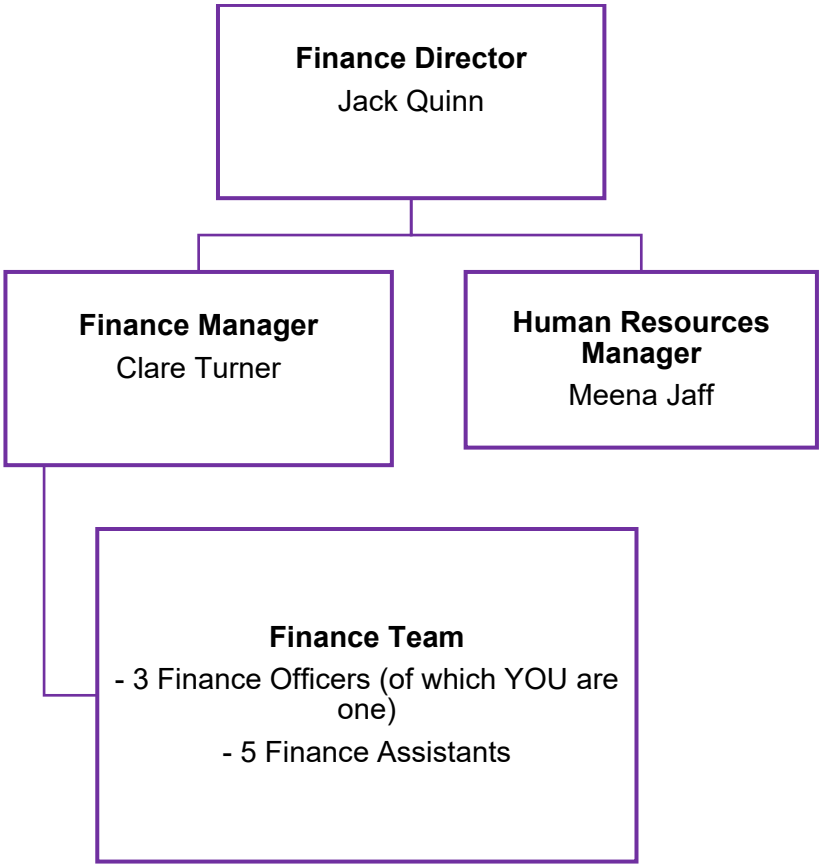
Sales & Distribution, Production and Finance teams

Sales & Distribution:

Production:



Finance:



Information about company operations

Sales market and sales channel

Meals@Home sells meal-kits direct to customers throughout Newland, through the company's subscription service. The company supplies two sizes of meal-kits. A Small meal-kit contains enough ingredients to prepare two portions of a meal. A Large meal-kit contains enough ingredients to prepare four portions of a meal. Orders must be for 2, 3 or 4 meal-kits of the chosen size. The company does not sell individual meal-kits. Irrespective of the number of meal-kits ordered, they will all be delivered in one box.

There are therefore six box options available to customers. Information about each of these options is as follows:

	2 Small meal-kits	3 Small meal-kits	4 Small meal-kits
Selling price*	N$30.00	N$35.00	N$40.00
Total number of portions	4	6	8
Average price per portion	N$7.50	N$5.83	N$5.00

	2 Large meal-kits	3 Large meal-kits	4 Large meal-kits
Selling price*	N$40.00	N$50.00	N$60.00
Total number of portions	8	12	16
Average price per portion	N$5.00	N$4.17	N$3.75

*This is the full retail selling price of each type of box as advertised on the company website before any promotional discounts.

The company is constantly developing new recipes and improving existing recipes for its meal-kits. There are currently over 300 recipes in the company's portfolio. The recipes available are rotated and changed every 2 weeks, with 50 different recipes available for order each week.

The portfolio of recipes includes a range of meat, fish and vegetarian dishes. There are currently no vegan recipes available. The portfolio includes seasonal recipes which utilise ingredients appropriate for the season and which are more suited for certain times of year (for example, casseroles and stews for cold weather and salads for warmer weather).

Customers need to be members of the subscription service before they can order a box of meal-kits. Membership is free and when the subscription is set up a customer selects whether they would like to receive a box of meal-kits once a week, once every 2 weeks or once a month. Customers also select whether to have Small or Large meal-kits and whether to include 2, 3 or 4 meal-kits in each box. They also select any dietary preferences. Any of these initial preferences can be changed at any time and, when customers order their meal-kits, they can override preferences if, for example, they would prefer an extra meal-kit or Large rather than Small for a particular order.

The customer is required to make their meal-kit selections at least 3 days before the box is due to be delivered. This can be done on the company website or via the Meals@Home app. The customer has the right to pause their subscription at any time without penalty.

However, if a customer forgets to pause or to select their meal-kit preferences, they will receive a box based on their saved preferences or past meal-kit selection and will be charged for this.

The company offers promotional discounts throughout the year to attract new subscribers. A typical promotional discount will be 50% off the first box and 30% off each of the next two boxes.

Production Facility

The Production Facility is where all boxes of meal-kits sold by Meals@Home are produced. The facility includes temperate controlled warehousing for the storage of ingredients and packaging, and a production area where the boxes of meal-kits are assembled.

Purchasing and suppliers of ingredients

Ingredients included in the meal-kits can be categorised as follows:

Category of ingredient	Includes
Long-life	❖ Tins of, for example, chopped tomatoes, kidney beans or coconut milk. ❖ Cartons of, for example, tomato sauce or chickpeas. ❖ Packets of, for example, dried pasta or rice. ❖ Dried herbs & spices.
Fresh	❖ Short-life baked goods such as, for example, wraps, bread rolls or naan bread. ❖ Fruits ❖ Vegetables
Chilled	❖ Meat ❖ Fish ❖ Dairy such as, for example, yoghurt, crème fraiche or cheese.

Some of the long-life ingredients are used in many of our recipes. These ingredients are purchased in bulk to take advantage of bulk purchase discounts from suppliers. There is therefore always some inventory of these items. Fresh ingredients and chilled ingredients are purchased based on the meal-kit selections made by customers, to minimise wastage. Deliveries of fresh and chilled ingredients occur daily based on the next day's box production. Other than dried herbs & spices, fruit, and vegetables, all ingredients are received from the supplier pre-portioned for either two portions or four portions.

Meals@Home has a wide network of suppliers and has built up excellent relationships with them. Where possible the company seeks to source ingredients from Newland and all meat and most dairy is produced in Newland. Supplier payment terms range from 30 to 60 days.

Production processes

Within the Production Facility there are three production processes, which are as follows:

Herbs & spices packets production

- Dried herbs and spices are purchased by Meals@Home in bulk.
- Some meal-kits require the herbs and spices to be portioned individually, others require a mix to be created.
- Via machinery, the appropriate herbs and spices for each meal-kit are portioned to give enough for either a Small or Large meal-kit.
- The meal-kit portions are sealed into packets made of bio-degradeable material.

Meal-kit bag production

- A meal-kit bag contains all of the long-life ingredients for either a Small or Large meal-kit. This includes any dried herbs & spices packets required.
- Meal-kit bags are assembled on an automated production line that operates 20 hours a day, 7 days a week. The production line can deal with multiple meal-kits at the same time.
- Meal-kit bags are usually produced the week before the meal-kits are due for despatch.

Box packing

- Boxes of meal-kits start to be assembled and packed 4 hours before despatch.
- The packing of ingredients into the box is a largely manual process, which is carried out on a production line that runs through the facility.
- The box packing process is detailed below.

The box packing process is as follows:

At the start of the production line, the system generates a label which contains a unique barcode which when scanned gives the size and meal-kit selections based on the customer order.

Based on the label, the correct sized outer box is selected by robot and formed. An inner chill box is also placed into the outer box by robot. Both the outer box and inner chill box are made from recycled cardboard. The label for the box is stuck to the top of the outer box.

The box moves along the production line to the meal-kit bag area where the appropriate meal-kit bags based on the unique barcode are picked and placed into the bottom of the box by robots. Recipe cards are also added at this stage.

The box moves along the production line to the fresh ingredients area. The packer scans the unique barcode on a hand-held tablet which gives them a list of the fresh ingredients needed. The appropriate fresh ingredients are picked and then packed into the box on top of the meal-kit bags. Most fresh fruit and vegetables are packed loose. Care is taken by the packer to reduce the risk of ingredients being damaged in transit.

The box moves along the production line into the chilled area of the Production Facility. The packer in this area scans the unqiue barcode on their hand-held tablet to generate the chilled ingredients picking list. The ingredients are picked and then carefully packed into the inner chill box section.

The box moves to the final section of the production line. There is a check to ensure that the ingredients have been appropriately packed and a frozen eco-chill-bag is placed onto the chilled items to keep them cool in transit. The inner chill box lid is closed and the box is passed through machinery which closes and seals the outer box. The boxes are then transferred to the despatch area via conveyor belt.

Packaging

Packaging is a significant component of a box of meal-kits. All packaging is purchased from a single supplier. The main elements of packaging purchased by Meals@Home are:

- The strong outer box, which is made from 100% recycled corrugated cardboard.
- The inner chill box, which is made from layers of corrugated cardboard which act as insulation. This is also made from 100% recycled cardboard.
- The eco-chill-bag, which has an inner gel core which can be frozen. The bag can be refrozen and reused by the customer.
- Meal-kit bags which are made from 100% recycled paper.

The packaging supplier's production facility is located 5 kilometres from Meals@Home's Production Facility. Since 2013, Meals@Home has worked closely with this supplier to develop new ideas for packaging, including the recently launched inner chill box.

Reducing the carbon footprint associated with the packaging used in boxes of meal-kits is a priority of Meals@Home. There have already been significant improvements in the sustainability of packaging since the company started trading. These include:

- Ensuring that all outer boxes are made from 100% recycled cardboard.
- Removing packaging from most fruit and vegetables. These are now packed loose in the box.
- Working with suppliers of ingredients to reduce the non-compostable plastic content in their packaging.
- Using packets made from bio-degradable material for the dried herbs and spice portions.
- Introducing the inner chill box and multiple-use eco-chill-bag to replace single-use plastic chill-bags.

Distribution

Distribution of boxes of meal-kits to customers is outsourced to a major distribution company which delivers anywhere within Newland 7 days a week. The distributor uses a fleet of refrigerated vehicles. Currently, 75% of this fleet is powered by diesel and 25% by electricity or biogas. The distributor aims for 90% of its fleet to be powered by electricity or biogas within 5 years.

Employees

Meals@Home had the following number of employees on 31 December 2021:

	Number
Production Facility	445
Head Office	62
Total	**507**

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. The standard cost of the ingredients for each meal-kit is established when the recipe for the meal-kit is developed and is updated for known price changes twice a year. Standards for all other direct inputs (packaging and direct labour) are established per box of meal-kits and are usually updated twice a year for known price changes.

The budgeting process is centrally managed by the Finance Department with limited involvement of middle or lower-level management.

The meal-kit industry

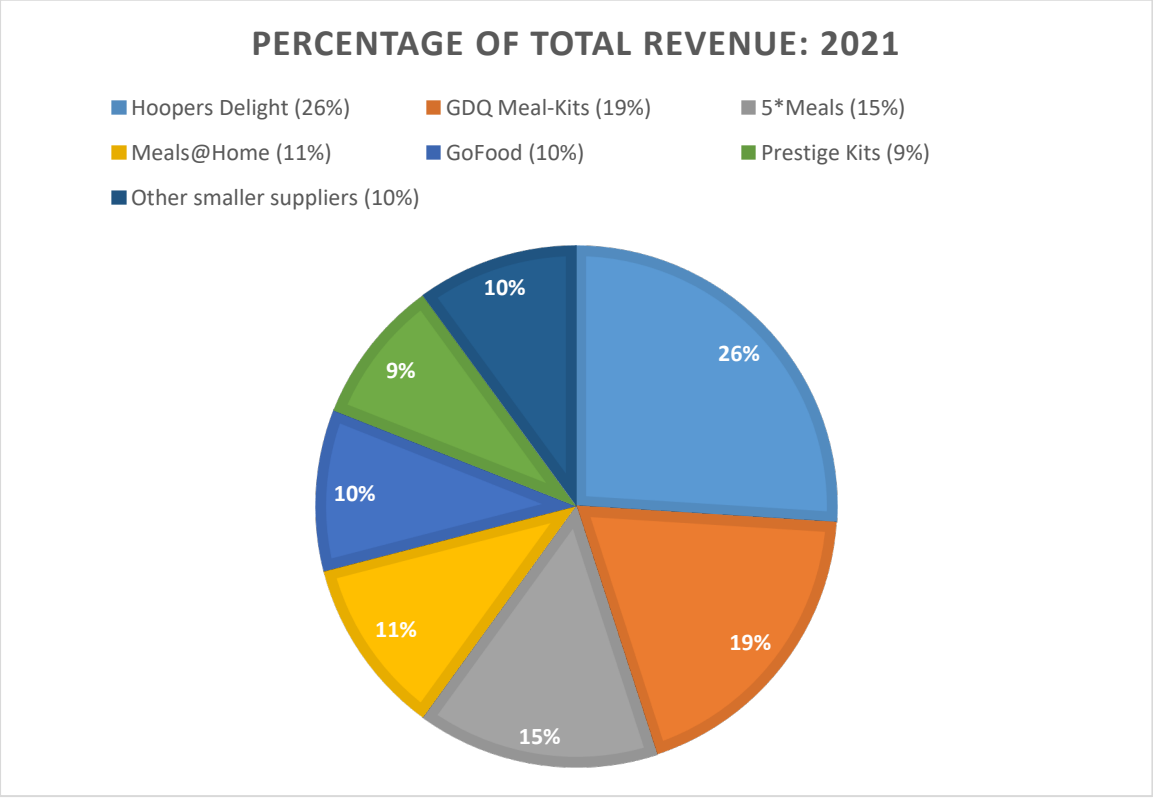
The first company to sell a complete meal-kit (Hoopers Delight) did so in the United States of America in 2008. Sales of meal-kits were initially slow to begin with, but by 2012 there was significant growth throughout the world.

Meal-kits avoid the need to shop for groceries and limit the amount of food waste at home. As such, early meal-kit companies targeted young professionals rather than families. Over the years, this has changed and families now account for the largest share of the market. Busy family life and the desire to eat quick and easy-to-prepare home cooked meals, rather than takeaways or unhealthy convenience foods, has driven this increase.

The meal-kit industry in Newland

Within Newland there are currently six large companies that sell meal-kits. Each of these six companies generated revenues from the sale of meal-kits in 2021 of more than N$50 million. Two of these (Hoopers Delight and 5*Meals) are multi-national companies with worldwide sales, the other four (GDQ Meals-Kits, Meals@Home, GoFood and Prestige Kits) operate and sell meal-kits only in Newland. There are also several smaller companies that sell meal-kits and either operate regionally or offer a bespoke service focused on, for example, party catering or different international cuisines.

For the year ended 31 December 2021, the total revenue from meal-kit sales in Newland was split as follows:



All six of the large companies have seen significant growth in revenue over the past 5 years, averaging 7% per year. Each of these companies has its own unique selling point. For example, Meals@Home focuses on nutritional healthy meals, but others focus on vegetarian and/or vegan meals, organic ingredients or different international cuisines.

The rate of growth in the market has now started to decline and therefore many of the companies in this market have recently started to extend their product ranges. For example, GDQ Meal-Kits has just launched a range of frozen ready meals and Prestige Kits, a range of healthy smoothies, soups and protein bars.

Challenges facing the meal-kit industry in Newland

The following are the key challenges facing companies operating in the meal-kit industry in Newland:

- Increasingly aggressive price competition within the market.
- A reduction in customer loyalty as customers switch companies to take advantage of initial promotional offers.
- Pressure to reduce the amount of packaging.
- Sustainable sourcing of ingredients and packaging.

Financial statements for the year ended 31 December 2021

Meals@Home
Statement of profit or loss for the year ended 31 December 2021

	2021 N$000	2020 N$000
Revenue	62,500	50,350
Cost of sales	(33,750)	(28,045)
Gross profit	**28,750**	**22,305**
Selling, distribution and marketing costs	(14,375)	(12,600)
Administrative expenses	(18,075)	(17,450)
Operating loss	**(3,700)**	**(7,745)**
Finance costs	(396)	(535)
Loss before tax	**(4,096)**	**(8,280)**
Income tax on loss	-	-
Loss for the year	**(4,096)**	**(8,280)**

Meals@Home
Statement of financial position at 31 December 2021

	2021 N$000	2021 N$000	2020 N$000	2020 N$000
ASSETS				
Non-current assets				
Intangible assets	3,690		3,105	
Property, plant and equipment	5,945		6,840	
		9,635		9,945
Current assets				
Inventory	2,300		1,950	
Other receivables	1,160		1,225	
Cash and cash equivalents	329		-	
		3,789		3,175
Total assets		**13,424**		**13,120**
EQUITY AND LIABILITIES				
Issued N$1 equity share capital		600		500
Share premium		35,300		30,400
Retained earnings		(38,196)		(34,100)
Total equity		**(2,296)**		**(3,200)**
Non-current liabilities				
Borrowings		5,600		5,600
Current liabilities				
Overdraft		-		1,240
Trade and other payables		10,120		9,480
Total equity and liabilities		**13,424**		**13,120**

Meals@Home
Statement of cash flows for the year ended 31 December 2021

	N$000	N$000
Cash flows from operating activities		
Loss before tax		(4,096)
Adjustments		
Amortisation of intangible assets	620	
Depreciation for property, plant and equipment	890	
Loss on sale of property, plant and equipment	80	
Finance costs	396	
		1,986
Movements in working capital		
Increase in inventory	(350)	
Decrease in other receivables	65	
Increase in trade and other payables	640	
		355
Cash generated from operations		**(1,755)**
Tax paid	-	
Interest paid	(396)	(396)
Net cash outflow from operating activities		**(2,151)**
Cash flows from investing activities		
Purchase of intangible assets	(1,205)	
Purchase of property, plant and equipment	(275)	
Proceeds on disposal of property, plant and equipment	200	
Net cash outflow from investing activities		(1,280)
Cash flows from financing activities		
Issue of share capital	5,000	
Net cash inflow from financing activities		5,000
Net increase in cash and cash equivalents		**1,569**
Cash and cash equivalents at the start of the year		(1,240)
Cash and cash equivalents at the end of the year		**329**

Budget information for the year ending 31 December 2022

Total budgeted operating profit:

	Boxes of Small meal-kits N$000	Boxes of Large meal-kits N$000	Total N$000
Revenue	30,305	45,505	75,810
Cost of sales:			
Ingredients & packaging	(7,799)	(15,271)	(23,070)
Direct labour	(4,341)	(5,850)	(10,191)
Variable production overhead	(399)	(557)	(956)
Fixed production overhead	(1,892)	(2,652)	(4,544)
Gross profit	**15,874**	**21,175**	**37,049**
Selling, distribution and marketing costs			(15,920)
Administrative expenses			(19,000)
Operating profit			**2,129**

Budgeted sales:

Boxes of Small meal-kits:

	2 meal-kits	3 meal-kits	4 meal-kits	Total
Product code	S2	S3	S4	
Number of boxes sold	150,000	440,000	300,000	890,000
Selling price* (N$)	28.50	33.25	38.00	
	N$000	**N$000**	**N$000**	**N$000**
Revenue	4,275	14,630	11,400	30,305

Boxes of Large meal-kits:

	2 meal-kits	3 meal-kits	4 meal-kits	Total
Product code	L2	L3	L4	
Number of boxes sold	110,000	330,000	450,000	890,000
Selling price* (N$)	38.00	47.50	57.00	
	N$000	**N$000**	**N$000**	**N$000**
Revenue	4,180	15,675	25,650	45,505

*This is the selling price after an allowance for expected promotional discounts.

Budgeted gross profit:

Boxes of Small meal-kits:

	2 meal-kits N$000	3 meal-kits N$000	4 meal-kits N$000	Total N$000
Revenue	4,275	14,630	11,400	30,305
Costs of sales:				
Ingredients & packaging	(885)	(3,674)	(3,240)	(7,799)
Direct labour	(495)	(2,046)	(1,800)	(4,341)
Variable production overhead	(44)	(188)	(167)	(399)
Fixed production overhead	(212)	(890)	(790)	(1,892)
Gross profit	**2,639**	**7,832**	**5,403**	**15,874**
	N$	**N$**	**N$**	
Average gross profit per box	17.59	17.80	18.01	
Gross profit margin	61.7%	53.5%	47.4%	52.4%

Boxes of Large meal-kits:

	2 meal-kits N$000	3 meal-kits N$000	4 meal-kits N$000	Total N$000
Revenue	4,180	15,675	25,650	45,505
Costs of sales:				
Ingredients & packaging	(1,144)	(5,082)	(9,045)	(15,271)
Direct labour	(495)	(1,980)	(3,375)	(5,850)
Variable production overhead	(45)	(186)	(326)	(557)
Fixed production overhead	(216)	(890)	(1,546)	(2,652)
Gross profit	**2,280**	**7,537**	**11,358**	**21,175**
	N$	**N$**	**N$**	
Average gross profit per box	20.73	22.84	25.24	
Gross profit margin	54.5%	48.1%	44.3%	46.5%

Example standard cost card

Large, 2 meal-kit box Meal-kits: (A) Vegetable curry and (B) Chicken skewers				
	Number of portions	**Standard cost per portion N$**	**Standard cost per box N$**	**Standard cost per box N$**
Ingredients:				
Ingredients for meal-kit (A)	4	1.08	4.32	
Ingredients for meal-kit (B)	4	1.20	4.80	
				9.12
	Number of units of each input	**Standard cost per unit of input N$**		
Packaging & other:				
Recipe cards	2	0.20	0.40	
Outer box	1	0.30	0.30	
Other packaging	1	0.70	0.70	
				1.40
Direct labour:				
Herbs & spices	0.02 labour hours	15.00	0.30	
Meal-kit bags	0.04 labour hours	15.00	0.60	
Box packing	0.24 labour hours	15.00	3.60	
				4.50
Production overheads:				
Variable:				
Herbs & spices	0.05 machine hours	1.62	0.08	
Meal-kit bags	0.10 machine hours	1.18	0.12	
Box packing	0.24 labour hours	0.86	0.21	
				0.41
Fixed:				
Herbs & spices	0.05 machine hours	6.49	0.32	
Meal-kit bags	0.10 machine hours	4.72	0.47	
Box packing	0.24 labour hours	4.85	1.16	
				1.95
Total production cost				**17.38**

Notes on standards and budget preparation

1. Standards are usually reviewed and updated twice a year.
2. Each meal-kit has a separate standard cost per portion for the ingredients. This standard cost per portion includes a small allowance for normal wastage of ingredients.
3. All direct labour overtime premium is treated as variable production overhead. Idle time is not budgeted for.
4. Production overheads are allocated and apportioned to cost centres and absorbed based on either direct labour hours or machine hours. There are three production overhead cost centres: herbs & spices production, meal-kit bag production and box packing. Each production cost centre has its own variable and fixed production overhead absorption rates.
5. Budgeted selling prices include an allowance for expected promotional discounts.

Articles

Technology Fortnight

April 2022 No. 89

AI and robotics – meal-kit companies are rushing to embrace the possibilities

Gabriel De Palma - Business Correspondent

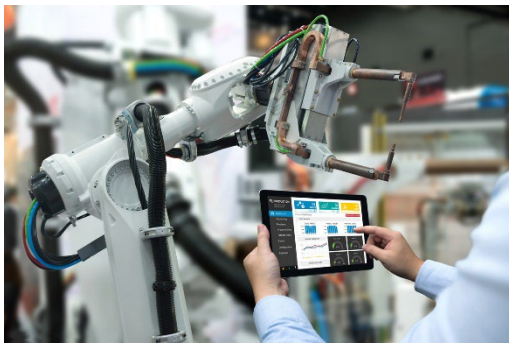
One of the challenges being faced by the growing meal-kit sector is how to manage the unpredictability of the weather. An unexpected wet weather front can drive a surge in demand for warming stews, whilst sunny weather can encourage a last-minute switch to a salad-based kit.

And it's not just a matter of planning ingredients procurement without knowing which menus may suddenly become popular. The weather can also have an impact on box packing and delivery schedules.

In a sudden heatwave, for example, extra ice bags are needed in all the meal boxes. And in inclement weather, traffic congestion increases as more people use their cars, and, in rural areas, flash floods or closed roads may follow – leading to unplanned delays and even missed deliveries.

Artificial intelligence is offering a solution. Advanced weather mapping software uses complex algorithms to combine historic weather information with current data and other regional factors to predict local conditions.

Meal-kit companies can now invest in weather platforms which link to these prediction systems. The platforms inform and support logistics planning across the business – improving forecasts and then updating menu plans, procurement systems,



packing instructions and delivery schedules to take account of the likely weather conditions in each area.

Another area where AI is being integrated into meal-kit production is in the packing plants. Whilst many elements of the kits, such as seasonings and store cupboard staples, can be packed in advance, the fresh ingredients are added at the last minute. And since many items require gentle handling, they are packed by hand.

Enter the robot packer. Programmable, configurable and endlessly gentle, robotic packers are now being used to pick and pack the fruit and vegetables needed to complete each kit. These robotic arms are offering automated quality control and real time traceability of packing systems – and producing labour savings at the same time.

Add to these examples, the increasing use of chatbots to manage customer requests – such as address changes and delivery slots, and the involvement of AI in areas such as factory layout planning – and the picture is of an industry being transformed by new technologies.

Packaging Gazette

May 2022

Meals@Home win Newland Sustainable Packaging Award

By: Jess Taylor

It is no secret that the meal-kit industry has seen unprecedented growth in Newland over the past few years and brings with it a myriad of new and existing sustainability, logistic and cost factors for the packaging industry. To break some of those down we caught up with Ben Jonas, Sales & Marketing Director of Meals@Home following its win at the Newland Sustainable Food Business Packaging Awards 2022, to ask him a few questions:

How important is sustainability in your business model?

"Sustainability is paramount for us, and we want to be able to grow the business whilst making our products and packaging more sustainable. We have also seen our customers become more eco-conscious with sustainability being a key search term when selecting meal-kits. In addition to our expanding plant-based meal-kit options, eco-friendly packaging is of paramount importance to us. We were the first meal-kit company in Newland to introduce compostable packaging. Despite this raising packaging costs by more than 25% to reduce plastic use, we didn't raise our prices."

What is the importance of packaging sustainability to meal-kit deliveries?

"As well as this aim of reducing plastic we have also looked to reduce waste, so for instance delivering vegetables loose in the box rather than wrapped in plastic. As well as this we have developed alternative materials such as recycled cardboard to help in this area."

And are there any key payoffs between sustainability and functionality in your context?

"Of course, all businesses should look to use more sustainable practices, however economic factors need to be considered. We were able to absorb the increase in packaging costs with efficiency savings which allowed us to become more sustainable but for some businesses more expensive processes will undoubtedly lead to price increases for customers. However, we are looking to expand our sustainable credentials by using water saving technologies. In addition, we have developed our own energy supplies using air source heat pumps and solar panels. Whilst some measures such as packaging may cost more, others, such as water saving and energy, save costs. And with more consumers turning to eco-conscious businesses and brands we believe that there is a pay-off. In the future I can see this being looked on favourably by finance providers, such as banks, which may lead to lower interest costs for businesses in the future."

Plastic pollution in our oceans

In your view, what does the future hold for packaging in your industry?

"Ultimately, we all want to see less plastic clogging up our oceans and damaging our environment. When we first introduced compostable packaging, we hoped that other businesses would follow us. So, in future years we hope to see other companies, not only in our industry, but in others as well, make their packaging more environmentally friendly if not fully compostable. Not only in consumer facing businesses but in all businesses throughout the food production process."

Tax regime in Newland

- The corporate income tax rate to be applied to taxable profits is 20%.
- 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.
- Where a business sells a property asset, a chargeable gain or loss will arise. A chargeable gain can be reduced by indexation allowance, but the indexation allowance cannot be used to create a chargeable loss. Chargeable gains are subject to capital tax at a rate of 20%. Chargeable losses can be carried forward indefinitely to offset against future chargeable gains.
- 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 15%. 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 settle the amount due on a monthly basis.

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	2	(a) 52% (b) 48%
3	45	1	3	(a) 36% (b) 28% (c) 36%
4	45	1	3	(a) 40% (b) 24% (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 June 2022. The popularity of meal-kits continues to grow. Many companies have started to offer subscriptions to meal-kit services as an option in salary sacrifice schemes. Such schemes allow an employee to give up part of their salary in exchange for services such as child-care, gym membership and now meal-kit subscriptions. These services are procured and paid for by the employer. You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Corporate sales: flexible budgets and receivables management

Ben Jonas, Sales & Marketing Director, is currently negotiating with companies that are interested in offering Meals@Home subscriptions as an option in their salary sacrifice schemes. Ben thinks that we could significantly increase demand for our boxes of meal-kits by targeting this market, although is uncertain by how much. He expects the first corporate customer sales to occur in August 2022.

The Senior Management Team (SMT) would like to get a feel for the impact of the new sales volumes on our costs and has asked for the original budget to be flexed. Table 1 (attached) shows the original cost budget for the second half of 2022, which excludes the impact of corporate sales.

Please prepare a briefing paper for the SMT which explains:

- How to revise the cost budget for the second half of 2022 using a flexible budgeting approach. Please also explain why it is important to flex this original cost budget.

(sub-task (a) = 52%)

We will need to agree credit terms with each of the new corporate customers. This is something we have never had to do before because all our current sales are to direct subscribers, to whom we do not give credit. We expect that most of our corporate customers will be large companies, however, we will also be targeting small companies.

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

- The factors to consider when agreeing initial credit terms with corporate customers and the actions we will need to take to manage the receivables balances of these customers after we start trading with them.

(sub-task (b) = 48%)

Clare Turner
Finance Manager
Meals@Home

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

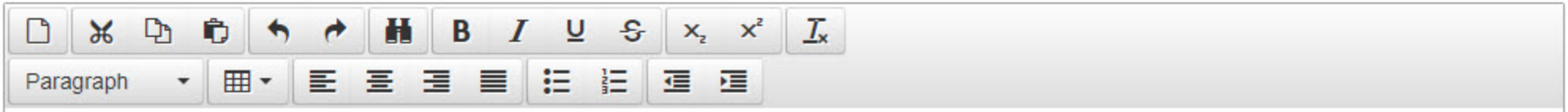
Table 1: Meals@Home original cost budget for the period July to December 2022

	Total N$000
Cost of sales:	
Ingredients & packaging	11,858
Direct labour	5,243
Production overheads	2,766
Selling, distribution and marketing costs*	7,049
Administrative expenses	9,500
Total cost	**36,416**

Notes:
*Selling, distribution and marketing costs include the costs of distributing boxes to customers' homes as well as the costs of the sales functions and marketing campaign costs.

Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.



Reference Material Pre-seen

A week later you receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: New app and relevant costs of outsourcing

We now have three large corporate customers interested in providing Meals@Home meal-kit subscriptions to their employees. A new app has been developed that will be used exclusively by the employees of all of our corporate customers to manage their subscriptions. Attached in Table 1 is information about the costs associated with this new app. The Senior Management Team (SMT) is keen to determine the profit generated by supplying the corporate customers and would like to know how we would determine the cost per user of the new app.

Please prepare a briefing paper for the SMT which explains:

- How to determine the cost per user of the new app. Please also explain the difficulties associated with doing this.

(sub-task (a) = 52%)

Due to the new corporate customers, we are anticipating a significant increase in transaction processing. Ravi Smit, IT Director, has been looking at two options: to outsource the transaction processing or to keep it in-house and use robot process automation to assist with the work. Attached in Table 2 is information about the costs of each option for a 1-year period.

Please include in your briefing paper:

- Identification, with justification, of whether each of the costs in Table 2 are relevant or irrelevant when deciding which option is better financially. Please also explain other factors that we would need to consider before deciding whether to outsource the transaction processing.

(sub-task (b) = 48%)

Clare Turner
Finance Manager
Meals@Home

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

Table 1: Costs for the new corporate customer's app

Cost	Detail
Development	App development was outsourced to an external app development company for a fee of N$450,000. A royalty fee of N$0.10 is also payable to the app developer each time the app is downloaded by a user.
Infrastructure services	The new app will be available to download through multiple platforms, with each platform provider charging a fixed fee and a fee per download. The new app will be hosted alongside the main Meals@Home app on our own servers, which will be upgraded to facilitate this.
Functional services	The new app will use push notifications and text messaging to connect with the user. There will be charges from external service providers for this.
Technical support and administrative services	Technical support and administration services for the new app will be provided in-house by our own IT Department, alongside the main Meals@Home app.

Table 2: Costs of the outsource and in-house options for transaction processing for a 1-year period

Outsource option for transaction processing		
Cost	**Note**	**Cost N$**
Outsource partner fee	1	85,000
Negotiation cost	2	1,200
Total		**86,200**
In-house option for transaction processing		
Cost	**Note**	**Cost N$**
Employee costs	3	50,000
Annual lease payment for computer equipment	4	10,000
Annual payment for software	5	40,000
Additional IT support	6	8,000
Total		**108,000**

Notes:

1. Ravi has negotiated a fee of N$85,000 for the initial 1-year contract with the outsource partner, if we decide to use them.
2. Negotiation cost includes the cost of the time taken by Ravi to negotiate the initial contract with the outsource partner and travel expenses incurred. We have yet to reimburse Ravi for N$200 of travel expenses that he incurred personally.
3. If the transaction processing is performed in-house, two additional employees would be required at a total annual employment cost of N$50,000. These employees would be engaged on a 12-month contract.
4. The company has recently signed a 1-year lease at a cost of N$10,000 to replace computer equipment. This new computer equipment would be used exclusively for the transaction processing if it is done in-house. An additional 1-year lease would then be needed to meet existing requirements, and this would have an annual cost of N$10,200.
5. If the transaction processing is performed in-house, we will have to subscribe to new transaction processing automation software. This will be for a 12-month contract and will cost N$40,000.
6. The automation of transaction processing will result in additional IT support work. The additional support will be provided by existing IT employees and N$8,000 is a share of their salaries. As a result of working on the transaction procession project, these employees would then be unavailable to work on another project and external consultants would need to be engaged for that project at a cost of N$5,000.

Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.

Reference Material Pre-seen

It is now early September 2022 and Meals@Home is currently providing meal-kit subscriptions to the employees of six corporate customers. It is expected that more corporate customers will be signed up in the coming months. Clare Turner, Finance Manager, telephones you and says:

"Bina Keo has recently been appointed as Corporate Sales Manager. Bina used to work for one of our competitors in a similar role. She is responsible for securing new corporate customers and for ensuring that relationships with existing corporate customers are maintained. She has authority to negotiate a discount of up to 25% off full retail prices to new and existing corporate customers and will earn commission based on volumes of boxes sold to corporate customers. The Senior Management Team (SMT) has asked for suggestions of appropriate key performance indicators (KPIs) to monitor Bina's performance.

Please prepare a briefing paper for the SMT which:

- Suggests three KPIs that could be used to monitor the performance of the new Corporate Sales Manager. Please include an explanation of how each KPI would be measured and why it would be appropriate.

(sub-task (a) = 36%)

We will soon start work on the 2023 budget for corporate sales. It has been suggested that Bina should be involved.

Please include in the briefing paper an explanation of:

- The potential benefits and drawbacks of involving Bina Keo in setting budgets and KPI targets for corporate sales.

(sub-task (b) = 28%)

A corporate customer has requested that each box supplied to its employees in the last week of December includes a gift. The gift supplier is offering a bulk purchase discount if we place an order immediately. If we need additional gifts these can be purchased at short notice from the supplier at full price. Any gifts we order that we do not use can be sold back to the supplier, but at a significant discount compared to our purchase price. There is uncertainty over how many gifts we will need. I have drawn up a payoff table of profits and a regret table (Table 1 and Table 2) which I shall send to you shortly to help us decide the size of the initial order to the supplier.

Please include in your briefing paper an explanation of:

- The maximax, maximin and minimax regret decision criteria and how we should use each of these to decide which initial order option to choose. Please identify the option that would be chosen under each criterion."

(sub-task (c) = 36%)

Table 1 and Table 2, referred to by Clare, can be found by clicking on the Reference Material button above.

Table 1: Payoff table of additional profit from including gifts

Number of subscribers	Initial order size		
	Option 1 N$	Option 2 N$	Option 3 N$
Low	7,500	7,000	5,750
Moderate	5,500	14,000	12,750
High	2,500	11,000	18,750

Table 2: Regret table

Number of subscribers	Initial order size		
	Option 1 N$	Option 2 N$	Option 3 N$
Low	0	500	1,750
Moderate	8,500	0	1,250
High	16,250	7,750	0

Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.

Reference Material Pre-seen

It is now January 2023, and you receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Sales variances and financial statements

The Senior Management Team (SMT) decided that we would only supply boxes of 4 Large meal-kits to corporate customers. The price per box is the same irrespective of the contents of the box. Bina Keo, Corporate Sales Manager, has the authority to negotiate discounts with corporate customers.

Table 1 and Table 2 (attached) include the sales variances for the period October to December 2022 for Corporate Customer 1 and Corporate Customer 2.

Please prepare a briefing paper for the SMT which explains:

- What each of the variances in Table 1 and Table 2 means and possible reasons for their occurrence.

(sub-task (a) = 40%)

To meet the additional demand from our corporate customers, we have installed a new herb portioning machine which has twice the capacity of the old machine. Details of the new machine are included in Table 3 (attached). The old machine it replaces has now been disassembled and we are in the process of selling it. Details of the old machine are included in Table 4 (attached).

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

- How each of the items of expenditure in Table 3 should be recorded in our financial statements for the year ended 31 December 2022.

(sub-task (b) = 24%)

- Whether the old herb portioning machine meets the criteria to be reclassified as a non-current asset held for sale in our financial statements for the year ended 31 December 2022. Please also explain how the asset will be treated in these financial statements.

(sub-task (c) = 36%)

Clare Turner
Finance Manager
Meals@Home

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

Table 1: Sales variances for the period October to December 2022: Customer 1

Variance	Vegetarian N$	Meat/fish N$	Combination N$	Total N$
Sales price				Nil
Sales mix profit	9,974 F	5,163 F	352 A	14,785 F
Sales quantity profit				6,786 A

Table 2: Sales variances for the period October to December 2022: Customer 2

Variance	Vegetarian N$	Meat/fish N$	Combination N$	Total N$
Sales price				51,000 A
Sales mix profit	1,561 A	5,163 F	1,684 F	5,286 F
Sales quantity profit				40,714 F

Notes for Table 1 and Table 2:

- Employees can only order a box of 4 Large meal-kits each week. They can choose between a vegetarian box, a meat/fish box, or a combination box (which includes two vegetarian meal-kits and two meat/fish meal-kits).
- Customer 1 is located in a city and many of its employees live in the city. Customer 2 is located on the outskirts of a city and many of its employees live in the surrounding villages.
- The budgeted sales volume and mix are the same for Customer 1 and Customer 2.
- The sales mix profit and sales quantity profit variances have been calculated using the weighted average method. The following are the standard profits per box:

Vegetarian N$	Meat/fish N$	Combination N$	Weighted average N$
16.00	12.00	14.00	13.57

- During October a television series aired in Newland about environmental issues, including the negative impact of eating meat and fish on the environment.

Table 3: Items of expenditure on new herb portioning machine

	N$
Purchase price paid to supplier, net of discount	850,000
Installation and testing	25,000
12-month maintenance contract paid in advance for the period 1 November 2022 to 31 October 2023	20,000

Note: the new machine was brought into use on 1 November 2022.

Table 4: Old herb portioning machine

Asset	Detail
Old herb portioning machine	• We used the old machine until 31 October 2022 and the new machine was brought into use the following day. • During November 2022 the old machine was dismantled at a cost of N$15,000. • On 1 December 2022 the old machine was advertised for sale in a trade journal at a price of N$150,000, which we feel is a realistic price. • There is an active second-hand market for machines like this and we expect to sell the old machine within the next three months. • The carrying amount of the old machine on 1 January 2022 was N$300,000 and depreciation is N$10,000 per month.

Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.

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) 24% (c) 40%
3	45	1	3	(a) 32% (b) 36% (c) 32%
4	45	1	2	(a) 76% (b) 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.

Pre-seen

Today is 1 June 2022. It has been decided that Meals@Home will set up a new production facility to produce a new product: Party Box. You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: New production facility: new assets, ABC and digital costing system

The new Party Box production facility is being set up in a property that we acquired on 1 March 2022 for N$800,000. We have spent N$150,000 adapting the property for our needs and N$100,000 on a new roof. We expect to use this new facility for 25 years, although the roof will need to be replaced every 10 years. We expect the new production facility to be ready for and brought into use on 1 September 2022.

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

- Explains and justifies how the new property will be initially recorded and subsequently measured in our financial statements for the year ending 31 December 2022.

(sub-task (a) = 48%)

Each Party Box will include platters of ready-to-eat snacks (platters) and trays of snacks (trays) that will need to be cooked by the customer. Two types of Party Box will be available: Regular and Gourmet (with the latter containing higher quality snacks). Each type of Party Box will be available in 10 different themes, but each box will contain the same numbers of trays and platters. We currently plan to buy-in all trays and platters.

Party Boxes will travel on a single packing line in the new facility with multiple boxes being packed at the same time. Machines will form the boxes and place them on the line. Trays will be put in the boxes by robots, but adding platters, checking for damage and adding protective padding will be carried out by hand. Finally, the box will be sealed by machine.

It was intended that plant-wide rates based on packing line hours would be used for the variable and fixed production overhead absorption rates. However, a member of the SMT suggested that the new production facility could be used for a pilot study for the introduction of activity based costing (ABC).

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

- The suitability of the new production facility as a pilot for the introduction of ABC.

(sub-task (b) = 32%)

We anticipate that we will use many different suppliers of trays and platters and that the packing line will be integrated with our inventory, purchasing and sales ordering systems. Greta Beets, Production Director, has asked if the use of a digital costing system would improve our costing information.

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

- How the use of a digital costing system could improve our costing information and why this would benefit our business.

(sub-task (c) = 20%)

Clare Turner
Finance Manager
Meals@Home

Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.

Reference Material Pre-seen

It is a few weeks later and suppliers for the new Party Box range are being finalised. Clare Turner says the following to you:

"Greta Beets, Production Director, has suggested two options regarding some of the platters that will be needed for the Party Box range. One option is to produce the platters in-house. This would require the hiring of some extra equipment and employees. The second option is to buy-in the platters. Greta has identified a potential supplier: a relatively small business which would agree to a 12-month contract.

We do not know the volume of platters that will be required each month. It is thought that there could be ten possible levels of demand and the probability of each one occurring has been estimated. Based on these estimates the expected value of demand has been calculated to be 5,400 platters per month. I have drawn up a chart (Chart 1) showing the cost of platters per month at different volumes for both options, which I will send you shortly.

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 platters. Please also give two reasons why the decision about which option to take should not be based on the expected value of demand.

(sub-task (a) = 36%)

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

(sub-task (b) = 24%)

It has already been decided that we will buy-in all of the trays that we need for the Party Boxes. Two potential suppliers have been identified. To help decide which supplier to choose, the SMT has asked for a briefing paper on their suitability. I have included information about this in Table 1 which I shall give you shortly.

Please include in the briefing paper to the SMT:

- An explanation of what the information contained in Table 1 indicates about how each supplier manages its working capital and its suitability to be our tray supplier."

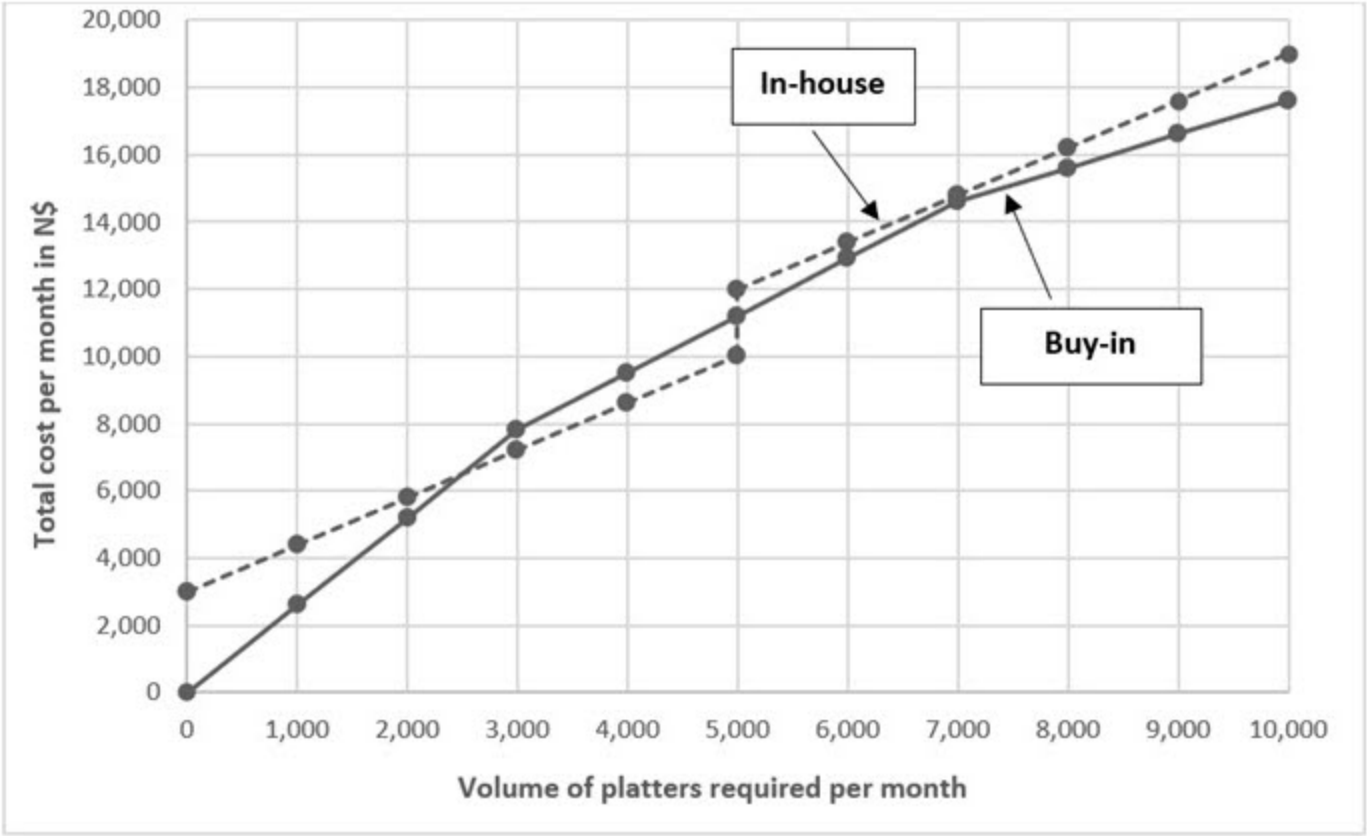
(sub-task (c) = 40%)

Chart 1 and Table 1, referred to by Clare, can be found by clicking on the Reference Material button above.

Reference Material

Chart 1 | Table 1

Chart 1: Cost of platters per month



Close

Table 1: Information about possible suppliers of trays

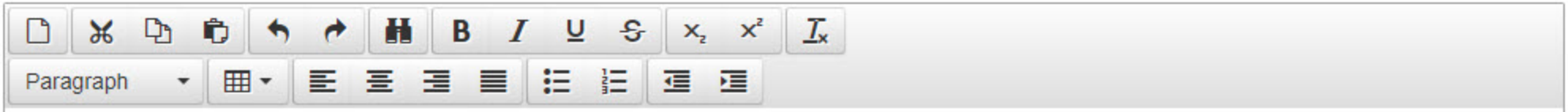
	Gem Catering	Snack Excel	Industry average
Inventory days	8 days	5 days	10 days
Receivable days	26 days	72 days	42 days
Payable days	65 days	74 days	50 days
Cash / (overdraft) balance	N$12 million	(N$9 million)	N$2 million
Change in revenue from prior year	-2%	+18%	+2%

Notes:

- The information is based on financial statements for the year ended 31 March 2022.
- Each supplier's standard credit terms are 30 days to customers and 30 days from its own suppliers.

Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.



Reference Material Pre-seen

It is now the end of August 2022. The new production facility will start production of Party Box on 1 September 2022.

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: New production facility: production constraints and maintenance budget

Greta Beets, Production Director, has informed me that the new packing line will not be fully operational for the first week of production. In addition, there may not be enough trays from a specific supplier to fulfil the Party Box orders that have been received for the first week. There is nothing that we can do to increase packing line hours for the week. However, we could buy in additional trays as an emergency order, but at three times their normal price. The normal price is N$1.50 per tray. I have drawn up a linear programming graph (Graph 1 attached) and have identified the optimal production plan.

Please prepare a report for the Senior Management Team (SMT) which:

- Explains whether it is worthwhile buying additional trays with an emergency order and how to determine, based on Graph 1, how many trays we should order.

(sub-task (a) = 32%)

The SMT originally decided to outsource maintenance of the machinery in the new production facility, including the packing line and robots, and has signed a 3-month contract for this. However, it has been suggested that in 3-months' time we could set up our own machinery maintenance team. This team could take over responsibility for some or all aspects of machinery maintenance, which will include regular servicing and repairs. Jack Quinn, Finance Director, believes that this would be an ideal opportunity to trial the use of zero based budgeting (ZBB) to establish a budget for machinery maintenance costs in the new facility.

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

- How a ZBB approach can be applied to create a budget for machinery maintenance costs in the new production facility.

(sub-task (b) = 36%)

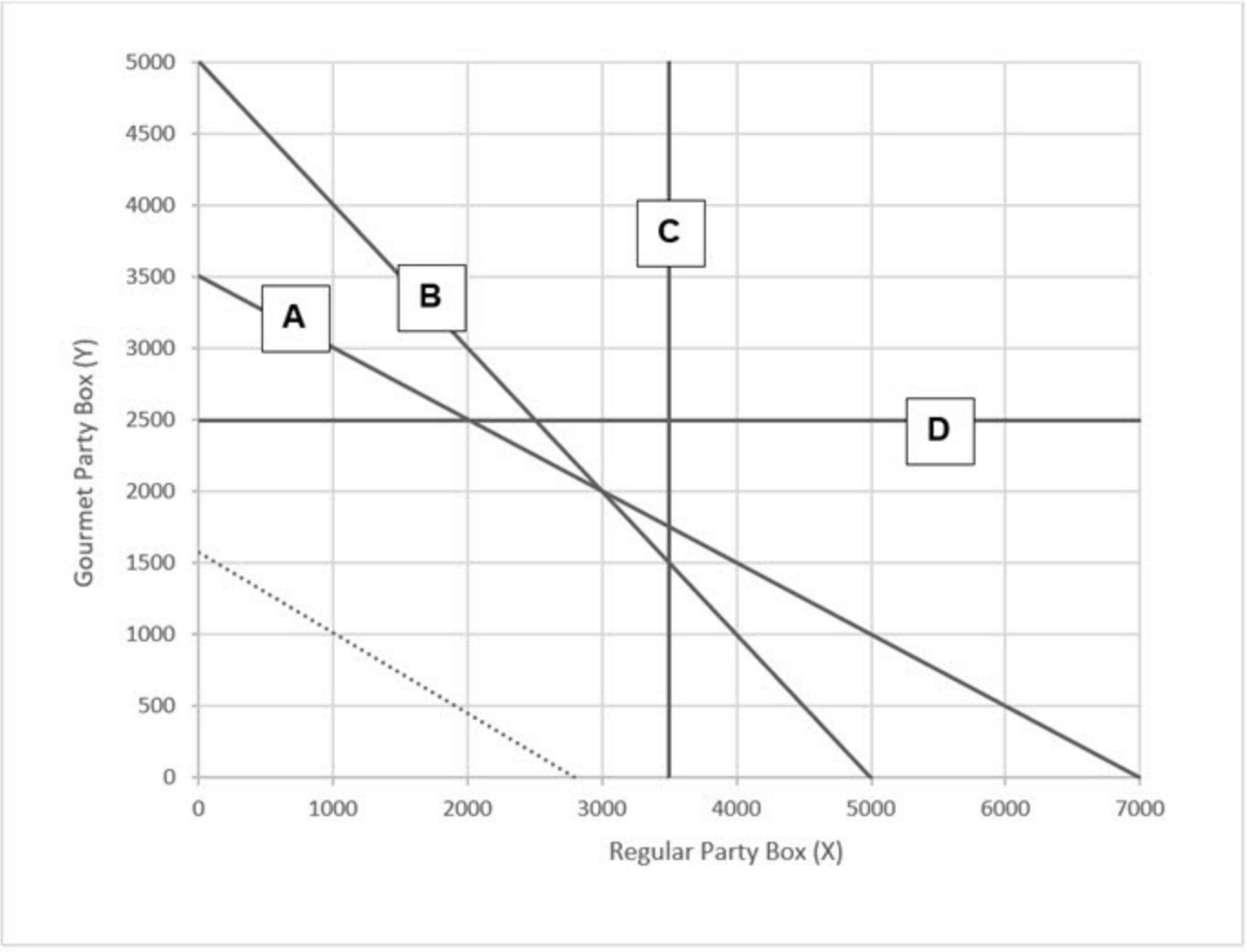
- Two benefits and two challenges of using ZBB to prepare the machinery maintenance cost budget.

(sub-task (c) = 32%)

Clare Turner
Finance Manager
Meals@Home

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

Graph 1: Linear programming graph



Key to the graph:

- Lines A and B are the constraint lines for trays and packing line hours respectively for the week.
- Lines C and D are the maximum quantities of each type of Party Box required based on the orders received for the week.
- The dotted line is an iso-contribution line.

The optimal production plan based on the above graph:

- The optimal production plan is where lines A and B intersect. At this point the shadow price of trays is N$22.25.

Reference Material Pre-seen

Write the report requested by Clare Turner in the box below.

Reference Material Pre-seen

It is now November 2022. Party Box launched on 1 September 2022 as planned and demand is higher than originally anticipated. The Senior Management Team (SMT) decided not to implement activity based costing.

You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Report on the performance of the Party Box Production Facility

The Senior Management Team (SMT) has requested a report on the performance of the Party Box Production Facility for October. Attached are some of the variances (Table 1) and an extract of the Key Performance Indicator (KPI) dashboard (Table 2) for the Party Box Production Facility for October. Greta Beets, Production Director, told me that:

1. The production process for Party Boxes has been slightly refined from what we had initially planned. Firstly, boxes are formed on the production line, and the trays are packed by robots. Then the partially packed boxes are taken off the production line by direct employees to adjacent workstations where platters are added, and quality checks are performed by the employees. The boxes are then placed back on the packing line for sealing.
2. The supplier of some of the platters was changed because of quality issues.
3. There were issues with the robots during October which resulted in some trays and Party Boxes being damaged. Some of the damaged trays were sent to a food charity for re-distribution, whilst other damaged items were either sent for recycling or to landfill.
4. The issues with the robots resulted in the packing line having to be shut down at times during the month to clear blockages and damaged items.
5. Because of a higher than anticipated level of demand, additional direct trainees were employed during the month and overtime was also worked.
6. The packing robots were recalibrated during the month. This resulted in the robots and the packing line having to operate at a slower rate than originally intended.
7. A greater proportion of power had to be sourced from the national grid rather than being self-generated because of poor weather during the month. The new production facility has solar panels and a small turbine that are used to generate power. Power from the national grid is more expensive than self-generated power.

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, based on the information from Greta above and the extract from the KPI dashboard in Table 2.

(sub-task (a) = 76%)

Greta is keen to expand the KPI dashboard to include indicators that show our sustainability initiatives.

Please include in your report suggestions of:

- Two suitable KPIs relating to sustainability, that could be added to the dashboard for the Party Box Production Facility. Please explain why each KPI would be appropriate.

(sub-task (b) = 24%)

Clare Turner
Finance Manager
Meals@Home

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

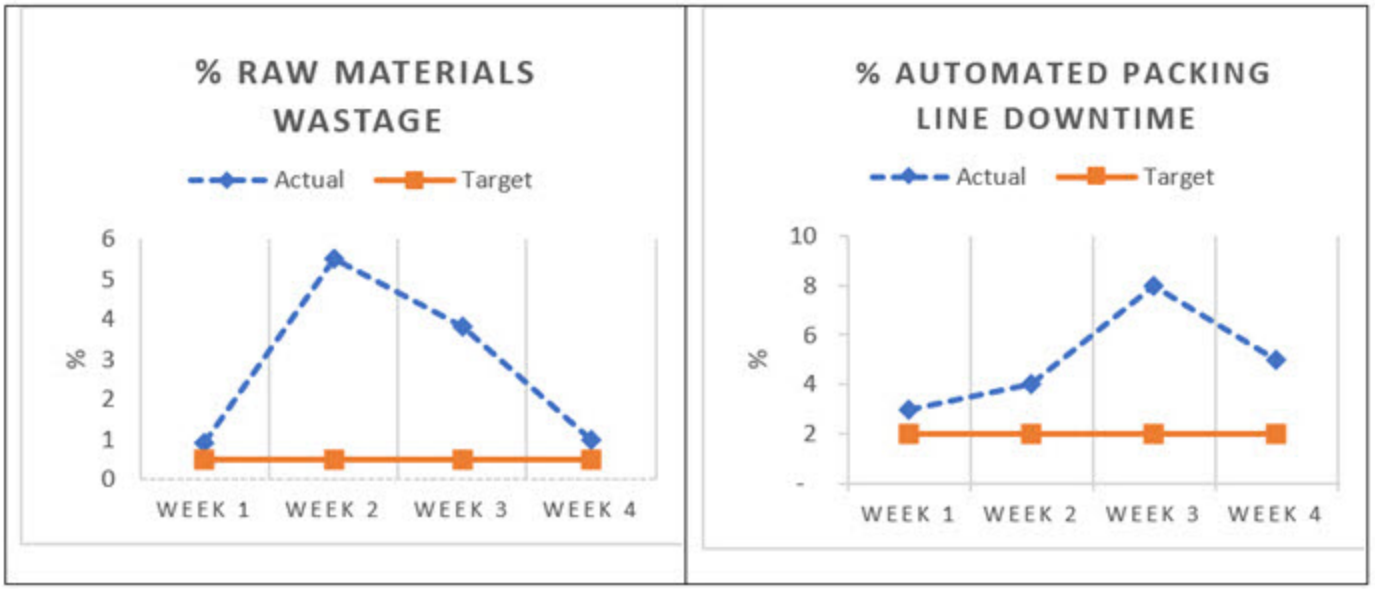
Table 1: Variances for the Party Box Production Facility for October 2022

Variance	N$	
Raw materials price	8,400	Adverse
Raw materials usage	35,420	Adverse
Direct labour rate	1,225	Favourable
Direct labour idle time	1,500	Adverse
Direct labour efficiency	4,000	Adverse
Variable overhead expenditure	8,800	Adverse
Variable overhead efficiency	8,160	Adverse

Notes:

- During October, the totals for budgeted and actual production of Party Boxes were 30,000 and 32,000 respectively. The proportion of Gourmet to Regular Party Boxes produced was in line with the budget.
- Raw materials include trays, platters and packaging.
- Idle time is not budgeted for.
- Variable overheads are absorbed on the basis of standard robot machine hours. The variable overhead efficiency variance is calculated on the basis of productive hours.

Table 2: Extract of the KPI dashboard for the Party Box Production Facility for October 2022



Close

Reference Material Pre-seen

Write the report requested by Clare Turner in the box below.

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) 32% (b) 20% (c) 48%
2	45	1	2	(a) 48% (b) 52%
3	45	1	3	(a) 36% (b) 36% (c) 28%
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 is 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 June 2022. A working party of the Meals@Home's Senior Management Team (SMT) has been reviewing how the company forecasts demand for boxes of meal-kits. Clare Turner, Finance Manager, has been part of this working party.

You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Demand forecasts

Because some members of the SMT are new to the business, we have been asked to explain our use of time series analysis and the factors we take into account in the forecasts we produce. I have prepared a graph (Graph 1 attached) showing both the volumes of boxes of meal-kits sold over the past 9 years and a centred four-point moving average based on our quarterly sales data.

Please prepare a briefing note for the SMT which explains, with reference to Graph 1:

- The components which make up a time series analysis.

(sub-task (a) = 32%)

- The limitations of using this data and time series analysis to forecast our sales volumes.

(sub-task (b) = 20%)

The working party is recommending that Artificial Intelligence (AI) software is introduced to improve short-term planning and operational efficiencies.

Two possible suppliers have been identified, each offering an initial one-year contract. The first, 3Ri, offers a choice of two software subscriptions: Option 1 which costs N$25,000 per quarter and Option 2 which costs N$15,000 per quarter. The other supplier, Robo Solutions offers a subscription of N$10,000 per quarter. However, the impact of the AI software on our profits will depend on how well it works. Based on independent reviews of the software I have obtained, I have prepared a decision tree (Schedule 1 attached) which illustrates the possible impacts of each software option on our quarterly profits (after selling, distribution and marketing costs), by considering just one quarter (Q3 of 2022).

Please include in your briefing note an explanation of:

- The decision tree and how it can be used to select which AI software supplier would be the best financially. Please also explain the limitations of using this data and expected values to make this decision.

(sub-task (c) = 48%)

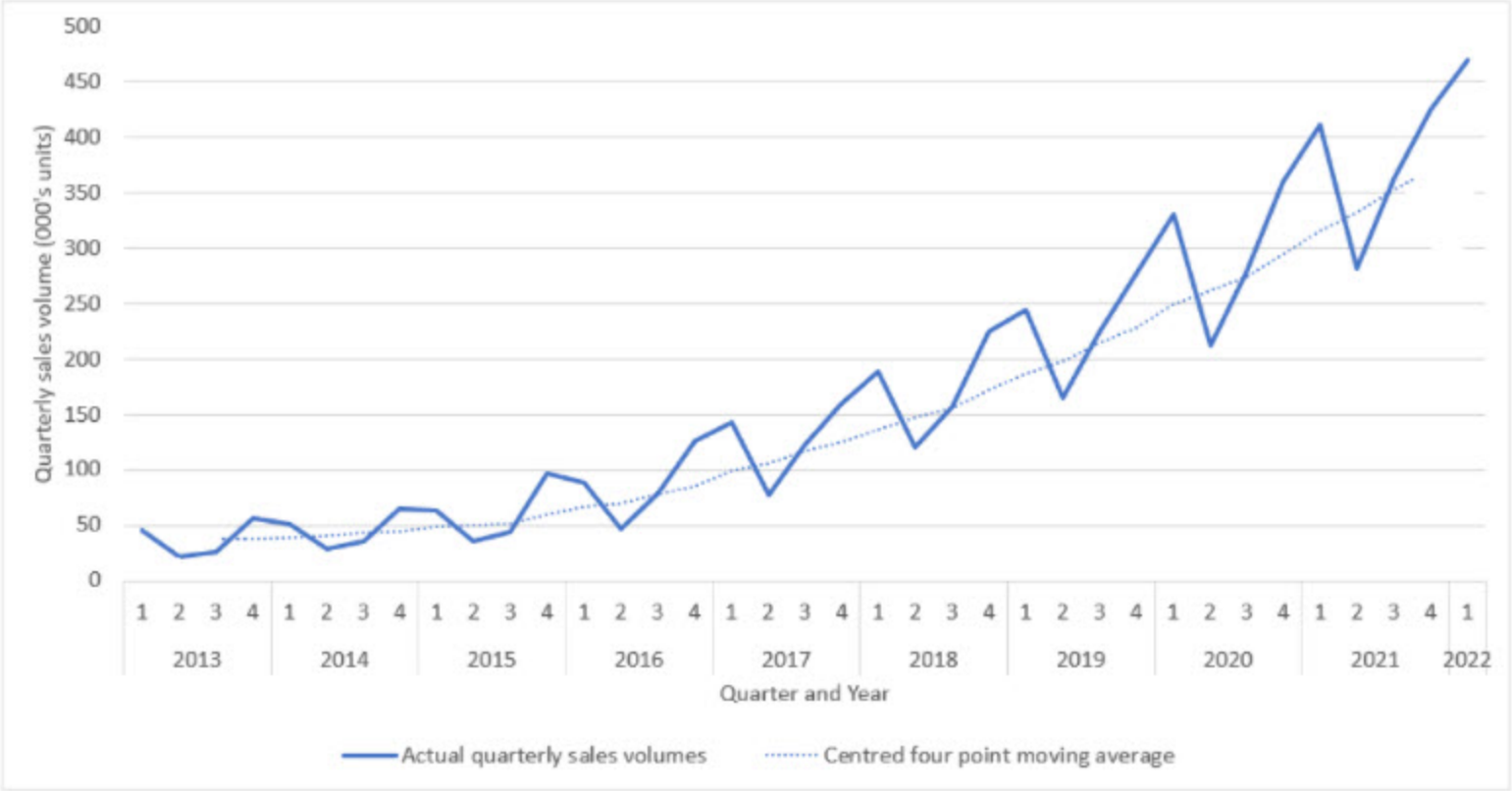
Clare Turner
Finance Manager
Meals@Home

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

Reference Material

Graph 1 | Schedule 1

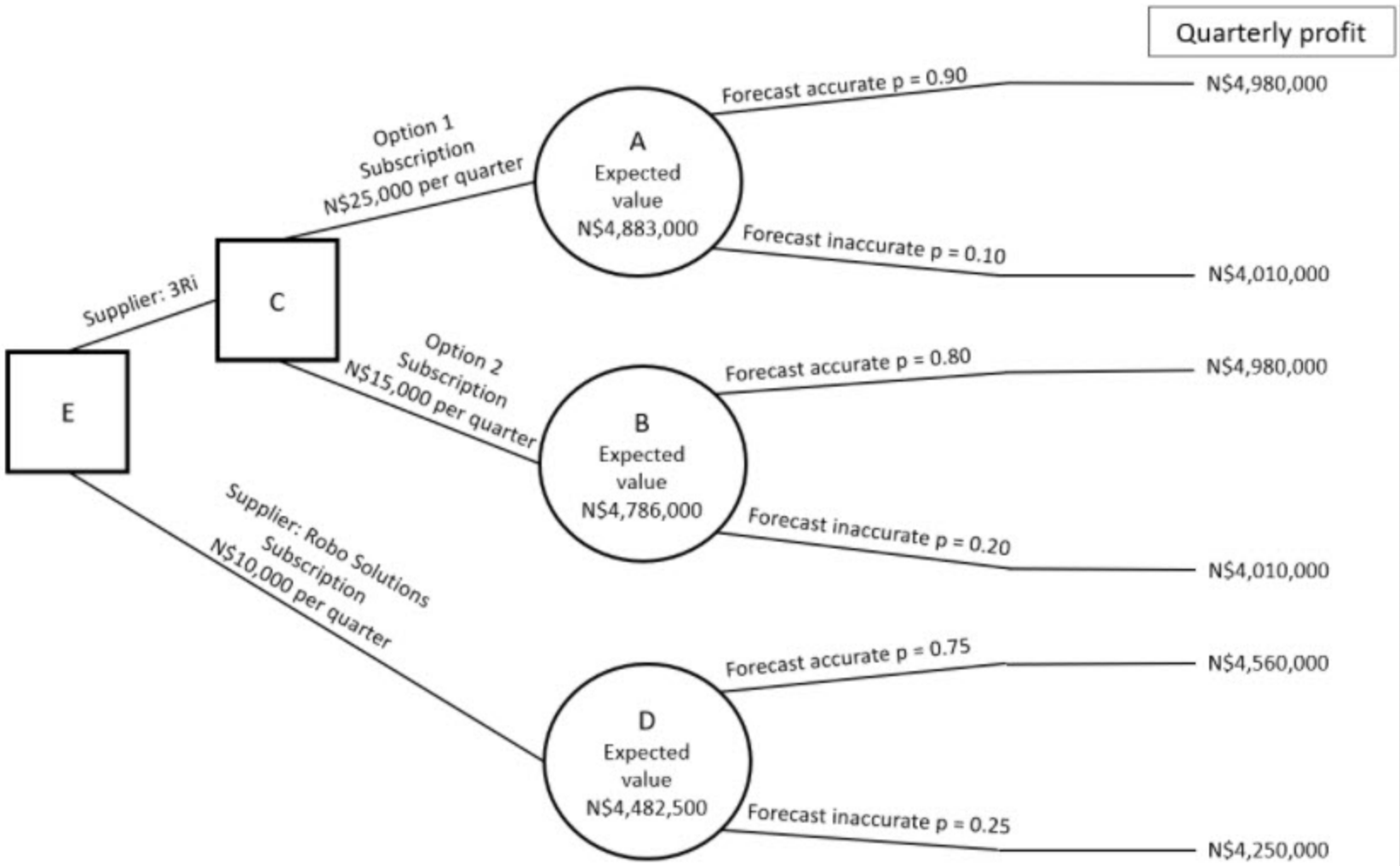
Graph 1: Sales volumes of Meals@Home boxes of meal-kits 2013-2022



Close

Graph 1 | Schedule 1

Schedule 1: Decision tree comparing AI software options based on Q3 2022



Note:

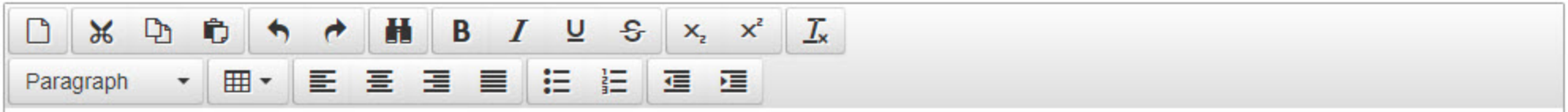
Quarterly profit is stated:

- After deduction of selling, distribution and marketing costs
- Before deduction of subscription costs

Close

Reference Material Pre-seen

Write the briefing note requested by Clare Turner in the box below.



Reference Material Pre-seen

It is now 3 weeks later, and you receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Robot packers

We have recently agreed an investment plan to ensure we can achieve our target growth rate of 20%. The Senior Management Team (SMT) has decided to install AI controlled robotic packers on our box packing line in time for the start of quarter 4. These robotic packers will be capable of picking and packing the delicate fruit and vegetables included in our boxes of meal-kits.

The impact of the cost of the robotic packers will be mitigated by the reduction in employee numbers. However, the nature of some of our costs will change; our existing labour costs are variable, but the robots will be acquired on 5-year leases with fixed annual payments.

I have prepared a multi-product break-even chart (Chart 1 attached) based on the restated forecasts for the last quarter of this year, assuming the use of robotic packers.

I would like you to prepare a report for me to present to the SMT which explains:

- The information shown on the multi-product break-even chart and the benefits and limitations of using this data to analyse our break-even position.

(sub-task (a) = 48%)

The SMT is also thinking of changing to an activity based costing (ABC) system. I would like you to use the Herbs & Spices blending process, where we currently absorb the production overheads based on blending machine hours, to explain ABC.

Please include in your report an explanation of:

- How adopting an ABC approach would change the way in which production overheads are absorbed by Herbs & Spices products and how using ABC could improve overall cost control in that department. I have provided a summary of the blending processes (in Schedule 1).

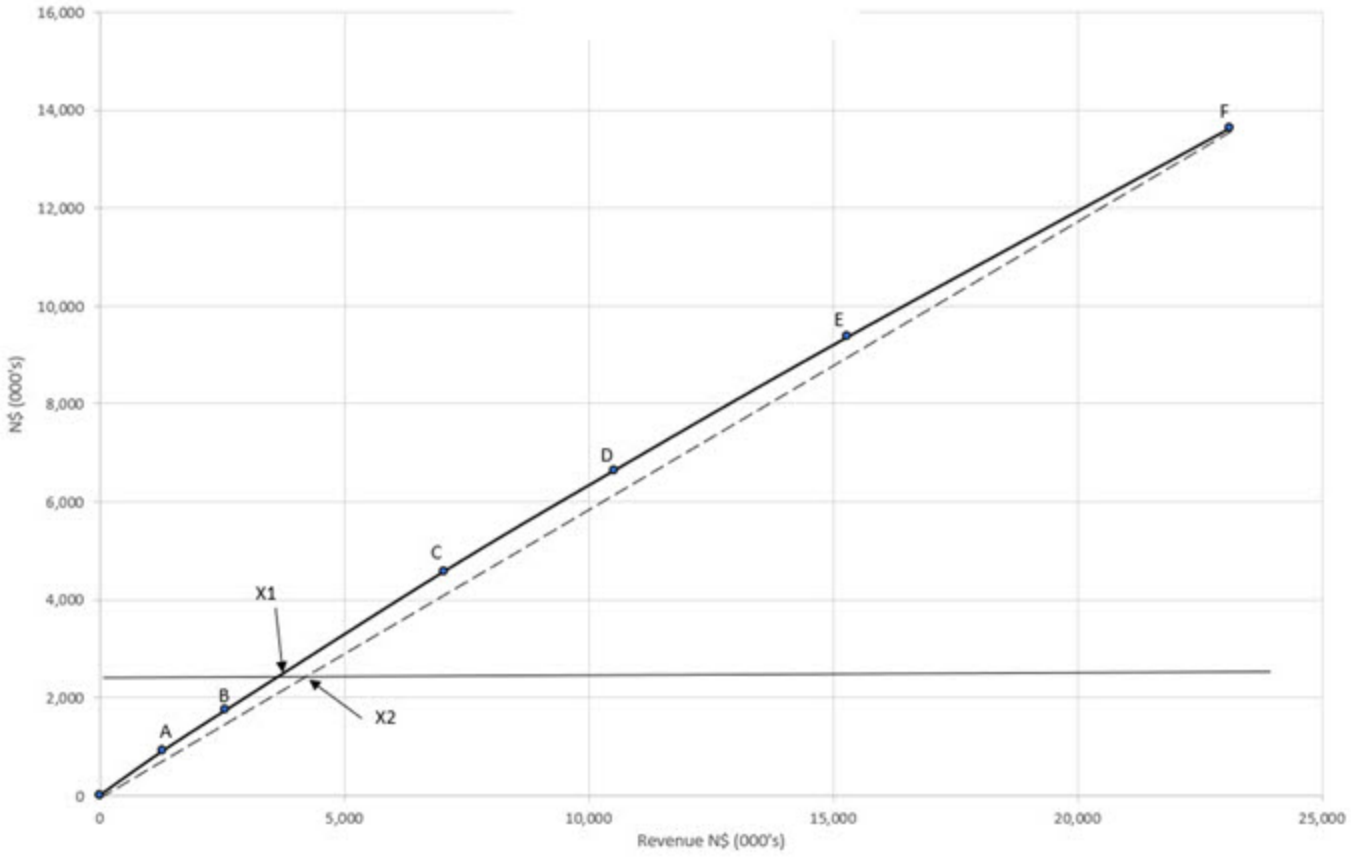
(sub-task (b) = 52%)

Clare Turner
Finance Manager
Meals@Home

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

Chart 1 | Schedule 1

Chart 1: Multi-product break-even chart for Quarter 4 2022



Data used for the break-even chart are given in the table below:

Product code	S2	S3	S4	L2	L3	L4
Contribution to sales ratio	0.70	0.63	0.59	0.65	0.57	0.55

Close

Schedule 1: Blending process for herbs & spices mixes

Herbs & spices blending process

When a herb or spice mix is to be made, the specific ingredients needed are requisitioned from the warehouse.

↓

The sacks of ingredients needed for each mix are transferred to the production floor.
Different mixes require between 2 and 12 different sacks of ingredients

↓

The sacks needed for the mix are loaded one at a time into the mechanical tippers to be poured into automated mixing machines

↓

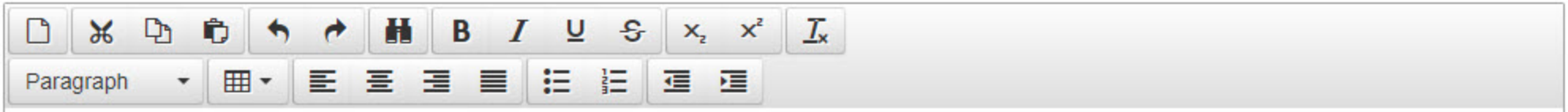
The spices are mixed – the mixing time varies according to the mix being made

↓

The machines are cleaned and prepared for the next mix. Because of the strong aromas in some ingredients, machines are cleaned every time a new mix is made

Reference Material Pre-seen

Write the report requested by Clare Turner in the box below.



Reference Material Pre-seen

It is now mid-September. Although activity based costing (ABC) was not introduced it was decided that in future overheads would be looked at on a departmental basis. Recently, external factors meant there was an increase in demand for meal-kits and it was decided to increase capacity.

You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Business growth

Meals@Home has experienced much higher growth over the past few months than was predicted in the budget. We had to quickly increase production capacity: renting an adjacent business unit, purchasing new machinery, and taking on extra untrained packers and new supervisory staff. We also leased extra warehouse space and now aim to run the facility 24 hours a day. The increased capacity was operative from 1 August 2022.

The Senior Management Team (SMT) is keen to understand the impact of these changes and asked to see August's fixed production overhead variances for the Box Packing Department, which absorbs overheads based on labour hours (Table 1 attached). I have a meeting with the SMT later this week to explain the variances which are based on our original budgets.

Please draft a briefing paper for me to refer to at the meeting which explains:

- The meaning of each of the fixed production overheads variances shown in Table 1 and the possible reasons why each variance has occurred.

(sub-task (a) = 36%)

The SMT is now ready to sign a new 5-year lease with the chosen AI robot supplier. The supplier will have full responsibility for maintaining the robots to ensure they do not damage the delicate items they handle. We will need to draw up a new service level agreement with the supplier which includes key performance indicators (KPIs) to be monitored on a monthly basis.

Please include a section in your briefing paper which:

- Suggests and justifies three KPIs that are appropriate for inclusion in the service level agreement in relation to the performance and maintenance of the robot.

(sub-task (b) = 36%)

In addition, as this is the first time we have leased capital equipment, the SMT has requested details of how the lease will be treated in our financial statements. Details of the lease are in Table 2 (attached). I will deal with the lease liability myself but please include a section in your briefing paper which explains:

- How the right-of-use asset will initially be measured and how it will impact our financial statements for the year ending 31 December 2022.

(sub-task (c) = 28%)

Clare Turner
Finance Manager
Meals@Home

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

Table 1: Fixed production overhead variances for August 2022 for the Box Packing Production Department

Variance	N$	
Fixed production overhead expenditure	15,450	Adverse
Fixed production overhead capacity	7,524	Favourable
Fixed production overhead efficiency	6,785	Adverse
Total fixed production overhead	14,711	Adverse

Note:

1. Fixed production overheads in the Box Packing Department are absorbed on the basis of direct labour hours. Despite discussions earlier in the year, a decision was made **not** to move to an activity based costing approach to overhead absorption.
2. The variances have been calculated based on the original budget drawn up at the start of the year.
3. Note that the robot packers had not yet been installed during the period covered by these variances.

Table 2: Details of lease arrangement

Annual lease payments	N$1,300,000
Lease arrangement fee	N$40,000
Lease commencement date	1 October 2022
First lease payment due	1 October 2022
Lease period	5 years
Useful life of underlying asset	7 years
Owner at end of lease period	Lessor
Interest rate implicit in the lease	10%

Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.

Reference Material Pre-seen

It is now 10 February 2023. The Senior Management Team (SMT) is considering the company's future growth and investment plans. After the unexpected increases in demand encountered at the end of 2022, there is uncertainty over future market growth and levels of demand.

You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: What-if analysis, Economic Order Quantity model and financial statements

I have been working with Ben Jonas, Sales & Marketing Director, and Greta Beets, Production Director, on the profit budget for the remainder of 2023. The initial budget had been prepared based on our best assumptions about sales volumes and prices, and variable and fixed costs. However, we are now worried we may have been too optimistic and would like to see the impacts on contributions and profits if the assumptions independently change adversely by 5%. I have now produced four more budgets: each one starts with a changed assumption. Attached is the initial budget for the period (Table 1) and the what-if analysis (Table 2).

Please prepare a briefing note for me which explains:

- Why changing the initial assumption about each of the four variables adversely by 5% will impact on the budgeted contributions and profits for the period as shown in Table 2. Please also explain two limitations of this what-if analysis.

(sub-task (a) = 40%)

The uncertainty about the growth in demand is also causing problems with inventory, especially given the seasonal nature of our business. There is a particular issue with the outer boxes used to pack the meal-kits, as suppliers across the packaging industry, including those used by Meals@Home, have found it difficult to meet planned delivery lead times and are currently proving unreliable. We have addressed this issue by buying higher quantities when we place orders, with the additional benefit that we obtain bulk purchase discounts. Greta has now suggested that we consider using the Economic Order Quantity (EOQ) model to determine our raw material ordering policy, but I am concerned that some of its assumptions may make it unsuitable.

Please include in your briefing note an explanation of:

- The suitability of the EOQ model for use in managing the inventory of outer boxes and whether the model could be adapted by relaxing some of its underlying assumptions.

(sub-task (b) = 36%)

Lastly, I need to finalise the financial statements for the year ended 31 December 2022 and need to consider two issues which may have an effect on them. The issues are included in Table 3 (attached).

Please include in your briefing note an explanation of:

- How each issue should be treated in our financial statements for the year ended 31 December 2022.

(sub-task (c) = 24%)

Clare Turner
Finance Manager
Meals@Home

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

Tables 1 and 2 | Table 3

Table 1: Initial production budget for the period April to December 2023

	Budget
	N$000
Revenue	69,404
Variable costs	(28,482)
Total contribution	**40,922**
Fixed costs	(7,500)
Total gross Profit	**33,422**

Table 2: What-if analysis

	Decrease sales volumes by 5%	Decrease selling price by 5%	Increase variable cost per unit by 5%	Increase total fixed costs by 5%
Change to:	%	%	%	%
Total contribution	-5.0	-8.5	-3.5	0.0
Total gross profit	-6.1	-10.4	-4.3	-1.1

Table 3: Financial statement queries

Issue	Detail
1	At the end of December 2022, we experienced a cyber-attack on our systems via an unprotected internet of things (IoT) device in our main factory which led to a ransomware demand. At the time, the Senior Management Team could not agree on whether or not to pay the N$60,000 demanded by the attackers but was aware that the potential cost of the attack could be far higher if it chose not to pay. However, on 5 January 2023, it authorised the bank to pay the N$60,000 to the attackers. They then provided the decryption key and we recovered access to our data.
2	On 12 January 2023, one of the herbs & spices blending machines was badly damaged after a water pipe in the Production Department burst.

Reference Material Pre-seen

Write the briefing note requested by Clare Turner in the box below.

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) 40% (b) 28% (c) 32%
2	45	1	3	(a) 40% (b) 40% (c) 20%
3	45	1	3	(a) 28% (b) 24% (c) 48%
4	45	1	3	(a) 40% (b) 24% (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.

Pre-seen

Today is 1 June 2022. The development kitchen at Meals@Home has created a range of smoothies, soups and sauces. This new range will be called Ready@Home. It will be packaged in bio-degradable pouches and manufactured in a new production facility. The property for the new facility has recently been purchased and will soon start to be equipped.

You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Ready@Home: budgets, sales forecast, and working capital

Victor Long has just been appointed as Production Manager for the new facility and will start work next month. Victor will be responsible for all aspects of the new facility. This includes overseeing its set up and managing all operational issues such as purchasing, staffing and arranging for production to be outsourced should production capacity be an issue. He will also be involved in the preparation of the new facility's production budgets.

As Victor has no previous experience of budgeting, I would like you to prepare a briefing paper for him which explains:

- The importance of preparing budgets for the new Ready@Home production facility and how these budgets will assist Victor in his management of the new facility.

(sub-task (a) = 40%)

As a starting point for the budget, we need to establish a detailed sales forecast for the new range. Ben Jonas, Sales & Marketing Director, has suggested that we use an external agency that has expertise in the sourcing and use of big data. He would like to discuss this at the next Senior Management Team (SMT) meeting.

Please prepare a briefing paper for the SMT which explains:

- The sources and types of big data that will assist with creating a sales forecast for the new Ready@Home range.

(sub-task (b) = 28%)

The new Ready@Home range will be sold direct to consumers through our own website. In addition, we are hoping to sell through grocery retailers and are in early negotiations with six such retailers that operate on a national scale. Grocery retailers usually expect a credit period of at least 45 days from their suppliers, which will obviously have an impact on our cash flow.

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

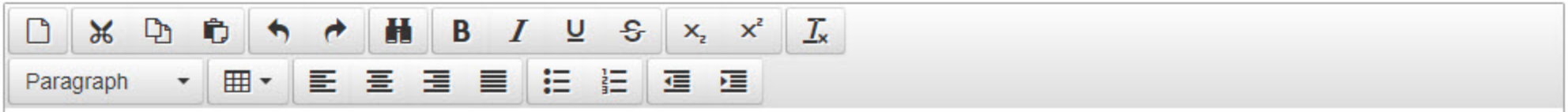
- How, by managing our receivables, we could limit the impact that selling to retailers could have on our cash flow.

(sub-task (c) = 32%)

Clare Turner
Finance Manager
Meals@Home

Reference Material Pre-seen

Write the two briefing papers requested by Clare Turner in the box below.



Reference Material Pre-seen

A few weeks later, Clare Turner, Finance Manager, telephones you and says:

"Ben Jonas, Sales & Marketing Director, has been working on three different promotional campaign options for the new Ready@Home range, each with a different cost and focus. Because this is a new product range for us, Ben is unsure how the market will react to each campaign but has estimated probabilities. Table 1 and Table 2 (which I shall send you shortly) include a payoff table showing Ben's estimates of the additional profit earned for each campaign under different market reactions and statistical measures based on these estimates.

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

- What each of the statistical measures in Table 2 mean in the context of the information given. Please also explain how the decision about which promotional campaign to choose will be made using a risk neutral, risk seeking and risk averse approach, stating the choice under each approach.

(sub-task (a) = 40%)

The new production facility will include large industrial cooking vats in which the raw ingredients for our soups and sauces will be cooked prior to blending. The SMT is considering whether to lease the cooking vats and Table 3 (which I will send you shortly) includes information about the lease.

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

- How the lease for the cooking vats will be initially recorded and then subsequently measured in our financial statements for the year ending 31 December 2022.

(sub-task (b) = 40%)

If the cooking vats are not leased, we would purchase them outright. Details of the asset purchase are included in Table 4 (which I will send you shortly).

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

- How purchasing outright would affect the way that the cooking vat assets are reflected in our financial statements for the year ending 31 December 2022."

(sub-task (c) = 20%)

Clare then sends you Tables 1, 2, 3 and 4 which can be found by clicking on the Reference Material button above.

Table 1: Additional profit / (loss) after campaign costs from promotional campaigns

Expected market reaction	Probability	Campaign 1 N$000	Campaign 2 N$000	Campaign 3 N$000
Very good	0.2	525	975	825
Good	0.5	350	475	550
Poor	0.3	125	(125)	0

Table 2: Statistical information based on Table 1

	Campaign 1 N$000	Campaign 2 N$000	Campaign 3 N$000
Expected value	318	395	440
Standard deviation	142	390	306
Co-efficient of variation	0.45	0.99	0.70

Table 3: Lease for the cooking vats

Lease commencement	1 September 2022
First payment due	31 August 2023
Annual lease payments in initial lease term, payable on 31 August each year	N$50,000
Number of annual lease payments in initial lease term	4
Interest rate implicit in the lease	10%
Useful life of the underlying assets	10 years
Ownership of the underlying asset at the end of the lease term	Lessor

Notes:

- The initial lease term is non-cancellable. At the end of the initial lease term, there is an option to extend the lease term by a further 3 years. Annual lease payments in the lease extension period would be N$10,000 a year, payable on 31 August each year. It is expected that this option would be taken.
- The lessor would install the cooking vats, which would be available for use on 1 October 2022.

Table 4: Purchase cooking vats outright

Purchase price	N$105,000
Delivery costs	N$1,000
Installation costs	N$2,600
Useful life of cooking vats	10 years
Estimated residual value	N$10,000
Date of purchase	1 September 2022
Date cooking vats available for use	1 October 2022

Reference Material Pre-seen

Write the report requested by Clare Turner in the box below.

Paragraph

Reference Material Pre-seen

It is now September and production will start in the new Ready@Home production facility on 1 October. You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Ready@Home: profit-volume chart and activity based costing

We have prepared a draft budget for the new Ready@Home range. The Senior Management Team (SMT) has asked for an analysis of the breakeven position of the new Ready@Home range based on this draft budget. The range will be sold through our website to consumers, but we will also make direct sales to retailers. I have drawn up a profit-volume chart based on the budget for the first quarter, the period 1 October 2022 to 31 December 2022 (Chart 1 attached).

Please prepare a briefing paper for the SMT which explains:

- What the information shown in Chart 1 indicates.

(sub-task (a) = 28%)

- How the chart and break-even position would be affected by a change in the budgeted mix of products sold (with a higher proportion of sauces and a lower proportion of soups) and a change in the mix of sales channels (with a higher proportion through our own website compared to through retailers).

(sub-task (b) = 24%)

In the future, Jack Quinn, Finance Director is keen to adopt activity based costing (ABC) in the new production facility (the processes of the new facility are included in Schedule 1 attached). He has already outlined to the SMT the main differences between ABC and our normal absorption costing approach and some of the benefits. Jack would now like to show the SMT how the overhead costs associated with the new products would be categorised in relation to the ABC hierarchy of unit, batch, product and facility level activities.

Please include in your briefing paper an explanation of:

- What is meant by unit, batch, product and facility level activities in the context of the Ready@Home range and our new production facility. Please include examples of overhead costs for each of these categories.

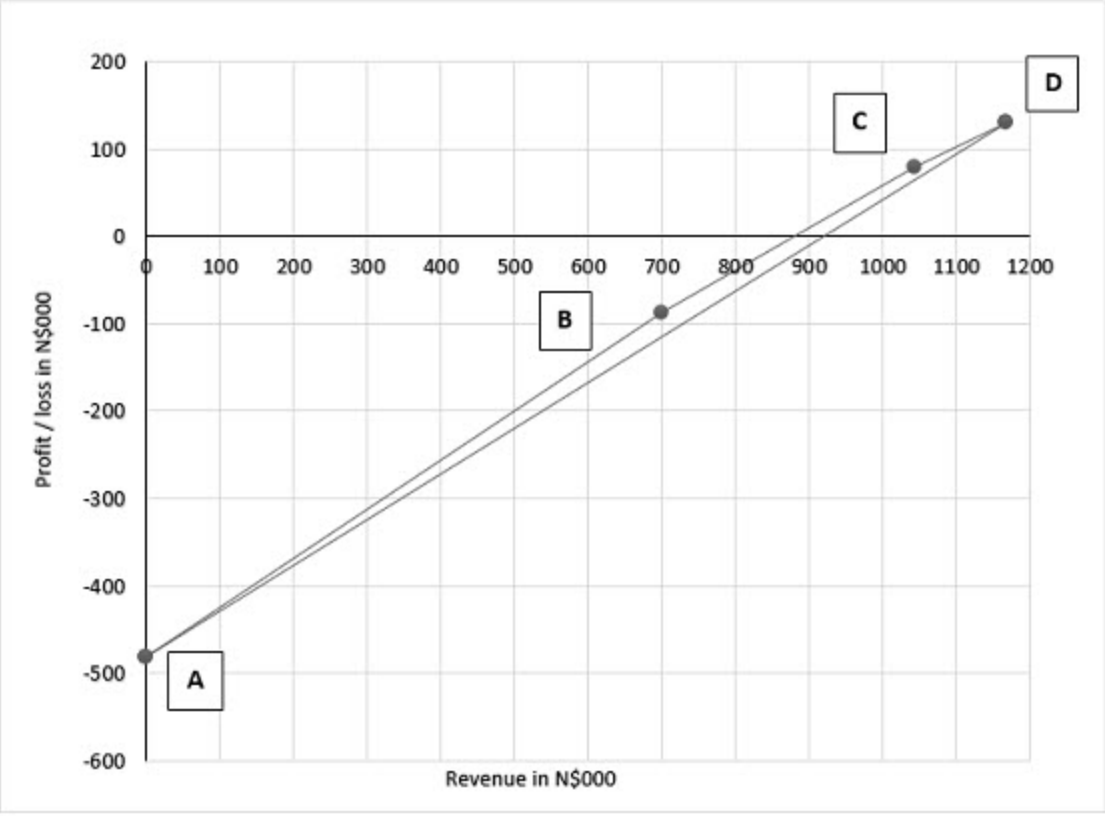
(sub-task (c) = 48%)

Clare Turner
Finance Manager
Meals@Home

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

Chart 1 | Schedule 1

Chart 1: Multi-product profit-volume chart for the Ready@Home range



Notes:

- The chart is based on the draft budget for the new Ready@Home range for the period 1 October 2022 to 31 December 2022.
- The fixed costs shown on the chart are the fixed production overheads for the new production facility plus the cost of the initial advertising campaign that was selected.
- The budgeted contribution / sales (c/s) ratio for each product is as follows:

Service	C/S Ratio
Smoothies	0.49
Soups	0.56
Sauces	0.39

- The budgeted c/s ratios are based on the average selling prices for each product and the expected mix of sales through our website and to retailers.
- Retailers are charged a lower price than we charge consumers on our website.

Close

Chart 1 | Schedule 1

Schedule 1: Information about the production processes in the new production facility for Ready@Home

Raw ingredients received into the temperature controlled warehouse

↓

Raw materials moved into the production area where they are prepped and chopped either by machine or by hand

↓

Soups and sauces are cooked in large cooking vats

↓

All products are blended in large blending machines

↓

All products are packaged into bio-degradable pouches on a packaging line fed from the blending machines

Notes:

- All production of Ready@Home will be undertaken in its own production facility, which will be managed by Victor Long, Production Manager.
- Production will be scheduled in batches. At the start of each batch of production all of the raw ingredients for that batch will be moved into the production area and between every batch the cooking vats and blending machines will have to be cleaned.
- The cooking vats and blending machines will be powered by electricity.
- Within the new production facility will be a recipe development kitchen where new recipes for all Ready@Home products will be developed and existing recipes tweaked to take account of the availability of seasonal ingredients.

Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.

Reference Material Pre-seen

It is now January 2023. The Ready@Home range was launched as planned in October 2022 and is available for sale through the Meals@Home website and in retail stores. You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Ready@Home: sales variances and KPIs

The Senior Management Team (SMT) has asked for a report on the website sales performance (that is our direct sales to consumers) for the Ready@Home range for its first quarter and I would like you to complete the section for Smoothies. The relevant sales variances are included in Table 1 (attached).

Ben Jonas, Sales & Distribution Director, has told me the following:

1. There are three different product groups in the Smoothie range: Everyday, Superfood and Premium.
2. At the end of October, a major competitor launched a new range of smoothies at a price 20% lower than the normal retail price for our Everyday range (which is our lowest price range). As a result, Ben authorised a discount for the Everyday range, which is not reflected in standard price.
3. In November, Ben engaged a celebrity to endorse our Superfood Smoothies on social media. To tie in with this, a new Superfood Smoothie flavour was launched. This flavour was extremely popular.
4. In December, there was a worldwide shortage of some of the ingredients required for the Premium range which resulted in some flavours being unavailable through our website.

Please prepare content for the report to the SMT which explains:

- What the sales price, sales mix profit and sales quantity profit variances in Table 1 mean and possible reasons for each variance.

(sub-task (a) = 40%)

Given the size of the price variance for Everyday smoothies (see Table 1 attached), it has been suggested that this is split into its planning and operational elements.

Please include in the content for the report to the SMT an explanation of:

- Whether it would be beneficial to split the Everyday sales price variance into its planning and operational elements and any possible problems we would face when doing so.

(sub-task (b) = 24%)

The Ready@Home range is widely promoted on our Meals@Home subscription pages and on social media. Ben would like to establish a key performance indicator (KPI) dashboard for sales of the Ready@Home range through our website. He would like to focus on customer buying behaviour and the success of our social media marketing.

Please include in the content for the report to the SMT, suggestions of:

- Three KPIs that would be appropriate for the dashboard for Ready@Home website sales. Please explain how each KPI would be measured and why it would be appropriate.

(sub-task (c) = 36%)

Clare Turner
Finance Manager
Meals@Home

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

Table 1: Sales variances for website sales of Smoothies for October to December 2022

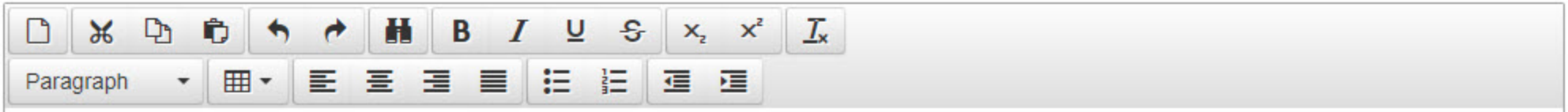
Variance	Everyday N$	Superfood N$	Premium N$	Total N$
Sales price	5,800 A	1,450 F	0 A	**4,350 A**
Sales mix profit	4,693 A	8,225 F	1,189 A	**2,343 F**
Sales quantity profit	257 A	175 A	161 A	**593 A**

Notes:

- The sales mix and quantity profit variances are calculated using the individual units method and standard gross profit per unit.
- The standards were set at the start of the period when the product range was launched.

Reference Material Pre-seen

Write the content for the report requested by Clare Turner in the box below.



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) 36% (b) 44% (c) 20%
3	45	1	3	(a) 36% (b) 36% (c) 28%
4	45	1	2	(a) 56% (b) 44%

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 June 2022. The company is working with Sara Hinks, a celebrity vegan and vegetarian chef, to develop a range of vegan meal-kits. Veganism is now advocated by many as one of the healthiest ways to eat as well as being better for the environment. You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Vegan range: Time series and costing for videos

Our vegan meal-kits will be available to subscribers from 1 October 2022. Ben Jonas, Sales & Marketing Director, believes that there is now a large market for vegan meal-kits, following a successful television cookery series by Sara Hinks in the final quarter of 2020. The Senior Management Team (SMT) has requested details about the potential demand for our vegan meal-kits. Ben has obtained details about the actual volumes of vegan meal-kits sold in Newland each quarter in the period 2019 to 2021. He has shown this data and a centred 4-point moving average in Table 1 and Chart 1 (attached).

Please prepare a briefing paper for the SMT which explains:

- What Table 1 and Chart 1 show us and why using this information to produce a forecast of demand for our vegan meal-kits for quarter 4 of 2022 onwards will be difficult.

(sub-task (a) = 52%)

At a recent SMT meeting, it was decided to develop a series of videos in which Sara Hinks demonstrates how to prepare and cook some of our vegan and vegetarian meal-kits. These videos will be available to view on our website and on Newland's largest video hosting website. We will pay a one-off fee to the video hosting website to enable us to host content and will also pay a fee per video that is viewed. Each video will be filmed in our own development kitchen (which will be upgraded for the purpose) and we will use ingredients from our own inventory. Sara will be paid a fee per video plus a royalty each time a video is viewed on either our website or the video hosting website. We will use a video production company to film and edit which will charge a fee for each video. We will start with a series of 10 videos but expect to add to this as we develop new meal-kits. We will retire individual videos when that meal-kit is withdrawn from our portfolio.

Please include in your briefing paper for the SMT an explanation of:

- The direct and indirect costs associated with a specific video. Please also explain the potential difficulties of determining a total cost for each specific video.

(sub-task (b) = 48%)

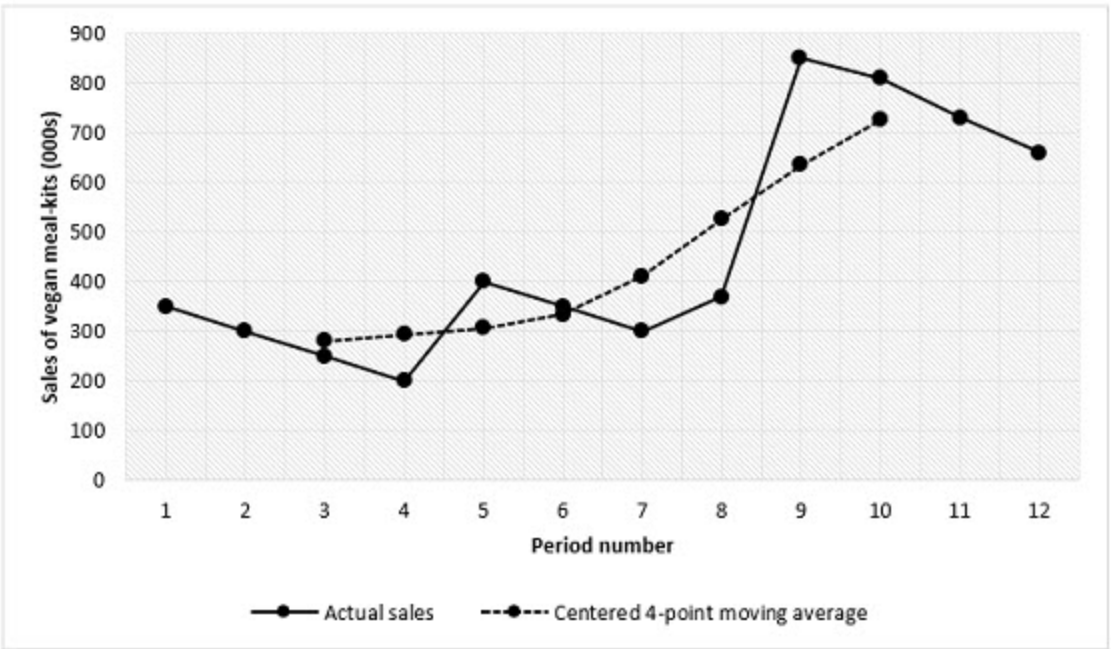
Clare Turner
Finance Manager
Meals@Home

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

Table 1: Actual sales of vegan meal-kits in Newland and centred 4-point moving average

Year	Quarter	Period number	Vegan meal-kits sold (volume in 000s)	Centred 4-point moving average (volume in 000s)
2019	1	1	350	
	2	2	300	
	3	3	250	281
	4	4	200	294
2020	1	5	400	306
	2	6	350	334
	3	7	300	411
	4	8	370	525
2021	1	9	850	636
	2	10	810	726
	3	11	730	
	4	12	660	

Chart 1: Actual sales of vegan meal-kits in Newland and centred 4-point moving average



Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.

Paragraph

Reference Material Pre-seen

It is now early October 2022. To accommodate a general increase in demand and the anticipated increase from the new vegan range, the Production Facility is being expanded.

Clare Turner, Finance Manager, says the following to you:

"New robotic packing equipment will be installed next week and an external maintenance company will be used to maintain it. The maintenance company has offered us the choice of three 12-month contracts which are based on different fixed and variable fees. Greta Beets, Production Director, has provided estimates of the best and worst cases for the number of call outs and the number of maintenance hours required for the period, along with estimated probabilities. I have used Greta's estimates and the contract terms to prepare Table 1, which I will send you shortly.

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

- The information shown in Table 1 and which option should be chosen using a risk neutral approach to decision making. Please also explain one limitation of using this approach and one limitation of using this information to make this decision.

(sub-task (a) = 36%)

We are replacing some of our herbs & spices machinery. The old machinery will stop being used on 1 November 2022 and will then be dismantled at the end of November at a cost of N$1,200. We expect to put the machinery up for sale on 1 December 2022 at a price of N$35,000, which is felt to be reasonable and achievable. There is a good second-hand market for this type of machinery, although it could take us 6-months to sell it.

Please include in the briefing paper for the SMT:

- An explanation, with appropriate justification, of how the old herbs & spices machinery will be reflected in our financial statements for the year ending 31 December 2022.

(sub-task (b) = 44%)

As part of the expansion of the Production Facility we have reorganised our warehousing and sold a warehouse property on 1 October 2022 for N$350,000. The warehouse was originally purchased for N$120,000 and 4 years ago we spent N$50,000 extending it. Indexation allowances are available on the disposal of property assets.

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

- How the disposal of the warehouse property will affect the amount of capital tax payable by the company for the year ending 31 December 2022."

(sub-task (c) = 20%)

Table 1 mentioned by Clare can be found by clicking on the Reference Material button above.

Table 1: Comparison of maintenance contract options

Situation		Joint probability	Possible 12-month cost		
Number of call outs	Number of hours required per call out		Option 1 N$	Option 2 N$	Option 3 N$
Highest	Highest	0.6 x 0.3 = 0.18	55,000	45,000	68,000
Highest	Lowest	0.6 x 0.7 = 0.42	30,000	32,500	25,500
Lowest	Highest	0.4 x 0.3 = 0.12	33,000	27,000	40,800
Lowest	Lowest	0.4 x 0.7 = 0.28	18,000	19,500	15,300
Expected value			31,500	30,450	32,130

Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.

Reference Material Pre-seen

It is now January 2023. The expansion of the Production Facility was completed by the end of October 2022. You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Variances, key performance indicators and investing surplus cash

I need your assistance with preparing the performance report for December 2022 for the Herbs & Spices Department. Attached in Table 1 are the fixed production overhead variances.

Please prepare content for a report to the Senior Management Team (SMT) which explains:

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

(sub-task (a) =36%)

The SMT has requested that the report includes a section on the key performance indicators (KPIs). Attached in Table 2 are some KPIs for the department for December.

Please prepare content for the report to the SMT which explains:

- Why each of the KPIs in Table 2 is appropriate for measuring the performance of the Herbs & Spices Department Manager and reasons why each measure has either been achieved or not been achieved.

(sub-task (b) = 36%)

To fund the expansion of the Production Facility, we took out a loan. We have decided to delay one of our other planned expansion projects for 4 months. The SMT is keen that the funds that we have set aside for this project are now invested in the short-term.

Please prepare a briefing paper for the SMT which explains:

- The factors to be considered when choosing a type of short-term investment for these funds.

(sub-task (c) = 28%)

Clare Turner
Finance Manager
Meals@Home

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

Table 1: Fixed production overhead variances for the Herbs & Spices Department for December 2022

Variance	N$	
Expenditure	1,400	Adverse
Efficiency	7,450	Adverse
Capacity	3,675	Favourable
Total	**5,175**	**Adverse**

Notes:

- Due to the expansion of the Production Facility and the installation of new machinery, the budgets for the number of machine hours available and expenditure on fixed overheads were revised in November 2022. The overhead absorption rate, which is based on machine hours, was also adjusted in recognition of the operating characteristics of the new machinery.
- At the start of December there were issues with the newly installed machinery leading to some production having to be scrapped. Due to this, the new machinery was recalibrated by the original supplier in the second week of the month at an additional cost to us. This has resulted in the machinery now having to run at a slower rate than originally anticipated.
- Additional shifts have been introduced in the department to cope with the slowing down of the machinery. As a result, an additional production supervisor was employed.
- Despite the additional shifts, production of herbs & spices packets was lower than anticipated in December.

Table 2: KPIs for the Herbs & Spices Department for December

KPI	Actual	Target
Percentage of machine idle time*	10%	5%
Percentage of production scrapped	4%	0%
Staff retention rate	88%	95%

Notes:

*Machine idle time is expected for routine maintenance, cleaning and resetting of the machinery.

Reference Material Pre-seen

Write the content for the report and the briefing paper as requested by Clare Turner in the box below.

Paragraph

Reference Material Pre-seen

It is now a month later and you receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Vegan cookery roadshow and beyond budgeting

Ben Jonas, Sales & Marketing Director has been planning a vegan cookery roadshow which will include 10 events around the country where Sara Hinks, celebrity chef, will perform vegan cookery demonstrations using our meal-kits. Ben believes that the roadshow will attract new customers to our meal-kit subscription service.

The initial demand for tickets for the roadshow has been slower than anticipated. Ben has produced a statement (see Table 1 attached) to show that the roadshow should be cancelled because of the anticipated loss. Jack Quinn, Finance Director, would like the Senior Management Team (SMT) to consider whether to go ahead with the roadshow or not, using a relevant costing approach.

Please prepare a briefing paper for the SMT which explains:

- For each of the items in Table 1, which are relevant, and which are irrelevant to the decision whether to proceed with the roadshow. Please also indicate, where appropriate, further information that may be required to quantify the relevant costs and revenues.

(sub-task (a) = 56%)

Jack has recently been reading about beyond budgeting. He thinks that given all the recent and planned changes to further automate the packing process in the Production Facility, as well as the increasing competitiveness of the market that we operate in, it would be a good idea to use a beyond budgeting approach in the business.

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 (b) = 44%)

Clare Turner
Finance Manager
Meals@Home

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

Table 1: Anticipated loss for the Vegan Roadshow

	Notes	N$
Revenue	1	30,000
Costs:		
Hire of venues	2	(12,000)
Ingredients	3	(2,000)
Sara Hinks	4	(10,000)
Administration	5	(7,000)
Gift bags	6	(4,000)
Loss		**(5,000)**

Notes:

1. We have so far sold 1,000 tickets and the revenue of N$30,000 reflects the revenue from those tickets at N$30 per ticket. Our maximum capacity is for 2,000 attendees across all of the 10 roadshows that are planned.
2. Each event will be held at a different hotel within the same hotel chain. The 10 hotels have been provisionally booked and the total cost will be N$12,000. A non-refundable deposit of N$5,000 has been paid.
3. The ingredients used in the demonstrations will be supplied from our inventories. The total standard cost of these ingredients is N$2,000. Included in this is a type of coconut milk that we have in inventory, but which is not currently used in our meal-kits. This coconut milk will be thrown away if not used in these demonstrations. All of the other ingredients will continue to be used in our meal-kits
4. Sara Hinks has agreed to a fee of N$10,000 to appear at all of the roadshow events. She will waive this fee if we allow her to sell her cookery books at the roadshows.
5. Members of our administration team will be involved in organising and running the roadshow. N$7,000 includes a share of their salaries plus estimated overtime payments that will be paid so that they can perform their normal work.
6. Each attendee will receive a gift bag. The minimum order quantity is 3,000 bags and this equates to N$4 per bag. The cost of N$4,000 is therefore the cost of 1,000 bags based on the attendees we are expecting. Any spare bags will be given as free gifts in meal-kit boxes.

Reference Material Pre-seen

Write the briefing paper requested by Clare Turner in the box below.

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	2	(a) 52% (b) 48%
3	45	1	3	(a) 52% (b) 24% (c) 24%
4	45	1	4	(a) 32% (b) 16% (c) 24% (d) 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 June 2022. Meals@Home is developing a new product, Organic Spice & Herb Box (OSHB). An OSHB will include recipe cards and vacuum-packed organic spices and herbs required for those recipes. Unlike Meals@Home's existing meal-kit range, the philosophy behind OSHB is for a sustainable premium product, packaged in such a way it can be delivered through customers' letterboxes, so they don't have to be at home to take delivery.

Clare Turner, Finance Manager, calls you into her office and says:

"Ravi Smith, IT Director, and Greta Beets, Production Director, recently attended a conference on how digital costing systems are transforming the food industry. Ravi believes that implementing a digital costing system at Meals@Home would be hugely beneficial especially as the introduction of the new OSHB range will increase the number of suppliers that we use. Ravi has given me extracts of the information from the conference and I have added data about our own business. All this data is included in Table 1 of a schedule that I will give you shortly.

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

- Based on the information in Table 1, how the features of a digital costing system could benefit our business.

(sub-task (a) = 52%)

Our new OSHB range will be launched on 10 October 2022. We still need to decide how much to spend on marketing and what approach to marketing to use for OSHB. There are a lot of competing demands on the company's finances. Jack Quinn, Finance Director, has suggested using a zero based budgeting (ZBB) approach to determine the marketing budget for the new range. Ben Jonas, Sales & Marketing Director, has produced some initial promotional campaign options for the launch of the new OSHB product range and an estimate of each option's cost. These are included in Table 2 of a schedule I will give you shortly.

Please include in your briefing note an explanation of:

- How the promotional budget for the launch of our new OSHB range would be prepared using a ZBB approach. Please also explain the potential limitations of using a ZBB approach across the business."

(sub-task (b) = 48%)

Clare's schedules containing Table 1 and Table 2 can be found by clicking on the Reference Material button above.

Table 1 | Table 2

Table 1: Comparison of food industry survey data and current Meals@Home systems

	Food Industry Survey Data		Meals@Home
	Costing system used		
Data	**Digital (note 1)**	**Non digital**	**Non digital**
Suppliers used (note 2)	251	150	140
Automated links to suppliers	Yes	No	No
Food waste %	3%	7%	6%
Average supplier delivery lead time	2 days	7 days	6 days
% of companies using Just-In-Time	85%	65%	note 3
Artificial intelligence (AI) tracking customer buying patterns?	Yes	No	No
System integration? (note 4)	Yes	No	No

Notes:

1. Implementation costs for digital systems are estimated to range between N$1,350,000 and N$1,750,000 whilst levels of automation in successfully implemented systems could lead to cost savings of between N$350,000 and N$400,000 per year.
2. Suppliers used refers to average number of suppliers used per company.
3. Fresh ingredients for Meals@Home by necessity are delivered as required. Our longer life ingredients, such as some spices and herbs, are stored in inventory.
4. System integration refers to the system linking multiple internal departments.

Table 1 | Table 2

Table 2: Cost data for alternative OSHB promotional campaign options

Promotional campaign	In-House	Outsourced
	N$	N$
Basic campaign	375,000	325,000
Social Media add on package	120,000	150,000
Celebrity Chef endorsement add on package	Not applicable	250,000

Reference Material Pre-seen

Write the briefing note requested by Clare Turner in the box below.

Paragraph

Reference Material Pre-seen

It is now July 2022. Organic Spice & Herb Box (OSHB) will be launched on 10 October 2022. An OSHB contains recipe cards for either 2, 3 or 4 different meals and the premium vacuum-packed organic spices and herbs required to make those meals. OSHB is available in either Small (enough for 2 portions of each meal) or Large (enough for 4 portions of each meal). Customers provide their own meat, fish and vegetables. OSHBs are delivered through customers' letterboxes so they don't have to be at home to take delivery. You receive the following email:

From: Jack Quinn, Finance Director
To: Finance Officer
Subject: OSHB: Marketing campaign decision and food waste Key Performance Indicators (KPIs)

The Senior Management Team (SMT) weren't happy with any of the initial promotional campaign options put forward by Ben Jonas, Sales & Marketing Director. I have now been working with Ben and we think we have two ways forward: let our Marketing Department develop a campaign or undertake some preliminary research to allow us to find out more about OSHB customers and therefore refine our campaign ideas, including the possibility of using external consultants. If we chose to use our internal marketing department, without doing preliminary research, they would either enlarge the existing Meals@Home campaign strategy to include OSHB or run a new standalone campaign. We have represented these new marketing ideas on a decision tree (Schedule 1, attached).

Please prepare a briefing note for the SMT which explains:

- How to use the decision tree in Schedule 1 to decide which marketing option should be chosen. Please also explain the issues with using the information in this decision tree to make this decision.

(sub-task (a) = 52%)

The SMT is eager to use OSHB to pilot a new formalised KPI system to monitor food waste and food recoverability. The SMT feel that OSHB is particularly suited to a pilot as the inventory, production and storage facilities for OSHB are self-contained, to maintain their organic status.

For the project, we will be using the following definitions:

Food waste: ingredients which are wasted during the production process.
Recoverability: food waste which is not sent to land fill but is used for other purposes.

Please include in the briefing note to the SMT:

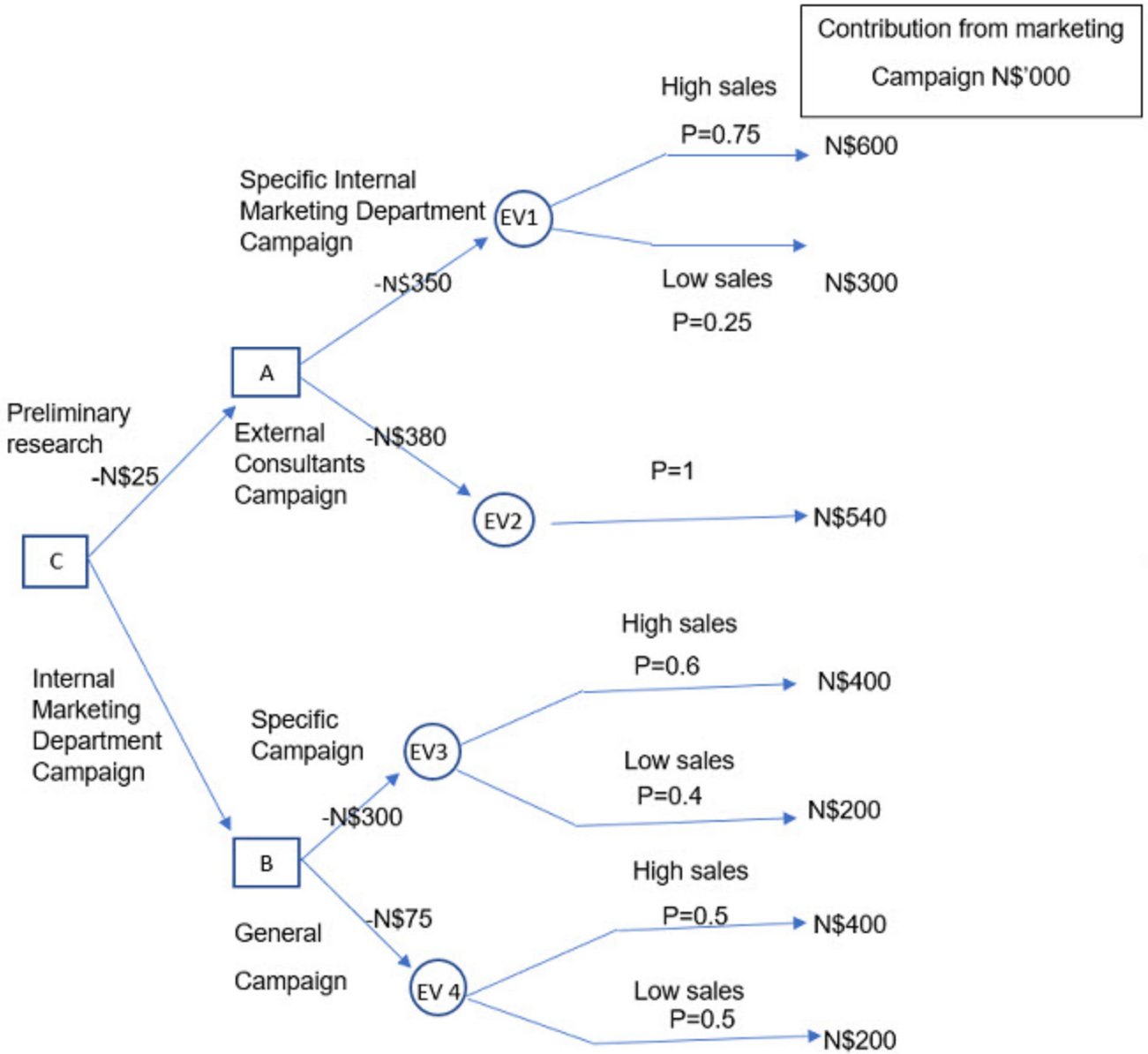
- Suggestions for three KPIs which measure food waste **and** one KPI which measures food recoverability. For each of the four KPIs please explain how it would be calculated and why it would be appropriate.

(sub-task (b) = 48%)

Jack Quinn
Finance Director
Meals@Home

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

Schedule 1: Decision Tree for marketing campaign analysis



Expected values

EV1 = N$525

EV2 = N$540

EV3 = N$320

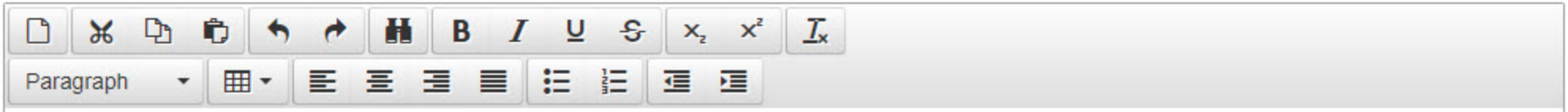
EV4 = N$300

Note 1: All monetary values are in N$'000

Close

Reference Material Pre-seen

Write the briefing note requested by Jack Quinn in the box below.



Reference Material Pre-seen

Today is 5 December 2022. Organic Spice & Herb Box (OSHB) production started as planned on 10 October and the company is reviewing performance. You receive the following email:

From: Clare Turner, Finance Manager
To: Finance Officer
Subject: Sales variances and working capital

Due to other commitments, I won't be able to finish the report on OSHB for the Senior Management Team (SMT) meeting tomorrow. The report is to cover two areas, sales variances for November and working capital.

I have already calculated the sales variances within each of the Small OSHB's and Large OSHB's and included some additional notes (Table 1, Table 2 and associated notes attached) but I have not had time to complete the commentary.

Please prepare a report to the SMT which explains:

- What each of the variances in Tables 1 and 2 mean, giving possible reasons why the variances have occurred and what the variances indicate about the overall sales performance for our new OSHB range in November 2022.

(sub-task (a) = 52%)

I have calculated working capital ratios and the working capital cycle based on both actual and budgeted figures for OSHB (Table 3 attached).

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

- What the working capital cycle information in Table 3 tells us about our actual level of working capital compared to budget, including any potential effects on cashflow and any limitations of the available information.

(sub-task (b) = 24%)

- Any actions we could take to shorten the actual working capital cycle.

(sub-task (c) = 24%)

Clare Turner
Finance Manager
Meals@Home

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

Tables 1 & 2 | Table 3

Table 1: Sales variances for Small OSHBs for November 2022

	2 meals N$	3 meals N$	4 meals N$	Total N$
Sales price	0	0	18,293A	18,293A
Sales mix profit	141F	2,111F	1,601A	651F
Sales quantity profit				854F

Table 2: Sales variances for Large OSHBs for November 2022

	2 meals N$	3 meals N$	4 meals N$	Total N$
Sales price	0	0	38,758A	38,758A
Sales mix profit	493A	3,385F	3,273A	381A
Sales quantity profit				17,458A

Notes for Tables 1 and 2:

1. The sales mix profit and sales quantity profit variances have been calculated using the individual units method. The variances were calculated using the averages of the standard selling prices, costs and profits for the varieties of meals available within each of the six options.
2. OSHB has a separate sales discount policy to Meals@Homes. In November, an unplanned 20% product launch discount was available for 4 meals for both Small and Large OSHBs. This was not included in the budget.
3. In November, an unplanned special recipe was created. Because of limited supply of the key spices, the SMT decided that this special recipe would only be available in the Small 2 meal OSHBs and Small 3 meal OSHBs.
4. Errors in the printing on the packaging for Large OSHB meant some orders could not be fulfilled during November.
5. The central bank of Newland raised interest rates from 1% to 3% to reduce inflationary pressure in the housing market.

Table 3: Working capital ratios and working capital cycle for OSHB

	Notes	OSHB	
		Budget (days)	Actual (days)
Period		**Year to 31 December 2022**	**2 months to 30 November 2022**
Raw material days	1	60	63
Work in progress days	2 & 3	10	16
Trade payable days	4	(60)	(30)
Receivable days		0	0
Length of working capital cycle		**10**	**49**

Notes:

1. Raw materials include unpackaged spices, printed recipe cards and packaging material. If correctly stored the shelf life of these items is at least 6 months.
2. Work in progress includes spices which have been weighed and packed into compostable packets ready to be included in OSHBs.
3. OSHBs are completed based on customer orders so no finished goods inventory is held for OSHB.
4. The major supplier is Sanctuary Spices. The current contract states potential payment terms of either 45 days with 0.5% discount or 60 days with no discount. Budgeted figures have been calculated based on 60-day terms.

Reference Material Pre-seen

Write the report requested by Clare Turner in the box below.

Reference Material Pre-seen

It is now 15 December 2022. As a result of a roof leak in our warehouse, a claims assessor from Meals@Home's insurer has visited the warehouse to value the water damaged inventory. At the same time Organic Spice & Herb Box (OSHB) management has been approached by a corporate client, Solid Promotions, to produce a bespoke promotional product for one of their clients.

Clare Turner, Finance Manager, calls you into her office and says:

"Following her site visit, the insurance claims assessor sent through a schedule of damaged inventory (Table 1) which I will give you shortly. Underneath her schedule I have added some explanatory notes.

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

- How the different items of inventory in Table 1 will affect our financial statements for the year ending 31 December 2022.

(sub-task (a) = 32%)

- How the insurance claim receipt in Table 1 will affect our financial statements for the year ending 31 December 2022.

(sub-task (b) = 16%)

Following the leak, the SMT also discussed the expense and time implications of replacing the water damaged spices. There was concern about whether the business would cope if there were other large adverse events in the future. The SMT therefore want us to pilot stress test drills to assess the effect on the budget following serious incidents. The first stress test drill will cover the effect of the production scheduling software being the subject of a cyber-attack.

Please include in the briefing note an explanation of:

- How stress test drills following a simulated cyber-attack on our production scheduling system will improve our awareness of the short-term impacts of such an attack. Please use examples relating to the achievement of budgeted output levels and cashflows.

(sub-task (c) = 24%)

Solid Promotions, after weeks of negotiation, has today offered us a contract to produce a one-off order of bespoke OSHB's. Rita Benez, Marketing Senior Manager, is overseeing the contract and she has some questions about what costs should be included when deciding whether to accept the offer. Rita has sent through extracts from her costing (Table 2) which I will give you shortly.

Please include in your briefing note an explanation of:

- Why each of the costs in Table 2 and the accompanying note is relevant, or not, to the decision regarding the acceptance of the offer from Solid Promotions."

(sub-task (d) = 28%)

Clare's schedules including Table 1 and Table 2 can be found by clicking on the Reference Material button above.

Table 1 | Table 2

Table 1: Extract from Stock Insurance Inc, assessors report

Damaged Items	Damage %	Cost	Net realisable value
		N$	N$
Spices	95	182,858	9,143
Cardboard boxes	100	93,450	0
Filled biodegradable packets	80	87,189	17,438
Total		**363,497**	**26,581**

Notes:

1. All items in the table are currently recorded at cost in our accounting records.
2. The insurance claim has been agreed at N$336,916 and is due to be received in January 2023.
3. The biodegradable pouches were filled with spices. The amounts in the table include both the packets and spices.
4. The next food waste recovery collection is in January 2023. It is expected that damaged stock will be sold to the food recovery company for the values shown. This will take place after the insurance claim has been processed.

Table 2: Extract of costing for Solid Promotions Bespoke Spice Box product

Cost	Explanation	N$
Design	The design team spent 100 hours designing bespoke packaging for the client in anticipation of us accepting the contract.	10,000
Depreciation	Depreciation of machinery used in the contract for 2 weeks.	5,000
Keluwak Spice	The Keluwak spice would need to be purchased. It has no other use than for this contract.	5,000
Head office costs	Head office costs to be charged to the project	10,000

Note:

1. The Solid Promotions contact would use 100% of production capacity for two weeks, we currently generate N$10,000 contribution per week.

Reference Material Pre-seen

Write the briefing note requested by Clare Turner in the box below.

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.

AICPA & CIMA
Together as the Association of International Certified Professional Accountants

OPERATIONAL CASE STUDY

MAY & AUGUST 2022

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

Flexible budgeting

Preparing flexible cost budgets

The original cost budget shown in Table 1 reflects the costs associated with our budgeted level of production of meal-kit boxes sold direct to consumers and excludes any production to satisfy corporate sales. To determine a flexed cost budget, we first need to establish what we expect our volume of production to be in the period, including what is needed to satisfy sales to the corporate customers. Based on this volume, we can then determine the level of each type of cost, which will depend on whether the costs vary with the level of activity or if there are any step ups in fixed costs arising from increased production volumes.

We need to determine which of our production-related costs are variable and which are fixed in nature. Variable costs vary with the level of activity, which, in our case, is the volume of boxes of meal kits produced. Our variable costs include ingredients and packaging, direct labour and the portion of production overheads which are variable. The budget for these variable costs can be flexed by multiplying the cost per box for each type of box (for which we have standards already established) by the new production volume for each type of box sold. Fixed production overheads are, as the name suggests, fixed, which means that they will not change with the level of activity. However, we need to consider whether there will be any step up in the fixed cost arising from, for example, expanding production capacity to cope with the higher volume. Such a step in fixed costs may arise from having to invest in new production equipment.

Selling, distribution and marketing costs will contain a fixed and variable element, and these will need to be split out and quantified separately. For example, the distribution cost paid to our external distributor for delivering boxes of meal kits is likely to be variable and to vary with the number of boxes delivered. For distribution cost, we will need to establish a cost per box delivered and to multiply this by the new number of boxes expected to be sold. Marketing costs are likely to be fixed, although there may be a step up in these costs to attract new corporate customers, which will need to be reflected. Administrative expenses are mostly fixed, although there may be a small increase just by having corporate customers. For example, there will be a need for a credit controller.

The importance of flexing the original cost budget

Preparing flexible cost budgets allows us to see the impact that the increase in production volume arising from new corporate customers will have on total budgeted costs. This, in turn, will allow us to see the impact on profit once we take into account the increased revenue. Preparing the flexed cost budget will also allow the different managers to plan their actions accordingly. For example, by considering whether there are any step ups in fixed costs, Greta Beets, Production Director, will have a better idea of whether production capacity will need to be expanded because of the increase in production.

Preparing a flexed cost budget for one level of activity can easily be replicated for different levels of activity. While we know that there is likely to be demand from this type of customer, there is a lot of uncertainty over the number of boxes of meal kits that we will be able to sell to them. We know that some companies are already using our competitors, and therefore we may struggle to gain a foothold in the market. Alternatively, if the price is right, we could see significant growth over the initial period, especially as we are already a well-known brand in Newland. Therefore, preparing flexed costs budgets at different activity levels would give us insight into the possibilities.

Receivables management

Factors to consider when agreeing to initial credit terms

The credit terms that we will need to agree with the new corporate customers have two elements: the maximum amount of credit we will extend (which limits the value of sales to the customer) and the length of time we allow for payment (the credit period). With respect to the credit period, we will need to consider whether there is an industry norm, as corporate customers are likely to expect at least these terms.

Selling on credit is an accepted part of Business to Business (B2B) trading, and therefore we need to consider the balance of the benefits of allowing generous credit terms (possibly increased sales) with the potential drawbacks on a customer-by-customer basis. These drawbacks include having to finance the receivables balances and the impact of any increase in the administrative burden on the company because customers are given longer to pay.

When setting credit terms, we also need to consider the likelihood that we will supply boxes of meal kits to a corporate customer that then does not pay us. The greater the maximum level of credit given, the larger the potential impact on profit if this happens. Also, the longer the credit period that we offer, the higher the balance owed will be, and the greater the chance that the customer falls into financial difficulty and does not pay. We will need to assess creditworthiness and risk profile by looking at information such as financial statements, press reports and so on, for each potential corporate customer. The size and age of a company should also be considered: the smaller and newer the company, potentially the higher the risk of non-payment. The higher the risk, the lower the credit terms that should be offered.

Managing receivable balances of credit customers

After we start trading with corporate customers, it will be important to ensure that they are adhering to their credit terms and the credit period. We may decide to set up a specialist credit control function within our Finance Department or utilise existing resources to monitor and manage the receivables. It would be a good idea to at least engage a specialist credit controller, given that we have not sold on credit before.

Either weekly or monthly, we will need to generate an aged receivables report showing all amounts owed by customers, highlighting any amounts that are overdue and how overdue these amounts are. Any customer that has an overdue amount should be contacted, either by email or by telephone, and asked for payment. Customers that are continuously late in paying will be noted and discussed by senior management, and, if it is deemed prudent, these customers will have the credit terms adapted, or even have their accounts put on stop.

If a customer ignores the initial request for payment, we will need to contact them again with a firmer request for payment. Indeed, we may need to have a series of Pro-forma letters available that become sterner, with the ultimate action being taking the customer to court for non-payment.

SECTION 2

Costing of new corporate customer app

How to determine the cost per user of the new app

The cost per user of the app will be any direct costs per user, plus the total of any other direct costs associated with the app divided by the number of app users, plus an appropriate share of any indirect costs associated with all of the company's apps divided by the number of app users. A direct cost is any cost that can be directly associated with this specific app, and an indirect cost is any cost that relates to more than one app.

To determine the cost per user of the new corporate customer app, we need to establish any direct costs associated with a single user of this new app. This will include the royalty fee of N$0.10, payable each time the app is downloaded by a user. It will also include the fee charged by the platform providers for each download. It should be noted that some users may download from multiple platforms on different devices.

We also need to establish any direct costs associated with this specific app. This will include the up-front cost of N$450,000 paid to the external app development company, the future fixed fee payable to the platform providers for the app and the future functional and administrative service costs where these costs relate specifically to the new corporate customer app.

The indirect costs are those that relate to all apps that we operate and will include infrastructure, functional services and IT support services costs, where the cost relates to more than one app. This will include a mixture of upfront costs (for example, the upgrading of the servers) and ongoing future costs (for example, maintenance of an administrative dashboard to manage the app).

The difficulties of determining a cost per user of the app

Lifetime of the app: At this early stage, it is difficult to foresee the lifetime of the app. It is possible that the app is superseded by alternative technology or indeed that we decide to stop selling meal kits to corporate customers, and therefore the app becomes redundant. The uncertainty over the lifetime of the app has implications for determining the future ongoing costs of running the app and also how many users there will be over the app's lifetime.

Number of users: Even if we knew the lifetime of the app, it will be difficult to estimate the number of users of the app. Currently, we have three large corporate customers interested, but presumably, this will increase over time.

It will also be hard to estimate how many of each customer's employees will become users of the app, as each employee will presumably have free choice over whether to use this option in their salary sacrifice scheme. In addition, a single user may download the app more than once, which will affect how we determine the direct cost per user.

Future costs: Many of the direct and indirect costs associated with the app will be incurred in the future, and it will be difficult to establish up-front what these costs are. Even if we know the lifetime of the app (and therefore how many years of cost to include), we do not at this stage know how much work will be required to fix bugs or update software as time progresses.

Sharing of costs: The indirect costs that relate to more than one app need to be shared between all of the apps. It is potentially difficult to determine what an appropriate share might be, as we would need to find a meaningful way to apportion these costs that reflects the usage of the shared resources by each app.

Transaction processing decision to outsource or to do in-house

Relevant and irrelevant costs

A relevant cost is a future incremental cash flow that arises as a result of making a decision. In this case, the decision is either to outsource or to keep transaction processing in-house.

For each of the costs listed for the outsource option:

- The outsources partner fee is relevant because this will be a future cash flow that will only occur if we accept the contract and outsource.
- The negotiation cost is irrelevant. The N$200 of travel expenses, while a future cash flow of the business, is a commitment because Ravi has already incurred these expenses while undertaking the negotiation. The cost of Ravi's time is irrelevant as he is on a fixed salary, and therefore there is no incremental cash flow.

For each of the costs listed for the in-house option:

- The employee cost is relevant because we will need to employ two additional people if we keep the transaction processing in-house. This is therefore an incremental future cost of this decision.
- The annual lease payment of N$10,000 for the computer equipment is irrelevant because this lease has already been signed, and therefore the company is committed to incur this cost and is unavoidable. However, the cost of the second lease of N$10,200 is a relevant cost because this lease will only be signed if transaction processing is done in-house.
- The annual lease payment for software is a relevant cost because this lease will only be agreed if the transaction processing occurs in-house. Therefore, the cost is incremental to the decision.

- The additional IT support cost of N$8,000 is an irrelevant cost because the IT employees are already employed and therefore will be paid their salaries regardless of what they will be working on. However, the N$5,000 that will need to be spent on the external consultants for the other project is a relevant cost because this will only arise if the in-house transaction processing option is taken.

Other factors to consider

We need our transactions to be processed correctly so that we have timely and accurate accounting information available to allow us to prepare both management accounts and financial statements. As such, it may be considered a core activity, and therefore it may not be appropriate to outsource this work. Robot process automation of the work may be a more appropriate alternative.

If we outsource, we are giving an external party access to our data which may lead to issues over the security and privacy of the data. We would need to ensure that the outsourcing partner chosen has sufficient controls in place to protect the security and privacy of our data.

If we outsource now, it may prove difficult to bring transaction processing back in-house if we later decide in a year that this is what we need to do. Also, we may lose some contact with our customers and suppliers as a result of outsourcing transaction processing, which could damage relationships.

SECTION 3

KPIs for monitoring the performance of the Corporate Sales Manager

Growth in sales volumes month on month: The Corporate Sales Manager will be responsible for securing new customers and managing relationships with existing customers, and therefore growth in sales volumes month on month will indicate how successful they have been. Growth in sales may result from new customers or may result from existing customers buying more boxes, so it will be important to consider these separately. Growth in sales volumes month on month should therefore be measured in two ways: on a like-for-like basis and on a new customer basis. The like-for-like KPI could be measured in total or on a customer-by-customer basis. The latter would be measured as sales volume this month fewer sales volume last month divided by sales volumes last month for each customer. For all measures of sales growth, the KPI will need to be compared to a target.

Customer retention rate: The Corporate Sales Manager will be responsible for managing relationships with existing customers, and therefore a measure of how successful they are at this will be the customer retention rate. This would be measured as the number of customers at the start of the month less any of those customers lost during the month divided by the number of customers at the start of the month. This is an important measure because it is an indication of customer satisfaction with our service and is an indicator that the Corporate Sales Manager has developed good relationships with customers.

Percentage of discount given by customer: The Corporate Sales Manager has the authority to give discounts to corporate customers up to a maximum of 25% off the full retail price. While discounts are an important aspect of the pricing of our meal-kit subscriptions, a high level of discounts reduces our margins significantly and therefore reduces profit. We need to ensure that there is an appropriate balance between giving away discounts to gain volume and losing volume as a result of no discount, especially given that the Corporate Sales Manager's commission is based on sales volumes. In line with how we treat our direct customers, we might expect the Corporate Sales Manager to give away higher levels of discount when a corporate customer is first signed up, but for the percentage discount to fall as trading continues. The KPI would be measured for each customer as the discount percentage given that month and this would be compared to previous months and to a target. This target should be different for new and existing customers.

Potential benefits and drawbacks of participation in budget and KPI target setting

Potential benefits

While Bina Keo is new to our business, she has experience of selling meal-kit subscription services to corporate clients because she worked in a similar role for one of our competitors.

As a result, she is likely to have a good understanding of the corporate customer market in Newland in respect of a number of potential customers as well as things like the level of discounts likely to be required to secure and retain customers. Given this is a very new market for us, Bina's experience may lead to more realistic targets and budgets.
Allowing Bina to participate in the budget and target setting process is likely to motivate her to strive towards meeting the budgets and targets and for her to take responsibility for achieving them. If Ben Jonas were to impose a sales budget and KPI targets without any involvement of Bina, it is possible that she would be demotivated and would blame any non-achievement of targets on the target setting process.

Potential drawbacks

A potential drawback to allowing Bina to participate in setting her budgets and targets is that she may introduce some slack to ensure that the targets are easily achievable or manipulate the targets to her advantage. Since Bina will earn a commission based on the volume of boxes sold to corporate customers, it will be in her interest to set a high threshold for discounts given away, as this will allow her to secure higher volumes and therefore a higher commission. The discounting could however be detrimental to the overall level of profit earned.

Another drawback is that time and expense may be required to train Bina, and then any future Corporate Sales Managers, on how to complete the task.

Decision criteria

Maximax criterion
The maximax criterion is where the decision-maker takes an optimistic approach. In this approach, the alternative that maximises the maximum payoff achievable under each of the initial order size options will be selected. In other words, we should select the best of the best. The best payoff under Option 1 is N$7,500, under Option 2 is N$14,000 and under Option 3 is N$18,750. Of these, the highest and therefore best payoff is N$18,750, and therefore under this criterion, we would choose Option 3.

Maximin criterion
The maximin criterion is where the decision-maker takes a pessimistic approach. In this approach, the alternative that maximises the minimum payoff achievable under each of the initial order size options will be selected. Using this approach, we would select the best from the worst. The worst payoffs under Option 1 is N$2,500, under Option 2 is N$7,000 and under Option 3 is N$5,750. Of these, the highest and best of the worst payoffs is N$7,000, and therefore under this criterion, we would choose Option 2.

Minimax regret criterion
Under the minimax regret criterion, the alternative that minimises the maximum regret under each of the initial order size options is selected. This is generally used when we want to minimise the regret of making a bad decision. 'Regret' refers to the opportunity loss from having made the wrong decision.

Table 2 shows the regret depending on the number of subscribers and the initial order option. For example, if the number of subscribers turned out to be low, we would have no regret if we had chosen option 1. The regret for each of the other order options is the difference between the additional profit of N$7,500 and the additional profit from each of the other order options. The maximum regret is N$16,250 for Option 1, N$7,750 for Option 2 and N$1,750 for Option 3. To minimise maximum regret, we should select Option 3.

SECTION 4

Sales variances

Sales price variances: The sales price variance measures the difference between the actual selling price achieved and the standard selling price for the actual volumes sold. The nil variance for Customer 1 means that there has been no negotiation on the original price set. However, the adverse variance for Customer 2 means that Bina Keo has negotiated a further discount with Customer 2. This may have been in a bid to make it more attractive to Customer 2's employees to increase the numbers of boxes sold, given that there is a favourable quantity variance for this customer (see below). However, overall, this attempt to win sales does not seem to have been successful given that the adverse price variance outweighs the favourable mix and quantity variances for Customer 2.

Sales mix profit variances: The sales mix profit variance measures the change in profit due to a change in the mix of meal kits sold. For Customer 1, the favourable mix variances mean that we sold proportionately more of the vegetarian boxes (where standard profit is higher than the weighted average) and proportionately fewer of our meat/fish boxes (where the standard profit is less than the weighted average). The adverse variance for combination is because we sold proportionately fewer of this type, which has a higher-than-average standard profit. For Customer 2, there is a different change in the budgeted mix. Here, the adverse variance for vegetarians means that we sold proportionately fewer boxes of this type (which has the highest standard profit). The favourable variances indicate that we sold proportionately fewer boxes of meat/fish and proportionately more combination boxes.

There is a favourable overall variance for both Customer 1 and Customer 2, which means that we generated more profit due to the change in mix. The reason for these changes in the mix is likely to be driven by increasing awareness (fuelled in part by the recent television series) of the impact of eating meat and fish on the environment. Customer 1 employees appear to have opted for a higher proportion of vegetarian boxes instead of meat/fish boxes. Customer 2 employees appear to have opted for a higher proportion of combination boxes instead of meat/fish boxes. There could be many reasons why Customer 1 employees may have reacted more strongly towards being wholly vegetarian, including their age profile and location. We need to consider going forward whether this trend towards vegetarian meal kits is a permanent feature, and whether we need to consider changing our budgeted mix for these customers, but also elsewhere in the business.

Sales quantity profit variances: The sales quantity profit variance measures the change in profit due to selling more or fewer boxes of meal kits at the standard mix. The adverse variance for Customer 1 means that, overall, we sold fewer boxes of meal kits than budgeted.

A possible reason for this is that maybe the type of people employed by Customer 1 is less interested in subscribing to a meal-kit service than we anticipated. Maybe the employees of Customer 1 prefer to use salary sacrifice schemes for other options such as gym memberships or maybe the original price negotiated by the employer made the salary sacrifice option unattractive. Another possibility is that because many of Customer 1's employees live in urban settings where they have more opportunities for eating out and therefore are perhaps less inclined to subscribe to a meal-kit service than the employees of Customer 2. For Customer 2, the variance is favourable, which means that, overall, we sold more boxes of meal kits than budget. This could be because for the employees of Customer 2, our subscription service was more attractive than we anticipated, or it could be that the additional discount negotiated made it more attractive.

New herb portioning machine

IAS 16: Property, Plant and Equipment states that the cost of an item of property, plant or equipment is made up of its purchase price (inclusive of duties and non-recoverable taxes) and the total of any costs which are directly attributable to bring the asset into working order for its intended use.

Therefore, for the new herb portioning machine, we can capitalise on its purchase price of N$850,000. In addition, we can also include the costs of installation and testing of N$25,000, as these are directly attributable to being able to use the new machine. The asset will need to be depreciated over its useful life from the date that it is bought into use which is 1 November 2022. Two months of depreciation will be charged to profit or loss for the year to 31 December 2022.

The cost of the 12-month maintenance contract of N$20,000 will not be included as part of the cost of the machine asset. IAS 16 specifically states that general maintenance and repair costs should be expensed rather than reflected in the asset cost. Instead, the N$20,000 needs to be charged to profit or loss over the period of the contract, which is 12 months from 1 November 2022. In our financial statements, we will have an expense equal to N$20,000 x 2 / 12. The difference between the amount paid in advance of N$20,000 and the charge for the year will be recorded as a prepayment at the year-end within current assets.

Old herb portioning machine

In accordance with IFRS 5: Non-current Assets Held for Sale and Discontinued Operations, a non-current asset, can be reclassified as an asset held for sale if it is available for immediate sale in its present condition and its sale is highly probable. A sale is highly probable when: management is 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.

The old herb portioning machine ceased to be used in production on 31 October 2022. However, it was not available for immediate sale in its present condition until it had been dismantled, which occurred throughout November.

The machine was advertised for sale on 1 December 2022. Therefore, from that date, it could be said that there is a management plan to sell the asset and that a buyer is being sought. We also know that there is a good second-hand market for this type of machine, and we feel that the price of N$150,000 is realistic. In addition, we expect to sell the machine within the next 3 months, which meets the criteria of there being an expectation of sale within 12 months from the date of reclassification.

Therefore, it appears that the sale is highly probable from 1 December 2021, which means that on that date the machine should be reclassified as a non-current asset held for sale. Depreciation of the asset will stop on that date. The machine will be recorded in the statement of financial position within a separate component of current assets.

The machine will be included in the statement of financial position on 31 December 2022 at the lower of carrying amount at the date of reclassification (which is N$300,000 less 11 months of depreciation at N$10,000 a month) and fair value less costs to sell (N$150,000 less the dismantling costs of N$15,000). If fair value less costs to sell is the lowest, the old herb machine will be recorded at this value, with the difference between this value and the carrying amount charged to profit or loss for the year to 31 December 2022.

AICPA & CIMA
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OPERATIONAL CASE STUDY

MAY & AUGUST 2022

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

Effect of new property on the financial statements

Initially recorded

In accordance with the rules in IAS 16: Property, Plant and Equipment, we can recognise the new property as a non-current asset as long as it is probable that we will obtain the future economic benefits from the property, and we can reliably measure the cost of the property.

Both conditions are satisfied because we plan to use the property as a new production facility, generating future economic benefit, and we know the property cost. In addition, the property is a tangible asset that we will use for more than 12 months. Therefore, we will recognise the property as part of property, plant and equipment within non-current assets in our statement of financial position.

IAS 16 states that expenditure on an asset can be capitalised if it is either part of its purchase price or is directly attributable to getting that asset ready for its intended use. Therefore, the amount that we can initially capitalise as the cost of the property asset will include the N$800,000 purchase price, as well as the N$150,000 for the adaption work and N$100,000 on the new roof. The latter two expenditures are included because these are directly attributable to getting the property ready for its intended use as a production facility.

Subsequently measured

The property asset will be depreciated, with depreciation starting from the date from which the property is available for use as intended by management.

Given that the intention is to use the property as a production facility, the relevant date is 1 September 2022, which is the date from which the facility is expected to be operational. Therefore 4 months of depreciation will be reflected in the financial statements for the year ending 31 December 2022.

IAS 16 states that each part of an item of property, plant and equipment should be depreciated separately, although parts of an asset can be grouped if they have the same useful life, and the same depreciation method is to be used. It also states that land should not be depreciated. In our case, we will need to establish how much of the property cost of N$800,000 relates to the land and how much to the building, as only the building cost will be depreciated over its useful life. The adaptation works cost can be added to the building cost and treated as one item for the purposes of calculating depreciation as, presumably, this will have a useful life of 25 years. However, the cost of the new roof should be depreciated separately, as this only has a useful life of 10 years.

IAS 16 states that 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. In our case, given that the benefits from the property are likely to be consumed evenly, the straight-line method of deprecation is most appropriate. Therefore, for each part of the asset, the depreciation charge for the year ending 31 December 2022 will be calculated as cost less residual value divided by useful life (either 25 years or 10 years) multiplied by 4/12 to reflect the fact that the property is available for use on 1 September 2022. These deprecation charges will reduce the amount of the asset in the statement of financial position and reduce profit for the year.

Suitability of activity based costing (ABC)

We are planning to use plant-wide absorption rates for our overheads based on packing line hours. By doing this, we will be assuming that packing line hours have the greatest causal effect on the production facility overhead costs. If we implemented ABC, we would need to undertake a detailed analysis of all of the production activities in the new facility to identify each activity for which there is a different driver of the cost. We would then absorb the cost of each separate activity using the appropriate cost driver. As such, ABC is expensive to implement, and therefore we need to ensure that it would be beneficial before starting any pilot.

ABC is typically beneficial and therefore a suitable approach to take where:

Indirect costs are high relative to direct costs: Within our current production facility, based on the budget for the year to 31 December 2022, overheads account for just over 14% of total production cost (with raw materials accounting for nearly 60%). While we do not have budgets for the new facility yet, we do know that there will be a higher level of automation than our existing facility because a large part of the packing process will be undertaken by robots.

Therefore, the percentage of overhead costs will be higher, although the raw material cost for Party Box is still likely to be the most significant element of production cost. It is therefore questionable whether the relative importance of overhead cost to total production cost is going to be high enough to warrant the use of ABC.

There is a wide range of products or products that are tailored to customer specifications: Party Box will include trays and platters of snacks for 10 different themes and will be available as Regular or Gourmet. This means that there will be 20 different types of Party Box. However, each type of Party Box is essentially the same, just combinations of different platters and trays. Given that each Party Box has the same numbers of platters and trays, there is unlikely to be a great deal of difference in terms of the resources consumed to pack each type of box. Therefore, absorbing overheads on a volume basis such as packing line hours is likely to be reasonably fair.

The production process is complex: Party Box will be packed on a single packing line. Some of the processes are automated (for example, packing of trays) and others manual (for example, quality control and packing of platters), but the process is straightforward. There may be some complexity added to the process if, for example, production batch sizes were to vary significantly between the different types of boxes. Presumably, each production batch would require setting up of the packing line to ensure that the correct platters and trays were available for packing, and therefore it might be fairer for a type of Party Box with a large batch size to absorb a smaller amount of setting up cost than a type of Party Box with a small batch size.

Overall, considering the above, it would appear that the new Production Facility would not be suitable for an ABC pilot.

Digital costing system

How the use of a digital costing system would improve costings

A digital costing system involves linking our digital systems (production, inventory, purchasing and sales ordering systems) with those of our suppliers, customers and the market. In a digital costing system, data is gathered to give up-to-date cost information which reflects current information. For example, our production system could give us up-to-date information about the time taken to pack a Party Box, and purchasing and supplier systems could give us current input prices for trays and platters.

The benefits of improved costings

Using our current approach, we would update our standard costs twice a year. This means, for example, that our standards for the cost of bought in trays or packaging may be out of date quite quickly. Using a digital costing system means our standards would be continuously updated when new information emerged and hence costings would more accurately reflect expected current operating conditions and market prices.

A benefit of having more up-to-date standards is that variance reporting will potentially be more meaningful. If standards are continuously updated to reflect current expected operating conditions and market prices, variances will be the result of deviations from this, rather than deviations from the current operating environment.

Another benefit is that there will be better information for pricing purposes. Having a standard cost based on up-to-date operating conditions and supplier prices means that management has a better idea of how profitable different types of Party Box are and can make more informed pricing decisions.

SECTION 2

Options for supplier of platters

Cost structures

Chart 1 shows that if we produce these platters in-house then fixed costs will be around N$3,000 per month, as this is the cost for 0 platters. There will be a step up in the fixed costs of around N$2,000 if we produce more than 5,000 platters in a month (presumably hiring additional equipment or extra supervision required). The variable cost per platter appears to be consistent at all levels, as the gradient of the line is the same across the range, and this is lower than outsourcing up to 7,000 platters (as shown by the shallower gradient of the line).

The chart shows that if platters are bought in from the supplier then the supplier will charge a fee per platter. The origin of the line starts at zero, and therefore there is no fixed cost element associated with this option. The cost per platter is constant until 3,000 units when the slope of the line becomes shallower. This will be due to a reduction in the fee charged per platter above 3,000 units. There also appears to be a further reduction in the cost per platter at 7,000 units. These reductions will be due to bulk discounts.

Two reasons why not to base the decision on the expected value of demand

The expected value represents the long run average outcome based on a weighted average of the possible outcomes, weighted by the probability of that outcome occurring. The expected value of 5,400, therefore, represents a weighted average rather than a possible level of demand and may not be a possibility given that we produce Party Boxes in batches. At 5,400 platters, the graph indicates that using the supplier would be the cheapest option, but if the actual outcome were between 2,500 to 5,000 platters, this decision would be reversed. However, given that the cost structure is not linear, we need to be careful: the cost at the expected value of demand is not the same as the expected value of cost.

There is likely to be seasonality with Party Box in that we might expect demand to be higher in the festival and holiday periods, such as for new year celebrations in December. This means that demand in each month could vary significantly, which means that for different times of the year there will be different probabilities associated with the outcomes, and therefore potentially different expected values relevant for different times of the year. Given that we need to make a decision now and cannot make a new decision each month, using the expected value of demand is not suitable.

Factors to consider

One factor we should consider is the lead time and reliability of the potential supplier. If we produce in-house, we have control over our production schedules and therefore, assuming we have a flexible capacity, can scale production up and down as required. This potential supplier is a relatively small business and therefore may not have flexibility in its production schedules to deal with varying levels of demand, which could lead to delays in receiving supplies.

Another factor is the quality of the platters. If we produce ourselves, we can ensure that the quality of the products that our customers receive is high-quality as part of our normal prevention and appraisal processes. We will need to ensure that the quality provided by this supplier is in line with our expectations, and that there is adequate recourse to the supplier throughout the contract period if there are quality issues.

We also need to consider the accuracy of the information used in the chart and whether there may be changes throughout the contract period, either to supplier prices or to our fixed and variable costs. There is not a huge margin between the two lines on the chart, but once 5,000 platters are required, the supplier option is always cheaper than the in-house option because of the step in fixed costs and the significant bulk discounts offered by the supplier.

Working capital review of potential suppliers

Gem Catering

Gem Catering has lower inventory and receivable days and higher payable days than the industry norm, indicating a short working capital cycle. Indeed, Gem Catering's working capital cycle is negative, as it holds minimal inventory (due to it being a food producer) and receives money from its customers much more quickly than it pays its suppliers.

Gem Catering's receivable days of 26 days are lower than its standard credit terms. This indicates that Gem Catering either chases for payment aggressively or offers generous prompt payment discounts, or possibly both. Prompt payment discounts would be something that we may be able to take advantage of, as this would potentially lower our overall cost of supply, given that we currently have a healthy cash balance. Gem Catering's payable days are significantly higher than standard terms from its suppliers. It is possible that the company has negotiated extended terms with suppliers, but it is more likely that Gem Catering takes an aggressive approach to deliberately paying late. If so, this is an unethical approach to paying its suppliers, which is a practice that we may not wish to be associated with. In addition, it could damage Gem Catering's relationship with its suppliers which may mean that it struggles to source ingredients for its trays.

Having an aggressive approach to working capital management is clearly good for cash flow, as evidenced by the high cash balance compared to the industry norm but may be detrimental for business. Gem Catering's revenues fell by 2% last year despite growth in the industry, and this could be the result of customers being dissatisfied with being aggressively chased for payment. Alternatively, it could be that it has not been able to meet demand because some suppliers do not want to deal with a company that takes so long to pay.

Snack Excel

Snack Excel has lower inventory days, but higher receivable and payable days compared to the industry average. Its working capital cycle is short but is positive rather than negative like Gem Caterings. Snack Excel had even lower inventory days than Gem Catering and half that of the industry. This may indicate that Snack Excel ensures only the freshest ingredients are used and has an efficient ordering policy. Alternatively, it could be that purchases have to be timed with the availability of cash and smaller quantities are purchased as and when required and timed to fit with the availability of cash to pay the supplier.

Snack Excel has high receivable days in comparison to the industry average and compared to the standard credit terms given to its customers. It is possible that the company has given extended terms to some customers, although it is more likely that it has lost control of its receivables collection.

Snack Excel's payable days are also high in comparison to the industry average, which given the size of the overdraft could indicate that it is struggling to pay its suppliers. Indeed, this, together with the high level of receivables and significant growth in revenue, could indicate that the company is overtrading. It is therefore possibly a relatively new company and has not managed its working capital adequately alongside its significant growth. This could affect its ability to continue to trade.

SECTION 3

Linear programming: purchase of additional snack trays

It has been identified that the optimal production plan is where lines A and B on Graph 1 intersect. At this point, both trays and packing line hours are binding constraints. While we are unable to increase packing line hours, we could potentially buy additional trays from our supplier as an emergency order at three times the normal price.

To determine whether it is worthwhile to do this, we need to consider the maximum price that we would be willing to pay for each tray, which would be its shadow price (which is the amount of additional contribution from having one more tray) plus its normal price. We know that the shadow price for a tray is N$22.25, and that it normally costs N$1.50. Therefore we would be prepared to pay up to N$23.75 for each additional tray. Given that the price for the emergency order is only three times the normal price, it is worthwhile to buy additional trays.

To determine the amount that we should buy, we need to consider Graph 1. As we purchase additional trays, line A on the graph will move away from the origin and will change the shape of the feasible region. Given the slope of the iso-contribution line (which indicates the relative contributions of the Regular and Gourmet boxes), the optimum point would move to where lines B and D intersect. Since we cannot increase packing line hours, it would not be sensible to buy any additional trays beyond the point where lines B and D intersect. At this point, there will be a new optimal production plan of 2,500 Gourmet Party Boxes and around 2,500 Regular Party Boxes. This compares to the original optimal production plan of 2,000 Gourmet Party Boxes and 3,000 Regular Party Boxes. The number of additional trays to order will be the difference between the number required for the new optimal solution and the number required for the old optimal solution.

Zero based budgeting (ZBB)

The first stage of applying ZBB will be to decide on the decision units, which are the activities that generate cost. In this instance, the activity is machinery maintenance. For each activity, an objective is established: for example, the objective of machinery maintenance could be to ensure that machinery breakdowns are limited or that the machinery operates at an optimum speed.

For each activity, there will be potentially different ways in which its objective can be achieved or different levels of expenditure that could be incurred. These choices are reflected in decision packages that can be mutually exclusive (different ways of achieving the objective) and/or incremental (different levels of service to achieve slightly different outcomes). For machinery maintenance, mutually exclusive decision packages could be developed for different types of maintenance or for different machinery to continue to outsource or to have our team.

Decision packages can be developed for each option, starting with the base package, which is the minimum level of machinery maintenance required. We could decide with respect to the base package that we budget to only have an annual maintenance check because the machinery is new.

Incremental packages will then build on this and add additional maintenance time and different activities that should be performed. For example, maybe monthly maintenance checks are performed on key machinery. While this will generate additional cost, it will help to ensure that the new robot packers keep working at their optimal speed.

After the decision packages have been fully developed with all costs quantified, a cost/benefit analysis needs to be performed, with benefits identified and quantified. One benefit of spending money on machinery maintenance is to reduce the risk of machinery breakdown, which if it happened would have a detrimental effect on our ability to assemble Party Boxes.

However, there are other benefits to maintenance in terms of keeping the machinery working optimally. These include safeguarding throughput so that we can satisfy demand and ensuring that, for example, our machinery does not damage any of the contents included in the Party Box. Regular maintenance of machinery could also prolong its useful life. Each decision package would need to be considered against these benefits and then ranked in order of preference.

Benefits and challenges of using a ZBB approach

Benefits

A benefit of using ZBB to create a budget for machinery maintenance costs in the new production facility is that it would force management to focus on both the costs and benefits of different maintenance options through the development of decision packages. This would help management to focus on the effectiveness of these different options and to ensure that resources are allocated to the most effective option, which might well be to continue to outsource.

This approach would also help to ensure that machinery maintenance is viewed as an important function by all managers, rather than just a drain on resources. Quantifying and then discussing the benefits of spending money on machinery maintenance would help managers to appreciate the need for the activity.

Challenges

A key challenge of applying a ZBB approach is the amount of time that will be required to implement it. Creating decision packages that are fully costed and justified is time consuming. In addition, as we have not used ZBB before, training will be required and it’s possible that the production managers that would need to be involved in the process may resent being asked to do it, if they do not foresee any personal benefit.

Another challenge is that establishing some of the benefits of the decision packages can be difficult. For example, we can probably estimate the impact of avoiding a 1-day machinery breakdown in terms of lost production for that day, but what is harder to quantify is the impact of lost sales on customer goodwill and therefore future sales. The intangible nature of many of the benefits also leads to issues when ranking decision packages because quantitative information is much easier to compare than qualitative information.

SECTION 4

Production variances

Raw material variances

The raw materials price variance is N$8,400 adverse, which means that we paid more for the trays, platters and packaging than we purchased compared to our standard prices for each of these. The supplier of platters was changed during the month because of quality issues, and therefore we may have ended up paying more per platter than standard to ensure better quality.

The raw materials usage variance is N$35,420 adverse, which means that we used more raw materials than we should have (based on our standard) to create 32,000 Party Boxes. We know that there were issues with the packing robots which resulted in damage to some trays, and therefore there was higher wastage than standard.

Indeed, the KPI dashboard shows that raw materials wastage was above target for the entire month. The levels of raw materials wasted in weeks 1 and 4 are consistent with each other and only just above the target, which may well indicate that our target is slightly unrealistic. The issue with the robots did not manifest until week 2 (as seen by the significant peak in wastage for that week) and continued into week 3. However, the robot issues seem to have been resolved by week 4, given that wastage in week 4 appears to be back to a more normal level.

Direct labour variances

The direct labour rate variance is N$1,225 favourable, which means that, on average, we paid less per hour than we expected to, based on our standard. We employed additional trainees during the month, and it appears that we paid these employees at a lower hourly rate than our standard.

The direct labour idle time variance is N$1,500 adverse, which means that we paid our direct employees for hours when they were not being productive. There could be a range of reasons for this, including:

- The high levels of packing line downtime in weeks 2, 3 and 4, as shown in the KPI dashboard, which will have stopped employees from being productive as the packing line had to be shut down.
- The need to train the new trainees on company processes and procedures.

The direct labour efficiency variance is N$4,000 adverse, which means that our direct employees took more productive time than we expected them to, based on our standard time, to complete the production of 32,000 Party Boxes. We employed new trainees in the month, and therefore it is possible that these trainees took longer than our standard time to pack platters while they were learning the processes. Additionally, it could be that the disruptions caused by the issues with the robots resulted in direct employees working more slowly than expected. Alternatively, given the high level of raw materials wastage as shown by the KPI dashboard, it is possible that direct employees were deliberately more careful packing, which slowed them down. The standard may need to be revised if a new norm has been established.

Variable overhead variances

The variable overhead expenditure variance is N$8,800 adverse, which means that we spent more on variable production overhead than we should have for the robot packing hours worked. The following are reasons for this:

- We had to source a greater share of power from the national grid, which will have cost more than our self-generated power.
- There was a significant overtime premium paid during the month as a result of the issues with the packing line and to cope with the additional demand (we produced 2,000 more Party Boxes than budget).

The variable overhead efficiency variance is N$8,160 adverse, which means that it took more robot packing hours than standard to produce 32,000 Party Boxes. During the month, the robot packers were recalibrated as a result of issues with the robots damaging trays and packaging. This meant that the robot packers and the automated line were slowed down, and this is the reason for the adverse variance. If this is a permanent change in operating speed, we need to amend our standard for robot packing hours because otherwise there will be adverse variances in the future. As shown in the KPI dashboard, there was significant packing line downtime during the month, which was due to clearing the line and also recalibrating the robot packers. This is not captured within the variable overhead efficiency variance given that this is based on productive hours only and hence the KPI gives us additional information. It would appear that downtime peaked in week 3 and has since improved.

KPIs for sustainability

Percentage of raw materials waste sent to landfill each week: This could be measured as kilograms of raw material waste sent to landfill divided by the total raw material waste in a week. An important aspect of sustainability is to limit waste, and we already have a KPI which measures raw material wastage as a percentage of total raw materials used.

However, it is also important that any waste is eliminated in a sustainable manner and sending it to landfills is the least sustainable way to do this. The target for this measure should be as low as possible. Any packaging waste should be sent for recycling rather than to a landfill. Any food waste (within trays and platters) should ideally be sent for re-distribution, assuming that the food is not outside of its use by date.

Percentage of total power consumed in a week that is self-generated: This would be measured as self-generated kilowatt hours (kWh) divided by the total kWh used in the production facility each week. Generating and using power from sustainable sources, such as our turbine and 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 only sustainable sources, while 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.

AICPA & CIMA
Together as the Association of International Certified Professional Accountants

OPERATIONAL CASE STUDY

MAY & AUGUST 2022

EXAM ANSWERS

Variant 3

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 components of time series analysis

'Time series analysis' describes the technique of examining a time series (a series of results recorded over time) to determine whether there is an underlying historical trend and, if there is, using the data to forecast the trend into the future. A time series is made up of four components:

- **The trend:** The trend is the general direction of results and can be estimated by using moving averages. The graph shows that, based on our sales volume of meal-kit boxes, there is an upward trend, showing a pattern of continual growth in demand (although growing at a faster rate of growth in the later years compared to the earlier years). This estimated trend can then be subjected to regression analysis to produce a trend line that will allow us to predict future sales volumes.

- **Seasonal variations:** The analysis can also be used to identify whether there are any seasonal variations around the trend and where there are, to measure the variations and apply them to a trend line to create seasonal forecasts. We can see clearly see from the graph that sales of meal-kit boxes are seasonal, with higher sales over quarters 4 and 1 (which may be associated with the colder weather), and a drop in sales in quarter 2 (corresponding with the arrival of the late spring and summer). These seasonal changes in demand can be measured and built into future forecasts.

- **Cyclical variations:** As well as seasonal variations, a trend will also be affected by cyclical variations. These are medium-term or long-term influences, usually associated with the economy. Since these are often of inconsistent lengths and can only be

recognised over many years of data, cyclical variations are not usually built into trend line forecasts. The graph provided only shows sales of meal-kit boxes over the past nine years, which is unlikely to be long enough to identify any cyclical variations.

- **Random factors:** Another influence on results are random factors. These are factors which cannot be predicted, such as the arrival of new competitors into the market, and so are usually ignored by the analysis, although in practice they can have a significant impact on the outcomes.

Limitations of using this data and time series analysis to forecast our sales volumes

In an industry such as ours, there are likely to be multiple random variables that impact final sales volumes. For example, lifestyle changes and sudden trends arising from news stories or social media influencers, which, since they cannot be predicted far in advance, are not taken into account by the forecast.

Additionally, Meals@Home has been experiencing high growth rates since we started, but growth often slows down as a company matures. It will be important to consider whether our past growth rate will be a good indicator of our growth rate in the future. This growth may also be affected by cyclical changes which are not incorporated into the forecasts. When producing a trend line for predictive purposes, it may be better to use only the data collected over the past few years, as this may be a better predictor of the future.

Finally, since the current predictions are based on the total volume of meal-kit boxes sold (and do not split this down by type of meal kit), the information provided is limited in scope and does not provide many opportunities for us to tailor our systems to the demand forecasts. Obtaining more granular forecasts would help us to tailor our production systems and ideally, time-series analysis should be carried out at this more granular level if more detailed sales data is available.

Choice of supplier for AI software

Using the decision tree

The decision tree provided is a diagrammatic representation of the decisions we need to make when selecting a supplier for the AI software needed: Firstly, which subscription package (Option 1 or Option 2) offered by Supplier 3Ri should be selected if they are the chosen supplier (shown at decision point C), and secondly, which supplier, 3Ri or Robo Solutions, provides the optimum solution.

There are different possible outcomes for each subscription plan, and we have estimated the probabilities associated with each of these. Looking at Option 1 for example, there is a 90% chance of profits of N$4,980,000 in Q3 2022, but also a 10% chance of profits of N$4,010,000. We can take account of this by calculating a weighted average outcome, using the probabilities as weightings. This provides us with an expected value of N$4,883,000 for this option.

To make a decision using the decision tree, we need to work from right to left, starting with the decision at point C. The expected value at point A is N$4,833,000, however, the cost of the subscription of N$25,000 would need to be deducted from the expected value. The expected value at point B is N$4,786,000, and the subscription of N$15,000 should be deduced from that figure. The option with the highest expected value after deduction of the relevant subscription cost is the option that should be selected, if 3Ri is chosen as a supplier.

We then work backwards to the decision about whether to select 3Ri or Robo Solutions. This is at decision point E. To make this decision, we need to compare the expected value from the best 3Ri option to the expected value from Robo Solutions (shown at point D) which is N$4,482,500 less the N$10,000 subscription fee. We must then select the option with the highest expected value.

Limitations of using decision tree methodology

The expected value alone gives no indication of the range of possible outcomes. The expected value is not the most likely result, rather, it is the long run average outcome if the same event was to be repeated over and over, which is not the case here as each quarter will be different. It is important to remember that the profit earned in any one quarter may be much lower than the expected value. Even with Option 1 for example, there is a 10% chance that the profit earned will be only N$4,010,000. This is considerably lower than the least profitable outcome of N$4,250,000 if Robo Solutions is selected. In addition, since our sales have been affected by seasonal factors, using only one quarter may not give an accurate indication of the impact over the course of a year. However, by working with 3Ri (irrespective of the option chosen), there is at least an 80% chance that profits (based on Q3) will be substantially more than if Robo solutions are chosen.

When using expected values, there is an assumption that the decision maker is risk neutral and therefore is not interested in the range of possible outcomes. However, in practice, this is unlikely to be true. If we only earned the lower predicted profit figure over several quarters, the impact on our annual profits could be significantly damaging. This is likely to be unacceptable if the SMT takes a more risk-averse view.

It should also be borne in mind that the probabilities used in the calculation of the expected value for each option are subjective in nature. While the estimates have been produced by independent reviews, they will be based on previous success rates with other businesses, and we do not know closely these rates will be mirrored if the AI is used by Meals@Home. So, while they are useful when evaluating the decision to take, they are unlikely to be accurate and the chance of low profits may in fact be even higher.

SECTION 2

Multi-product break-even chart

The information is shown in the break-even chart

Fixed cost line: The horizontal line shows the new higher level of fixed costs (approximately N$2.5 million per quarter) which will not change over the activity levels shown.

Weighted average contribution line: The straight dotted line from 0 to point F is the weighted average contribution line at different sales levels; this assumes that the expected sales mix remains constant, and we continue to sell the different box options in the same ratios as we do now. Point X2, therefore, shows the break-even point on the weighted average contribution line. Based on the average contribution to sales ratio, we can see that, in order to break even, we would need to achieve sales revenue of just over N$4 million.

Line 0, A, B, C, D, E, F: The 6-part line that connects points 0, A, B, C, D, E and F represents the relationship between contribution and sales, based on the assumption that we sell the products in order of their contribution to sales (C/S) ratio. S2 has the highest C/S ratio at 0.70 and is therefore assumed to be sold first. The fact that it has the highest C/S ratio is indicated by the fact that the part of the line showing S2 contribution (from point 0 to point A) also has the steepest slope. L4 has the lowest ratio (0.55) and is therefore assumed to be sold last (point E to point F). Its low contribution margin explains why it has the least steep slope of all six box options. Since products S2 and L2 have higher C/S ratios than the weighted average ratio, the breakeven point (Point X1 on the chart) is lower (and therefore reached sooner) on this line than on the weighted average contribution line, that is if we did sell only S2 meal-kit options first, then L2 meal-kit options next etc., we would require a lower overall revenue to break even.

Benefits of using the data to analyse the break-even position

The introduction of the robot packers will cause fix costs to rise and variable costs to fall. This will have caused the C/S ratios to rise as well. This is good news when demand is high but not good when volumes are low. The chart is therefore useful because it gives us an idea of the level of sales revenues required to cover the increased level of fixed costs, given the higher C/S ratios the company is facing. Once the break-even position is established, we can determine our margin of safety. This is the amount by which revenue can fall from the forecast level before a loss is made. The chart shows expected revenues of approximately N$23 million, suggesting a significant margin of safety of over N$18 million. Even if the forecast revenue over the next quarter is hugely optimistic, the investment in AI is not going to put us at risk of making a loss.

Limitations of the data to analyse the break-even position

In practice, we are unlikely to sell our box options in order of C/S ratio, and we cannot be sure that we will continue to sell the options in the ratios we do at present (it would be useful to compare ratios over the past nine years to see how consistent they have been). If the weighted average C/S ratio is lower than shown inline 0F, because more of the low margin boxes are sold relative to the high margin boxes, then the break-even point will be higher than indicated by the line. In this instance, however, it will not be a major problem for the analysis because the high margin of safety suggests that, even with a different proportion of box sales, we will still break even relatively soon into our sales figures.

Another limitation is that the figures used are estimates only and assume a linear relationship over the whole range of production. The analysis also assumes that we can define costs as fixed or variable. In reality, even fixed costs are variable in the long term and in fact, in this case, we are only committing to a six-month contract for the robotic packers in the first instance. Furthermore, many short-term costs described as variables are fixed in practice, because employment contracts cannot be easily terminated. The existing labour costs which are being replaced by the cost of the robotics may fall into this category.

Activity based costing (ABC)

How ABC would change the current costing system

If we were to use ABC, there would be a number of differences to the approach we take now. Firstly, we would look at our overhead costs in a lot more detail. We would break down production into each separate element such as herbs & spices mix production, meal-kit bag production and box packing, and then we would consider each element and break it down into the different activities carried out.

In the herbs & spices mix production department, the current absorption rate is based on blending time. This assumes that all overhead costs of the department producing the mixes are related to the time that the differing flavours/products spend in the blender. This assumption does not take account of the causality of the cost and what it is that causes costs to be incurred at differing parts of the process.

There appears to be four major parts to the process: moving, tipping, blending and cleaning. It is clear to see that blending time is not representative of the time needed to clean for example. Irrespective of the time that differing herbs and spices spend being blended, the machine would still need to be cleaned to the same level.

To implement ABC, we need to identify activities within the process and then identify what causes costs to be incurred (cost drivers). Costs that have the same cost driver can be grouped into the same cost pool.

Moving: there are two main activities here. Sacks would need to be loaded onto the transporter and then moved. Each sack needs to be loaded, and therefore the cost of loading the transporter would have a cost driver of per sack loaded. The cost of physically moving the sacks would be determined by the number of sacks that are mixed together. If all the sacks needed for a batch can be moved together then 'batch' could be the cost driver, otherwise, it could be 'movements'. More information is needed here.

Tipping: there are two activities here – loading and tipping. Both are carried out one sack at a time, and therefore an appropriate driver would be 'per sack'.

It can be seen that we would set up a cost pool that includes the costs of loading the transporter, loading the tipper and tipping. All of the costs in that cost pool would have the driver of 'per sack' because all of the costs in the pool are incurred on a sack-by-sack basis.

Blending: the time that the product spends being blended is determined by the nature/flavour of the product being made. The blending costs (for example, power, which is variable, and machine depreciation which could be fixed) could be absorbed using mixing time. This is no different to what we do now other than the costs are limited to the specific costs incurred by the blending machine.

Cleaning: it appears that the costs of cleaning the blending machine arise when the flavour is changed. Therefore the 'flavour change' would be an appropriate cost driver.

Potential benefits

The increased proportion of fixed production costs that will arise from the introduction of robots to replace labour means it will be vital for management to understand and control them, and the detailed information arising from implementing ABC should assist with this. Knowing what each separate element of cost is within each production department and then establishing what drives each element of cost means that management can more easily identify where cost savings are possible by controlling the cost driver. For example, after establishing that flavour changes cause cleaning costs, we should try to organise the production runs so that the number of flavour changes is minimised. We should try to limit the number of flavour changes by ensuring that possible consecutive batches of products are similar. If we assume that we have to make three batches for flavour A and three batches of flavour B, it would be better to organise production runs in batches of AAABBB rather than ABABAB which would entail just one clean as opposed to five.

SECTION 3

Fixed production variances

Expenditure variance

The fixed production overhead expenditure variance is the difference between the actual fixed production overhead incurred during August and the fixed production overheads originally included in the budget for the period. The variance is adverse, which means that we incurred N$15,450 more fixed production overhead than we had budgeted. This represents the increase in fixed overhead costs since the budget was drawn up and has arisen because we expanded production capacity to respond to the growth in the meal-kit market. Specific reasons for this are:

- We took on an additional business unit to increase production capacity and hired additional warehouse space to increase storage, both of which will have increased rental payments.
- We purchased additional machinery which will have led to increased depreciation charges.
- It is likely that these events will have led to an increase in our insurance costs.
- Finally, we took an additional supervisory staff which will have increased fixed labour costs.

Capacity variance

The fixed production capacity variance reflects the difference between the original number of budgeted direct labour hours and the actual direct labour hours worked (multiplied by the standard absorption rate per hour). The fact that the variance (N$7,524) is favourable only indicates that we have increased our production levels so that more direct labour hours were worked than originally budgeted (reflecting an increase in the capacity of direct labour). This is to be expected as more direct employees were taken on and utilised during the month than had been originally budgeted for. However, it does not indicate that workers were fully utilised, nor that we achieved our goal of running the facility 24 hours a day. We could have had significant amounts of downtime which are not evident from this variance, as it only compares actual hours with the original budget rather than with what we may have hoped to achieve given our increased investment in capacity.

Efficiency variance

The efficiency variance is the difference between the standard hours that we would expect to see for actual production and the actual hours that were worked (multiplied by the standard absorption rate per hour.) This variance is adverse (N$6,785), which means that we used more direct labour hours to pack the boxes than we should have. In other words, direct labour was not as efficient as it should have been.

This may be because new and inexperienced employees were employed to cope with the increased demand, and they took longer to complete each task than the regular experienced staff would have done.

Total variance

The total of the three variances represents the extent to which overheads have been over or under absorbed in the calculation of profit. It is the difference between the amount spent on production overheads and the amount we absorbed (the standard number of hours needed for the actual output multiplied by the standard absorption rate per hour). The fact that the variance is adverse simply means that we have under absorbed N$14,711 of production overhead.

The absorption rate was based on the original budgeted labour hours and the original budgeted fixed overheads. During the period, the expenditure has been considerably higher than the original budget, but the standard hours needed for the actual output (even with the increased capacity) have not absorbed enough overheads at the current rate to cover the increase.

Key Performance Indicators

Three KPIs that could be used to assess the performance of the robotics supplier are as follows:

Adherence to maintenance schedules – percentage completed on time: Maintaining the robots will be a challenge given the need to run the machines almost 24 hours a day. Since the production schedules are designed with specific stoppages for maintenance work, it is essential that the suppliers turn up when they are expected and can complete the work within the agreed time frames, for example, carrying a full complement of spare parts so that any replacements can be fitted immediately.

Packing defect rate – the percentage of items damaged/boxes rejected: The packing process is almost entirely automated, with even the delicate items such as fruit and vegetables handled by robots. There is always a risk that some items will be damaged during the packing process, for example, bags could be punctured, or fruit bruised, and it will be vital that such damage is kept to a minimum. This is important not just because damaged items mean increased waste and additional replacement costs but also, it delays the completion of the meal-kit production and could have an impact on delivery schedules. The packing defect rate identified before products are dispatched to customers represents a form of quality assurance and an appraisal cost.

Speed of response to machine breakdowns – the time from call out to completion of repair: We are currently running our facilities 24 hours a day, and any breakdown will have a knock-on effect on the rest of the production line. It could affect our ability to meet demand and damage our brand if we are unable to deliver boxes which have already been ordered.

The suppliers are responsible for maintaining the equipment, and we would therefore expect the suppliers to offer a fast and efficient remedial service in the event that a robot malfunctioned.

Right of use asset

Under *IFRS 16 Leases*, right-of-use assets are initially recognised at cost. The initial cost of a right-of-use asset comprises the amount of the initial measurement of the lease liability; lease payments made at or before the commencement date of the lease; any initial direct costs and the estimated costs of removing or dismantling the asset.
For this lease, payments will be made in advance. Therefore, the right-of-use asset will be initially recorded at a value which includes:

- The initial measurement of the lease liability, which is the present value of the future annual lease payments on 1 October 2022. This will be the present value of the four annual payments of N$1,300,000 starting on 1 October 2023, discounted at 10% which is the interest rate implicit in the lease.
- The lease payment is to be made on the first day of the lease, which is N$1,300,000.
- The lease arrangement fee of N$40,000.

In our financial statements for the year ending 31 December 2022, this right-of-use asset will be measured at its initial cost less accumulated depreciation and impairment losses. In this case, as ownership does not transfer to us (the lessee), depreciation will be charged to the statement of profit or loss over the shorter of the useful life of the underlying asset and the lease term. This is therefore the lease term of 5 years. The depreciation charge for the first year will be for 3 months from October to December 2022 and will reduce profit for the year. The right-of-use asset will be included as part of non-current assets in the statement of financial position.

SECTION 4

What if analysis

How changing each of the four variables will affect the budget for the period

If sales volumes decrease by 5%, both the revenue earned and the variable costs will decrease by the same proportion, that is, the contribution margin (contribution expressed as a percentage of revenue) will remain the same. This is demonstrated by the 5% reduction in contribution for a 5% fall in sales volumes shown in the schedule. However, the effect on gross profit is greater than 5% because, since the fixed costs will not change, a decrease in sales volumes means a higher fixed cost per unit.

If selling prices fall by 5%, this will have the greatest effect on both contribution and profit. This is because a 5% reduction in the selling price leads to a fall in the contribution margin, as revenue will fall, but there will not be a corresponding fall in variable costs in absolute terms. This can be seen in the 8.5% reduction in contribution. Fixed costs will stay the same, but represent a greater percentage of the contribution, and so profits fall by even more (10.4%).

Increasing variable cost per unit by 5% also reduces contribution margin. However, it will have less impact than a 5% reduction in selling price (a 3.5% fall in contribution compared with an 8.5% fall). This is because when the selling price falls, it causes a 5% drop in revenue which in absolute terms is larger than a 5% increase in variable costs. As fixed costs again remain unchanged, gross profit is affected by a greater amount than the contribution.

A 5% increase in fixed costs has the least impact on the estimated budget. It has no effect on contribution because it is calculated before fixed costs are considered. And since fixed costs are the smallest element of the budget in absolute terms, a 5% increase only reduces profits by 1.1%.

Limitations of this what-if analysis

This what-if analysis only considers the impact of a change in a single variable at a time. It, therefore, ignores the interdependency of variables and assumes that a change in one variable would not impact another. However, in practice, this is unlikely. For example, in a highly competitive market such as ours, a decrease in selling prices is likely to lead to a large increase in demand and therefore volumes sold. It is possible, using software, to prepare what-if analysis that model multiple changes to variables at the same time, but this has not been done here.

In addition, although this what-if analysis shows the impact of a change in each variable it does not tell us anything about the likelihood that it will change.

The model here has analysed the impact of a 5% change, but in practice, a change of 10% or even 15% may be more likely. It would be helpful to know the probability of the percentage change in each of the variables so that we could plan more effectively.

The suitability of the EOQ model and adaptations to the assumptions

In principle, the EOQ model is useful because it calculates an order quantity that minimises the total of the holding and ordering costs associated with carrying inventory.

However, some of its underlying assumptions reduce its suitability for managing the inventory of the outer boxes. For example, the model assumes that:

- Annual demand for each size of the box can be determined with a reasonable level of certainty, and that this demand is constant throughout the year. This is unrealistic; demand levels are growing but the current growth rate is difficult to predict and demand for the boxes is seasonal.
- The lead time between order and delivery is constant or zero. However, suppliers are currently unable to meet promised lead times and are unreliable.
- Purchase costs are constant with no bulk purchase discounts. However, current purchasing patterns involve buying high quantities and taking advantage of the bulk discounts offered.
- Holding costs vary with the level of inventory held. This is unlikely to be true because a significant proportion of the holding costs for packing boxes are likely to be the cost of running the warehouse and therefore fixed in nature.

To deal with some of these issues, the following adaptions can be made to the model:

- Both uncertainty in demand and variable lead times can be adjusted by setting a safety or buffer level of inventory. This will increase overall holding costs but provide a degree of flexibility where demand is higher, or lead times are longer than we anticipate. The downside of holding buffer inventory is that the longer the boxes are stored, the greater the chance they could become damaged, and need to be thrown away.
- The model can be expanded to take account of purchase discounts; it is possible to calculate the level of inventory that minimises the sum of holding, ordering and purchasing costs after deduction of any discounts.

How issues should be treated in the financial statements:

Since the financial statements for the year ended 31 December 2022 are still being finalised, it is possible to make adjustments for events that happen after the reporting period, as long as they are adjusting events in accordance with IAS 10: Events after the reporting period.

Issue 1: Payment to the cyber attackers

The payment of the ransomware demand on 5 January 2022 represents an adjusting event. It is adjusting because payment of the N$60,000 gives evidence of a condition (the size of the potential loss) that existed at the reporting date of 31 December 2022 but could not be quantified at that point.

Since this is an adjusting event, the N$60,000 paid to the attackers should be debited to profit or loss for the year ended 31 December 2022.

Issue 2: Mixing machine damage

The leak in the Production Department happened on 12 January 2023, which is after the end of the reporting period. It is a non-adjusting event because the leak is independent of any condition which existed at the reporting date of 31 December 2022. Any impairment as a result of the damage caused will be charged to profit or loss in the year ending 31 December 2023 rather than 2022. However, as it only relates to one mixing machine, the impairment is unlikely to be significant enough to disclose in the financial statements for the year ended 31 December 2022 as a non-adjusting event.

AICPA & CIMA
Together as the Association of International Certified Professional Accountants

OPERATIONAL CASE STUDY

MAY & AUGUST 2022

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

The importance of budgets

Preparing budgets for the new Ready@Home production facility is important for the following reasons.

Planning: Budgets are a plan for the future and will be driven by the principal budget factor, which, in this case, is going to be sales volume (given that outsourcing will be used when production capacity is reached). Preparing budgets for the new facility will force you to look ahead and, based on anticipated sales volumes, help to determine the amount and nature of the resources required in the new facility. The budgeting process will help to plan for the equipment that will need to be purchased and whether outsourcing some production may be required. Knowing that outsourcing is a possibility allows you to plan ahead and negotiate contracts with outsourcing partners in good time.

Co-ordination: Budgets will also allow you to coordinate activities within the new production facility. Starting with the sales budget, production budgets are then prepared which will help to determine the amounts of raw materials (ingredients for the smoothies, soups and sauces) and packaging that will need to be purchased and the amount of direct and indirect labour that will be required in the new facility. Without coordinated budgets, individual managers within the facility may each make their own decisions about purchasing or recruitment believing that they are working in the best interests of the business.

Communication and motivation: Budgets provide targets and are therefore a form of communication, as they allow managers within the facility to understand what is expected of them.

For example, if the budgets identify that some production needs to be outsourced, you know that you will need to set up arrangements and communicate with outsource partners. Budgets can also be a useful device for influencing managerial behaviour and motivating managers to perform in line with the company's objectives, especially if the achievement of the targets in the budgets is linked to some form of reward.

Control: Budgets also provide the plan against which actual results can be compared in the future. For example, if we budget to produce 500,000 smoothies but we find that because of demand we need to produce 800,000 smoothies, we can flex our original budget to this level of production and perform variance analysis. By flexing the budget to the actual level of production, the variances will show planned performance against actual performance. For example, we could establish if we paid more or less for the 800,000 bio-degradable pouches needed for the production of the smoothies. If we paid more, we could then investigate if this is the result of poor purchasing decisions and take corrective action if necessary.

Sources and types of big data to create a sales forecast for Ready@Home

Big data refers to structured and unstructured data, usually in digital form, created outside of an organisation and available to everybody. Big data comes in two main forms: structured data, which is deliberately produced and collected for a specific purpose, and unstructured data, which is captured passively without a clear purpose (for example, social media posts and 'likes'). The sources and types of big data that will assist with creating a sales forecast for the new Ready@Home range include the following:

- Social media such as Facebook and Twitter. Unstructured data from these platforms can give us insights into customer preferences and changing trends. This will help us to assess the mix of products that we may sell. For example, if soups are waning in popularity, but smoothies are increasing, this will influence the demand that we might expect for each, and we can forecast accordingly.
- The web. There is a vast amount of data on the web, much of which will be structured. Relevant types of data will include:
    - Long range weather predictions will help us to determine when hearty and warming soups may be in higher demand.
    - Industry briefings and reports give data about the size of the market in general.
    - Government reports about levels of disposable income and possible factors that might affect this, such as future interest rate rises or changes in the national minimum wage.
- Machine generated information from home devices. These sorts of devices capture unstructured data about items that have been searched for (for example, types of recipes or suppliers of vegan products).

Limiting the impact of selling to retailers on our cash flow

One way in which we could limit the impact of selling to retailers on our cash flow is to have sound credit control procedures in place. We do not currently have a credit control department, as all our sales are direct to subscribers rather than through retailers, and therefore we will need to employ a credit controller. Their job will be to ensure that invoices are sent promptly on dispatch of goods, invoice queries are dealt with promptly and that the retailers are chased for payment if they do not pay within their credit period.

As well as making sure that we have a credit control function, we could also offer the retailers a prompt payment discount. For example, we could offer a 0.5% or 1% discount on the invoice value for payment within 20 days. This will mean that we receive cash into the business more quickly, but only if the retailers take advantage of it. The discount percentage and the reduced credit period expected will need to be attractive enough for the retailer to want to accept it. Given that retailers all operate nationally, they are large businesses with significant influence over their suppliers. Therefore, the level of discount may need to be significant. We will need to weigh the cost of giving this discount against the benefit of receiving the cash earlier.

Alternatively, we could consider factoring in our receivables. A factoring arrangement would result in a factor taking over the management of our receivables ledger. It would advance a percentage (usually somewhere between 60% to 80%) of the value of invoices raised at the point that they are raised, which means that we would receive a significant proportion of the invoice value straight away. However, there would be significant costs associated with this as the factor will charge an administration fee as well as a finance charge for the funds advanced. However, it would not be necessary to set up our credit control function, which would save cost.

SECTION 2

Promotional campaign decision

What the measures in Table 2 mean

The expected value for each campaign is the weighted average of all possible outcomes, weighted by the probabilities associated with each outcome (20% chance that the market reaction is very good, 50% that the market reaction is good and 30% that the market reaction is poor). This represents the average result for each campaign, assuming that it is repeated many times. Table 2 indicates that Campaign 3 has the highest expected value and Campaign 1 the lowest.

The standard deviation for each campaign is a measure of the variation of the possible outcomes from the expected value and is, therefore, a measure of volatility. The greater the spread of the possible outcomes, typically the greater the standard deviation. Table 2 indicates that Campaign 2 has the greatest volatility of possible outcomes and is therefore potentially the riskiest.

The coefficient of variation for each campaign is its standard deviation divided by its expected value. This gives the relative size of the risk when compared to the expected return and so enables comparison between the campaigns in respect of risk. Table 2 indicates that Campaign 2 has the highest risk per N$1 of expected value, and Campaign 1 the lowest.

The decision under different risk attitudes

A risk-neutral decision maker will choose the campaign that maximises the expected value. Thus, a risk-neutral decision maker would select Campaign 3. This type of decision maker ignores risk and therefore would not be concerned that, for Campaign 3, there is a 30% chance of not making any additional profit from the campaign.

A risk-seeker decision maker is interested in the best outcome no matter how small the likelihood that it will occur. Campaign 2 has the highest of all of the nine possible outcomes of N$975,000, and a risk-seeking decision maker would therefore choose this campaign, despite the fact that there is only a 20% chance of this occurring, and it is the only campaign that could result in a loss.

A risk-averse decision maker will choose the campaign which given the same level of return has the lowest level of risk. Such a decision maker will choose the lowest coefficient of variation because this is a measure of risk for each N$1 of expected return. Such a decision maker would therefore choose Campaign 1, despite the fact that this has the lowest expected value and has a maximum outcome of only N$525,000, which is considerably lower than the best outcomes for the other two campaigns. The low expected value is countered by the low spread of the values as shown by the standard deviation.

Accounting treatment of the lease

In accordance with IFRS 16: Leases, we will need to initially record a right-of-use asset and a lease liability. The right-of-use asset represents the fact that we have the right to use the cooking vats for the lease term. The liability reflects the fact that we have a future obligation to pay the lease payments over the lease term.

Lease liability

The 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. IFRS 16 defines the lease term as the period of non-cancellable payments plus any optional period if the option is reasonably certain of being exercised. For this lease, there is an initial lease term of 4 years and an option to extend the lease term for a further 3 years, which we expect to exercise. Therefore, the lease term is 7 years.

The initial lease liability will be measured as the present value of the four payments of N$50,000 starting on 31 August 2023 and the three payments of N$10,000 a year after that. The discount rate used to calculate the present value should be the interest rate implicit in the lease which is 10%.

For the year ending 31 December 2022, the lease liability will be increased by a finance charge of 10% of the initial lease liability, pro-rated to reflect the fact that 4 months of interest will relate to this financial year. This will be charged to profit or loss and reduce profit for the year. On 31 December 2022, the lease liability will be split into a current liability and a non-current liability.

Right-of-use asset

The right-of-use asset will initially be measured at the initial measurement value of the liability plus any lease payment made at the start of the lease. As the first payment for this lease is due on 31 August 2023, the initial value of the right-of-use asset for this lease will be the same as the initial value of the lease liability.

The right-of-use asset will need to be depreciated in line with the principles of IAS 16: Property, Plant and Equipment. Since the lessor will own the underlying assets at the end of the lease term, the depreciation period will the lower the lease term and the useful life of the asset and therefore 7 years. For the year ending 31 December 2022, this will result in 3 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 3 months rather than 4 months because the assets will not be available for use until 1 October 2022. The right-of-use asset will be included as part of non-current assets.

Accounting treatment of purchasing the cooking vats outright

If the cooking vats are purchased outright, we will still recognise an asset. These assets will initially be recorded at cost, which is the purchase price (N$105,000) plus any costs which are directly attributable to getting the assets ready for their intended use. This will include the delivery costs of N$1,000 and the installation costs of N$2,600 because without these expenditures the cooking vats will not be ready for use. The initial value of the assets will be different compared to leasing but will still be included within non-current assets in our statement of financial position.

These assets will be depreciated over their useful life of 10 years, which is longer than the depreciation period for the lease. The annual depreciation on a straight-line basis will be calculated as an initial cost less residual value of N$10,000 divided by 10. However, in line with the treatment for the lease, only 3 months' worth of depreciation will be charged for the year ending 31 December 2022 to reflect the fact that the cooking vats will be available for use from 1 October 2022.

SECTION 3

What Chart 1 indicates

The multi-product profit-volume chart is a graphical representation of budgeted profit or loss about budgeted revenue, assuming that we either sell the Ready@Home products in order of c/s ratio (the line ABCD) or sell the products in the budgeted mix (the straight-line AD).

Chart 1 indicates that budgeted fixed costs (which included fixed production overhead for the new production facility and the cost of the initial advertising campaign for the new range) for the 3-month period are around N$480,000. This is shown at point A on the chart. At point D, Chart 1 indicates that the total budgeted revenue is around N$1,170,000 and the budgeted profit is around N$130,000 for the period.

Assuming that we sell our smoothies, soups and sauces in the budgeted mix, Chart 1 indicates that we will break even (that is make enough contribution to cover all of our fixed costs) at a revenue of approximately N$920,000. This gives us a margin of safety of around 21% because total revenue in the period would need to fall from around N$1,170,000 to K$920,000 before a loss is made.

For line ABCD, AB represents sales of soups, BC represents sales of smoothies and CD represents sales of sauces. Line AB has the highest gradient, which reflects the fact that soups have the highest c/s ratio. With this assumption, break even is reached earlier (at revenue of approximately N$880,000), and therefore the margin of safety is slightly larger at around 25%. This line also indicates, based on the length of each part of the line, that we expect to earn the largest absolute amount of revenue from soups and the least from sauces.

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

If there is a change in the budgeted sales mix, this will change the weighted average c/s margin. For example, if the mix changed so that we budgeted to sell proportionately more of our lowest c/s ratio sauces and proportionately less of our highest c/s ratio soups, this would reduce the weighted average c/s ratio. The effect of this on the chart is that the gradient of line AD would become shallower, resulting in an increase to the break-even point and a reduction in the margin of safety. For line ABCD, section AB would become shorter, and section CD would become longer, again resulting in an increase in the break-even point and a reduction in a margin of safety.

An increase in the proportion of sales through our website will increase the average selling price because retailers pay a lower price than our website customers. This will therefore increase the c/s ratios for each product. The effect of this on the chart is that both lines AD and ABCD will become steeper. This means that it will take less sales volume to break even and therefore increase the margin of safety.

Activity based costing (ABC)

In ABC, an activity is an event or task that consumes resources and for which cost is incurred. To help us define the activities and associated costs within our new production facility, we can use the following hierarchy.

Unit-level activities

Unit-level activities are activities that are performed (and therefore generate cost) each time that an individual unit of a product is made. As such, unit-level activities are those where the consumption of resources is strongly linked to the level of output. In our case, this would be any activity that generates cost and occurs when we produce a pouch of smoothie, soup or sauce. Examples of costs within the new facility that would be categorised as unit-level include any overhead costs associated with activities that generate cost in proportion to the level of output. This is similar to the traditional view of costs being classified as “variable” when they vary in proportion to the number of units produced. Given the machine-intensive nature of some of the production process, this will include energy costs. It could be thought that power could be batch level but some batches will need more power because of the volume in the batch, and therefore the driver of power is more likely to be the number of units produced than the number of batches.

Batch-level activities

Batch-level activities are activities where resources are consumed in proportion to the number of batches produced rather than on a unit basis. In the new production facility, we will be producing each of our separate products, and each new batch will require the raw ingredients to be moved into production from the warehouse and for the cooking vats and blending machines to be cleaned. Therefore, examples of batch-level activities will include cooking vat and blending machine cleaning and raw ingredient movement.

Product-level activities

Product-level activities are 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, and the cost of these activities therefore cannot be directly linked to the number of units of production. In our case, we will be constantly developing new recipes and flavours for our smoothies, soups and sauces and possibly also changing existing recipes to deal with changes in the availability of raw ingredients. Therefore, recipe development is an example of a product-level activity.

Facility-level activities

Facility-level activities are activities where resources are consumed to support the business but cannot be traced to individual products. These activities are performed to support the production facility as a whole and are common to all products. Examples of facility level costs within our new production facility are general production management costs (such as Victor Long's salary), property maintenance and property depreciation.

SECTION 4

Sales variances for website sales of smoothies for October to December 2022

Sales price variances: The sales price variance for every day is adverse, which means that, across the 3-month period, the actual selling price per unit was lower than the standard selling price per unit. The standard price excludes the impact of the discount authorised by Ben Jonas in response to the competitor launching its range of smoothies. The every day adverse variance is therefore the result of this discount. The variance for Superfood is favourable, which means that, across the 3-month period, the actual selling price for this range was higher than standard. We launched a new Superfood flavour in November that was extremely popular. It could be that the popularity meant that we did not need to discount the price. The absence of any other information about changes to retail prices will be the reason for this variance.

Sales mix variances: The adverse and favourable sales mix profit variances indicate that for our actual level of sales we sold proportionally less every day, proportionately more Superfood and proportionately less Premium compared to our standard mix. This change in the mix has resulted in N$2,343 of additional profit during the quarter. The following are potential reasons for this change in the mix:

- A competitor launched a smoothie range at a price 20% lower than our Everyday range. Given that Everyday is our lowest price range, it is likely that the competitor smoothies are a direct competitor to our Everyday range, although possibly less so for our other ranges. This will have led to a reduction in the proportion of Everyday sales compared to the other ranges.
- The celebrity endorsement of the Superfood range has likely boosted its popularity compared to our other ranges. Given the price variance for Superfood, it would also appear that the new flavour that was launched was particularly popular with customers, which may have affected the mix.
- The unavailability of some flavours in our Premium range may have resulted in some customers ordering from our Superfood range instead.

Sales quantity profit variances: The sales quantity profit variance is best considered in total and is adverse, which means that in total we sold less smoothies than budgeted in the standard mix. This overall decrease in sales volumes will be the result of the combination of influences on the price and mix variances which are explained above. The launch of a range from a competitor at a lower price may have taken sales away from us, and the unavailability of some flavours may have resulted in lower total sales. It is likely that without the celebrity endorsement for the Superfood range, the sales quantity variance would have been considerably worse.

Planning and operational variances

Our standards for the new Ready@Home range are based on our assessment of what we expected the environment to be and the actions that we expected to take. For example, our standard selling price for Everyday smoothies reflects the price that we expected to sell this product for. However, sometimes the environment changes or our planned actions change, and therefore it is important that we can reflect this in the variance analysis.

Identifying planning variances (which typically are not controllable) will give us useful information on the accuracy of our initial planning and could help us to improve the accuracy of future plans, should we launch another new range. However, there can be difficulties associated with determining what is a planning issue and what is an operational issue.

For example, it could be argued that the effect of the discount for the Everyday range should be identified and separated as a planning price variance. This is because our plans changed because of a competitor launching a new range of smoothies which we had not anticipated when the budget was set. Alternatively, we could take the view that management should have anticipated a competitor launching a competitor product, and that this should have been reflected in our original budget. In which case, the impact of the discount would be considered an operational issue.

Key performance indicators:

Percentage of meal-kit subscribers ordering Ready@Home: This would be measured as the number of our Meals@Home meal-kit subscribers making a Ready@Home purchase divided by the total number of subscribers, measured as a percentage each week or month. We are actively promoting this new product range on our subscription pages, and therefore this measure would help us to see how effective these promotion messages are. To some extent, our existing subscribers are already loyal to our brand, and therefore we might expect a reasonably high level of interest in this new product range from them.

Percentage of Ready@Home customers placing repeat orders: This would be measured as the number of customers making a repeat order divided by the total number of customers, measured as a percentage each week or month. It is important that we build some brand loyalty with the new range and having customers making repeat orders is an indication that this is happening. If the measure declines over time, this could indicate that maybe customers are not happy with the range of flavours or the quality of our products, both of which could be addressed.

Click through rate from social media posts: This would be measured as the number of people clicking through to our website shop page divided by the number of people viewing the social media post, measured as a percentage. Social media posts will be designed to reach as wide an audience as possible, and it's important that the content of these posts is engaging enough to encourage potential customers to click the link to our website to make a purchase. This measure would give us an idea of how often this is happening and therefore how engaging and enticing social media posts are.

AICPA & CIMA
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OPERATIONAL CASE STUDY

MAY & AUGUST 2022

EXAM ANSWERS

Variant 5

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SECTION 1

Time series analysis

Explanation of Table 1 and Chart 1

Table 1 shows us the number of vegan meal kits sold each quarter in Newland during 2019 to 2021, and this is also reflected in the solid line in Chart 1. From this raw data, we can see that there is growth in this market over this period because sales volumes in 2021 are significantly higher than those in 2019.

This raw data shows that there is a seasonal effect to demand across a year, as sales are always highest in the first quarter of the year. It should be noted though that this seasonal effect is not uniform across the period. For 2019 and 2021, quarter 4 has the lowest sales of the year, while for 2020, it has the second highest. It is likely that Sara Hink's cookery show in the final quarter of 2020 had an impact on sales demand for that quarter which has disrupted the pattern of the data.

Table 1 shows the centered 4-point moving average in the final column. To arrive at 281,000 in quarter 3 of 2019, the sales for quarters 1 to 4 2019 were averaged, then the sales for Q2 2019 to Q1 2020 were averaged and then an average was taken of these two averages. This represents the long-term movement in sales through the period and excludes the impact of seasonality on sales. It is represented by the dotted line in Chart 1.

From this dotted line in Chart 1, we can see that the centered 4-point moving average shows minor growth during 2019 and into 2020 and then stronger growth from 2020 onwards.

This significant growth is likely driven, certainly initially, by the massive popularity of Sara Hink's vegan cookery show, although it is unclear whether this continues to have an impact given that, presumably, the programme is no longer on air. However, we do know that there is an increasing view that being vegan is healthy and good for the environment, and this is now likely to be driving some of the growth.

Difficulties in using this information to create a forecast

The difficulties of using this information to create a forecast include:

- Only three years worth of sales information is available and within this, the rate of growth in the market has changed considerably, as shown by the centered 4-point moving average line. This is partly because of a television show and partly because of increasing awareness of the health and environmental benefits of veganism. Any trend line based on this three years worth of data is likely to lack accuracy because it will average out the growth.
- Even if we focused on the later part of the period to determine our trend line (from period 6 or 7 onwards), this would be problematic because there is insufficient data to establish whether the cookery show will have a permanent impact, or whether the popularity of veganism will wane over time.
- We need to create a forecast for quarter 4 2022 onwards which is three full quarters away from the last actual data and five quarters away from the last 4-point moving average information. This makes it difficult to extrapolate, whichever method we decide to determine the trend.
- Using the actual sales volume data is problematic because of the wide fluctuations in the data over the period. However, using the centered 4-point moving average to determine the trend will help to deal with this because the fluctuations are smoothed out.
- It will be difficult to determine seasonal variations given that the television show has created a distortion in the seasonal pattern within 2020. The 2021 data seems to indicate a similar seasonal pattern to 2019, indicating that this may be the norm, although without further information, this is difficult to establish.
- It will also be difficult to determine our share of the market. The information given is for the whole market in Newland, and we will need to determine our share of this. This will be made more difficult potentially, as there are companies that specialise in vegan meal kits, which could mean that they take a proportionately greater share of the market than we will be able to.

Costing of videos

Direct and indirect costs of a specific video

The direct costs will be any costs which relate to a specific video, and these may be incurred up-front or during the lifetime of the video. The up-front direct costs include the fees paid to the video production company for creating the video and the fee paid to Sara Hinks for appearing in the video. It will also include any direct costs borne by us and associated with creating the content of the specific video, such as the cost of ingredients used and the cost of any of our own employee time used or any additional costs such as energy incurred within our development kitchen. The lifetime direct costs will include the royalties paid to Sara Hinks and the fees payable to the video hosting website each time a specific video is viewed.

The indirect costs will be any costs which relate to the making of the series of videos, but which cannot be assigned to a specific video. Again, some of these indirect costs will be incurred up-front and others over the lifetime of the video series. The up-front indirect costs include the costs of upgrading our development kitchen and the one-off fee payable to the video hosting website. There may also be costs incurred to upgrade our website or app to ensure that the videos can be hosted. In addition, we will be using our development kitchen as the location of the videos, and therefore it could be argued that the indirect costs for the video series should include a share of the costs of operating this. The ongoing lifetime indirect costs will include any costs associated with maintaining and supporting the viewing of the videos on our website and through the app.

Potential problems of determining a cost for each specific video

The total cost of a specific video will include the royalties to be paid to Sara Hinks and the ongoing fees payable to the video hosting website, both of which will depend on the number of times a specific video is viewed. Therefore, one potential difficulty will be to estimate how many times a video will be viewed. This will presumably depend on the popularity of the recipe for the meal kit being demonstrated as well as the length of time that we expect the meal kit to be in our portfolio. The more popular the meal – kit, the higher the royalties and fees will be.

Another potential difficulty will arise in determining how much of the indirect cost should be apportioned to each video. For example, the one-off fee payable to the video hosting website will apply to all of the videos and therefore should be shared among all videos. The issue though is that at this stage we do not know how many videos will be hosted and therefore how many videos to split this cost over. While there will be 10 initially, more will be filmed and hosted as new meal kits are developed.

In addition, some of the indirect costs that will be incurred will benefit more than just the videos. For example, the upgrade of the development kitchen will presumably benefit the normal development work of the kitchen as well as the videos. We will therefore need to share the upgrade cost between the two functions, and it will be difficult to determine an appropriate basis for this.

SECTION 2

Maintenance contract decision

Table 1 and risk-neutral approach to decision making

Table 1 shows us the possible cost of each maintenance contract option for each of four different situations. The first situation is the worst-case position where both the number of call outs and the maintenance hours required on each call out is at the highest level of Greta's estimates. The fourth situation shows the best-case position where both the number of calls out and the maintenance hours required on each call out are at the lowest level of Greta's estimates. The second and third situations are combinations of the highest and lowest number of call outs and the number of hours required per call out.

Table 1 indicates that Greta has estimated that there is a 60% chance of the highest level of call outs and a 40% chance of the lowest level. It also indicates that there is a 30% chance of the highest number of hours required per call out and 70% of the lowest. The joint probability column represents the probability for each of the four situations. For example, the joint probability of 0.18 for the highest call outs and highest hours required is the product of multiplying each of the separate probabilities.

The expected value of each option represents the weighted average outcome, weighted according to the joint probabilities associated with the possible outcome of each of the four situations given. Using a risk-neutral approach to decision making, we will select the option which gives us the best expected value. Given that this is about cost, we would therefore select the option which gives us the lowest expected value for the cost. This is Option 2 at an expected value of N$30,450.

Limitations of using the information and a risk-neutral approach

One limitation of using this approach to decision making is that it ignores the risk associated with the decision. As noted above, we would select Option 2 using this approach, which ignores the fact that there is a 28% chance of the best-case scenario (lowest number of call outs and lowest number of required hours per call out), where the cost of Option 2 is the highest of the options.

Another limitation is that we are basing this decision on probabilities which have been estimated for the best-case and worst-case positions for both the number of call outs and hours required per call out. This is oversimplifying the possible situations, as presumably the level of call outs could be anywhere between the lowest and the highest estimates. The same will be true for the hours required per call out: indeed, in reality, the hours required will vary from call out to call out.

Old herbs & spice machinery

We first need to consider whether the old herbs & spice machinery meets the criteria to be reclassified as an asset held for sale in accordance with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations, or whether it will remain as a non-current asset.

To be reclassified as an asset held for sale, an asset needs to be available for immediate sale in its present condition, and its sale must be highly probable. A sale is highly probable when: management is 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.

The old herbs & spices machinery will cease to be used on 1 November 2022. However, it will not be available for immediate sale in its present condition until it has been fully dismantled, which will occur at the end of November. It would therefore appear that the old herbs & spices machinery will be available for immediate sale in its present condition from the end of November.

The machinery will be put up for sale on 1 December, indicating that there is a management plan to sell the asset and that a buyer is being sought from that date. There is a good second-hand market for this type of machinery and therefore, presumably, the price of N$35,000 is reasonable. We expect to sell the machinery within 6 months, which indicates that we will achieve the 12-month criteria.

Therefore, it appears that the sale is probable from 1 December 2021, which means that the old herbs & spices machinery will be reclassified as an asset held for sale on that date. We will depreciate the asset up until this date, even though it will not be used in November. On 31 December 2022, the asset held for sale will be recorded in the statement of financial position within a separate component of current assets.

The value included for the asset held for sale will be the lower of its carrying amount at the date of reclassification (which is its depreciated cost at 1 December 2022) and fair value less costs to sell (N$35,000 less N$1,200 for the dismantling cost). If a fair value less cost to sell is lower than the carrying amount, the difference will be charged to profit or loss, which will reduce profit. If fair value less costs to sell is higher than the carrying amount there will be no adjustment affecting profit.

Disposal of warehouse property

The sale of one of our warehouse properties will give rise to a chargeable gain or loss. A chargeable gain will be subject to capital tax at a rate of 20% and a chargeable loss can be carried forward to offset against future chargeable gains.

The amount of the chargeable gain or loss in this case, will be the proceeds of the sale of N$350,000 less than the property's original cost of N$120,000 less the N$50,000 of expenditure to extend the warehouse less the indexation allowance available. The indexation allowance will be available on the original cost from the date of original purchase until the date of sale and will also be available on the extension expenditure from the date of that expenditure until the date of sale. The indexation allowance will reduce the chargeable gain and is effectively an allowance for the impact of inflation. Assuming that we have a chargeable gain, then our tax payable will increase by the chargeable gain multiplied by the capital tax rate of 20%.

SECTION 3

Fixed production overhead variances for the Herbs & Spices Department for December

Expenditure variance: The expenditure variance is the difference between the actual overhead incurred in December and the amount of overhead expected to be incurred based on the revised budget. This variance is N$1,400 adverse, which means that more was spent than we had expected to spend. Fixed overhead includes a wide range of expenditures, but given that these are fixed costs, we would usually expect this to be consistent for a given level of activity. The reasons for this adverse variance will be the additional costs that were not anticipated when the budget was revised which include the employment costs for the additional supervisor and the cost of having the new equipment recalibrated.

Efficiency variance: The efficiency variance is the difference between the standard machine hours needed for the actual output of herb & spices packets and the actual machine hours worked multiplied by the standard absorption rate per hour. This variance measures the efficiency of the absorption base, which is machine hours. The N$7,450 adverse variance means that we used more machine hours to produce the actual number of herbs & spices packets produced than we should have based on the revised standard. The main reason for this will be the fact that the equipment was recalibrated, which resulted in it operating at a slower rate. If this change in pace is permanent, this would indicate that the standard needs to be revised again.

Capacity variance: The capacity variance reflects the difference between the budgeted machine hours (based on the revised budget) and the actual machine hours worked multiplied by the standard absorption rate per hour. This variance is N$3,675 favourable and indicates that more machine hours were worked than budgeted, reflecting an increase in the capacity of the machinery. This increase is due to the additional shifts that have been worked as a result of the machinery being slowed down, resulting in more machine hours worked. Note: the efficiency and capacity variance added together give an adverse volume variance. This is due to the lower production of herbs & spices packets than expected during December.

Total variance: The total variance reflects the difference between actual expenditure and the amount of fixed production overhead absorbed. This variance is adverse, which means that actual expenditure is higher than the amount absorbed, and we have therefore under-absorbed fixed production overhead. The reasons for this are as explained above in respect of the individual variances.

KPIs for Herbs & Spices Department

Percentage of machine idle time: This is a measure of how much available machine time is idle during a month. While some idle time is inevitable to allow for routine maintenance, cleaning and resetting of the machinery, it is important that this is kept to a minimum so that the machinery is productive. If the machinery is idle, then herbs & spices packets are not being produced, which could potentially affect the production of meal-kit bags and ultimately limit the meal-kits available for sale and affect customer goodwill if orders for specific meal-kits cannot be satisfied. For December, the level of idle time is double what it should be, which is likely the result of the machinery having to be recalibrated. In addition, given the newness of the machinery, it could be that it has taken longer to clean or reset than it should have because of the inexperience of the staff with this machinery. This may also have been compounded by the lower staff retention rate which indicates that there were more new staff than normal in the department during December.

Percentage of wasted production: This is a measure of how much production is scrapped during the month, and our target is zero scrappage. Any scrapped production is a cost to the business in respect of the herbs and spices used as well as the conversion costs incurred for this scrapped production such as energy and labour costs. More than that, scrapped production has an environmental cost in that this is a waste of natural resources. Therefore, it is important that scrapped production is monitored, so that any reasons for this occurring can be eliminated going forward. For December, the level of scrapped production is 4%, which is potentially quite considerable. This is due to the issues with the machinery at the start of the month but may also be due to the machinery not being correctly set up by new or inexperienced staff.

Staff retention rate: This is a measure of the level of staff remaining within the department. This is an important measure of staff satisfaction in their work, their working environment and the level of pay and benefits that they receive. We might always expect there to be some staff movement (because of promotion or moving to a different location), which is why we have a 95% target rather than a 100% target. However, a lower level, such as shown for December, indicates that there are potentially some issues within the team. Perhaps staff were unhappy about the new machinery, perhaps they didn't feel that they had adequate training or guidance. Maybe staff were not happy about the additional shifts, perhaps having to work unsocial hours. The reasons for staff leaving must be investigated (possibly by conducting exit interviews) and action is taken if necessary to boost staff satisfaction and morale.

Factors to consider when making short-term investments

Liquidity: Liquidity in this context refers to how quickly the investment can be converted back into cash, which may be an important consideration if we wanted the chance to bring forward our expansion project again. Some investments such as Treasury Bills or Certificates of Deposit are marketable, which means that they can quickly be converted back into cash by selling the investments on the market to another investor. These types of investments, therefore, have high liquidity and will enable us to quickly deal with changing plans. Other investments, such as some bank deposit accounts, can tie the cash up for a period, and such investments are therefore less liquid and reduce our flexibility.

Risk: Risk in this context refers to the safety of the investment or the chance that the investment may lose value in the short term. Investing in the stock market is perhaps the most risky form of investment we could take, as there is a high chance that we lose some of the value of the capital invested. At the other extreme, placing the funds in a bank deposit account is one of the safest or least risky ways of investing the funds because we can expect to get our capital back plus interest. There may be an element of default risk in respect of the bank becoming bankrupt, but this is highly unlikely in a developed economy such as ours where banking is regulated. Given that we will be using these funds in 4 months on another expansion project, the safety of the capital amount is likely to be a high priority.

Return: Usually, the lower the risk of an investment, the lower the return (that is, the profit) and vice versa, hence the risk is a key factor in how much return will be generated. In addition, the liquidity of the investment will also play a part, as the more liquid the investment is, the lower the level of return usually. We also need to factor in the administrative costs of investing which will affect the overall profitability of the investment. Typically, marketable investments such as Treasury Bills will have higher administrative costs than bank deposit accounts.

SECTION 4

Relevant and irrelevant costs and revenues of the decision to continue with the vegan roadshow

The relevant costs and revenues to be considered in the decision will be the future, incremental cashflows which will arise as a result of organising and holding the roadshow. This excludes any costs which have already been incurred, even if they relate to the conference. It also excludes any costs which have already been committed to. In terms of each of the items identified in Table 1:

Revenue: We will charge N$30 per attendee and have a maximum capacity of 2,000 attendees. The N$30 per attendee is relevant revenue because this is a cash flow that will happen in the future and only arises if the roadshows go ahead. The total amount of relevant revenue to include though will depend on our assessment of how many tickets we expect to sell in the end. To date, we have sold 1,000 tickets, however, it is possible that more could be sold right up until the date of the roadshows. We will therefore need to establish how many more tickets we realistically expect to sell.

Hire of venues: The non-refundable deposit of N$5,000 is not a relevant cost because this has already been paid and cannot be claimed back if we cancel the roadshows. This is a sunk cost. However, the additional cost of N$7,000 is relevant because this is a future cash flow which will occur only if the roadshows happen. However, given the low ticket sales, it maybe is possible to reduce the number of roadshow events, and therefore we may make a saving on the hotel cost, depending on the deal that has been negotiated.

Ingredients: The ingredients will be taken from our inventory when the roadshow occurs. Most of these are currently used in our meal –kits, and therefore we will need to replace the inventory if the roadshow goes ahead. As a result, the relevant cost for these ingredients is the cost of replacing them, which may well be different from our standard cost and will need to be established. The coconut milk, which is currently in inventory, is not used in our meal kits and will be thrown away if the roadshow does not happen. The relevant cost of this ingredient is therefore nil because the original purchase is a sunk cost, and there is not an alternative use for it. Using the coconut milk at the roadshows means that we will not have to incur any costs of throwing it away, and those savings are a relevant cash inflow here.

Sara Hinks: The fee payable to Sara Hinks of N$10,000 will only be a relevant cost if we do not allow her to sell her cookery books at the roadshow. Given that allowing this is unlikely to cost us anything, it would make sense to accept this offer, in which case the relevant cost for Sara Hink's involvement is nil because there will be no future cash flow. We do need to consider though whether Sara will still be interested in appearing at the event, given the low number of tickets sold to date or whether this will impact her decision to waive the fee.

Internal employee time: The share of employee salary to reflect the time needed for the roadshow will be irrelevant because salaries will be paid regardless of the roadshow going ahead. However, the cost of the additional overtime paid will be relevant as, presumably, this will only occur because of the roadshow.

Gift bags: The gift bags will only be purchased if the roadshow happens, and therefore there will be a relevant cost for this. Since there is a minimum order of 3,000 gift bags, we should include the full cost of all 3,000 bags as the relevant cost for this decision, as any excess will be given away for free afterwards.

Beyond budgeting

The features of beyond budgeting

A feature of a beyond budgeting approach is the use of rolling forecasts on a monthly or quarterly basis, rather than an annual budget. This means that the budget will always look 12 months ahead and will be regularly updated to reflect the latest conditions and trading environment. It also allows us to review and revise standards as necessary to reflect, for example, the latest prices for ingredients and efficiencies gained from further automation of the packing process.

Another feature is that instead of just evaluating performance against budget targets (through variance reporting), the focus is on a wide range of performance measures or key performance indicators (KPIs). We already do this to some extent, but beyond budgeting would expand this to include measures that focus on what our competitors do and set targets that drive competitiveness. We can also harness the information generated from our systems to focus at a granular meal-kit level on popularity and customer satisfaction.

A final feature of beyond budgeting is that budgets will be prepared with participation from all parts of the business. Currently, we take a central approach to budgeting where the annual budget is set by senior management with little input from the rest of the business. Under a beyond budgeting approach, this would change as the people within the business with detailed knowledge would be involved in creating the rolling budgets.

Benefits to our business

A beyond budgeting approach would give us more up-to-date budgets than we currently have because they will be prepared on a rolling basis. This will allow management to be more forward-looking, leading to better resource allocation (because our plan will be more informed) and will allow us to adapt to changes more quickly.

With a beyond budgeting approach, there is a greater focus on looking ahead and forecasting what might happen rather than looking backwards at what has happened. For example, 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, if competitors are offering changes to meal-kit orders the day before dispatch, we could aim to do so 12 hours before. If our competitors aim to launch 10 new meal kits a month, we could aim to better this and, in the process, potentially gain a competitive advantage.

Assessing manager's performance against appropriate KPIs measured over time will encourage them to strive for continuous improvement within the business and should also improve performance against competitors, as managers focus on key metrics linked to customer satisfaction.

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.

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OPERATIONAL CASE STUDY

MAY & AUGUST 2022

EXAM ANSWERS

Variant 6

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SECTION 1

How the features of a digital costing system can benefit our business

Digital costing systems gather information from the internet in real time, allowing automated systems to review the whole market to find suitable products.

As we can see from the food industry data, companies using digital costing systems use an average of 251 suppliers compared to the 140 we currently use. Links to larger numbers of suppliers can ensure access to the cheapest ingredients available in the market and reduce costs. Targeting cost savings is important, as we have fixed product sales prices, meaning cost control is required to maximise profit. A digital system also allows cost analysis to be taken at a granular level (for example, on a cent-by-cent basis), which can be effective where large quantities of products, such as dry spices, are purchased. However, this may work most effectively for our meal kits rather than OSHB, because for the latter, we are looking for a premium organic product where quality may be more important than price. Therefore, looking for strong supplier relationships may be better for the business rather than solely judging suppliers on price.

Having access to more suppliers can also improve lead times. Given that we supply customers at short notice, we effectively operate Just-in-time (JIT) production. The biggest impact could be on purchasing, as we currently do not use a JIT inventory system. If introduced, JIT purchasing might result in an average reduction in lead time from our current 6 days to the industry average of 2 days. Not only would this increase production flexibility, so allowing for quick recipe changes, but could also potentially reduce inventory holding costs and positively impact on working capital levels.

Within the business, greater automation will also reduce hard copy paperwork through automated integrated systems linking departments, leading to more efficient flow-through of products and less bureaucracy. Externally, digital costing will lead to direct supplier links which will increase the accuracy and efficiency of ordering. This should also drive more accurate cost drivers, which, in turn, should improve sales price forecasting. Both internally and externally, digital systems will provide our organisation with the ability to scale up the system as the business grows.

Furthermore, the 3% food waste level seen with the digital costing system is currently half the 6% level of food waste that we generate. Reducing our food waste levels will not only improve profit levels but also help us to meet our sustainability goals.

The built-in analytics and artificial intelligence within the systems can also allow us to better understand the nature of changing costs in production and buying behaviours in customers, meaning we have a more accurate understanding of changes and an increased ability to understand how the business can be developed to take account of the changing conditions. Despite this, it will be difficult to evaluate the packages from different departments, and high-level judgements in this area will be required. There may also be some rivalry between departments which may lead to higher quality proposals but also dysfunctional competition in some cases, with the potential for reduced morale where funding bids are unsuccessful.

While the implementation costs of such a system should not be underestimated based on the data provided, there is some evidence that the increased automation of a successfully installed digital costing system should lead to savings in excess of costs over the longer term.

Zero based budgeting (ZBB)

Using ZBB to prepare the promotional marketing budget for our new OSHB range

ZBB takes a radically different approach to other budgeting methods, evaluating each activity in full each time a budget is prepared. For each activity, a decision package should be prepared by those who are closest to the activities. Decision packages answer questions such as whether the activity, here marketing, should be undertaken at all and if undertaken how it should be done.

It is important to identify objectives for the promotional campaign and then identify different packages to help you achieve those objectives, for example, base packages and add-ons that fulfil the objectives. Such decision packages can be mutually exclusive, so for the promotional campaigns, this would be provided by either the in-house marketing department or the external marketing company. Alternatively, they can be incremental, and here we can see that once a decision has been made about internal or external provision, each method provides a base package with potential add-ons coming at extra costs, such as the celebrity chef endorsement.

Decision packages should then be ranked to ensure contribution to OHSB objectives for the pilot and later Meals@Home are maximised. Currently, the different methods of promotion (the likely decision packages) have not been ranked against the organisation's objectives, and this would need to be done to lead to the best outcome against those original objectives. After this has been completed, the top-ranked promotional campaign would be chosen and ranked against other projects in the company, with the highest-ranked being funded until all available funds were used.

Limitations of using ZBB across the business

Using ZBB to budget for the new promotional campaign will take more time than using a traditional budgeting system. This is because ZBB will require time to assess if the promotion should take place and to ensure that each cost can be justified. This is different to incremental budgeting where it would be accepted promotions would be part of the current year's budget as it formed part of the previous year, although the amount may change.

While the Sales & Marketing Director has put together different promotional packages, additional training is likely to be required to ensure accurate decision packages are produced.

Additional training may also be required to ensure all factors are considered in decisions when ranking the different campaigns. This should include both quantitative measures, such as the cost of each campaign and qualitative factors, such as comparative service levels provided by the in-house marketing team and the external company.

ZBB can also distract from strategic thinking, as it can lead to short-term decision making with each decision reviewed in detail each year. It can also become a mechanical exercise with managers using the same arguments each year to justify their requests. This can be overcome by just using ZBB in areas of discretionary expenditure such as promotions/marketing for instance and using it on a rotational basis over a 3–4-year cycle.

If ZBB is carried out over the whole business, individual departments could be asked to justify their spending and produce decision packages, however, the decision packages would not necessarily be judged solely against other packages from within that department. There could also be competition for funds/resources from other departments and their decision packages.

In addition, there can be a tendency to continue to think about costs on a traditional functional department basis rather than through inter-related functions across departments. In this case, promotion is being used to increase sales, however, if promotions are used as an activity under ZBB, then the aim is likely to become the provision of the same level of promotional output at a reduced cost, whereas the aim of promotions should be to produce proportionally more sales than the cost of provision.

SECTION 2

Decision Tree

How to use the decision tree

The decision tree allows us to break down the complex decision process regarding the potential different marketing campaigns into a series of simple steps. The complexity of the decision is due to the different combinations of ideas that we may consider. So, we can choose between whether to carry out market research and then whether to use our internal marketing department or external consultants or use our internal marketing department without doing preliminary research. To evaluate the tree, we would need to work from right to left, back through the probability and decision points. Working back through the tree from the top, we come to the circle, EV1. EV's show probability points where there are issues outside our control. To the right of the EV, circles are the estimated probabilities of contribution levels occurring (shown on the arrows). In this case, there is an expected probability of 0.75 for high contribution to be achieved and 0.25 for low contribution.

The contribution earned at the end of a particular route is shown in the end column. Contributions are rolled back from right to left through the tree, and the costs of actions (shown as negative figures on the arrows) are netted off to enable us to choose from a financial perspective based on expected values (EV), the best decision at each decision point. EV1, like all other EV points, is calculated by summing the sales outcomes multiplied by their probabilities. For EV1 that is:

(N$600,000 x 0.75) +(N$300,000 x 0.25).

The squares on the decision tree show places where we can influence the next steps by making a decision. So, at decision point A, we are faced with the choice of obtaining outcomes EV1 or EV2. Getting to EV1 and EV2 would cost N$350,000 and N$380,000, respectively. So, to decide between the specific internal marketing campaign and the external consultant's marketing campaign, we net the costs of the EV against their outcome. The highest net EV should be chosen, which in this case is EV1, the specific internal marketing campaign, with a net EV of N$175,000.

A similar analysis will be undertaken at C. This shows the highest net EV is the one associated with the general campaign at N$225,000, which is higher than the N$20,000 generated by the specific campaign.

The final decision that we will then make is at C. Here, we chose between doing preliminary research (costing N$25,000) or moving directly to an internal campaign. The net EV for the preliminary research route at A is N$150,000 (EV1 which generates N$175,000–N$25,000). This is compared to decision B, the general campaign, which generates N$225,000. On this basis, the preliminary research should not be undertaken; rather the general campaign should be immediately started by the internal marketing department as it generates a higher EV.

Issues we should consider before making decisions based on this information

Firstly, it assumes we are going to base the decision on the expected value. Expected values assume that the decision maker has a risk-neutral attitude. Risk-neutral decision makers will not consider all outcomes and instead will select the strategy which is based on expected value. This may not be the case for the SMT, and they may not consider expected value at all.

We would also need to be certain of the accuracy of probabilities, as there is a considerable difference in the probabilities of high sales which can range from 0.5 to 0.75 depending on the circumstances since the probabilities drive the outcomes, as opposed to different branches generating different sales levels.

In addition, the external consultants have only given us one outcome. This suggests they have 100% certainty that they will achieve a contribution of N$540,000, whereas the Internal marketing department is only giving a probability of 0.75 of achieving a high contribution of N$600,000. Before we agree to this path, it would be prudent to understand why they are so certain of these sales levels.

Key Performance Indicators (KPIs)

Shrink ratio

The shrink ratio is calculated as the total, by weight, of wasted spices and herbs as a % of inventory value. The definition of shrink can vary but it often refers to finished goods which manufacturers cannot or will not sell. For OSHB, this may include loose or pouched herbs and spices or finished boxes. Losses can be due to herbs being spoiled, passing a use-by date; or boxes being damaged in transit or poor demand forecasting leading to oversupply. This KPI measures the effectiveness of our inventory management systems and production schedule with a high percentage indicating an area for improvement.

Recovery ratio

Food recovery relates to the action that business can take to prevent or divert “food” waste, which for OSHB, would relate to herbs and spices. This can include diverting potentially waste herbs and spices to food banks, for use as animal feed or for composting and energy production. The Recovery ratio is calculated as a percentage by weight or value of waste spices and herbs diverted into one of these projects. This KPI feeds into Meals@Home’s sustainability and food waste reduction initiatives by reducing goods sent to landfills and increase socio-economic good. A low recovery ratio suggests an area where we can improve, while a fluctuating ratio suggests that additional training is needed to maximise return in this area.

Inventory turnover

Inventory turnover is calculated as sales value divided by the inventory value, which gives the number of times the total inventory of spices and herbs is sold or replaced over a given period. This KPI will help us to manage our more perishable items and therefore reduce waste levels. As well as this, the higher inventory turnover represents higher sales.

Processing yield

We cannot sell incorrectly filled pouches (particularly if they are lighter than they should be) and therefore their contents would be wasted. We can measure the amount of filled spice and herb pouches produced for OSHB, however, calculating yield is more specific. This is because it tells us the percentage of filled pouches produced correctly. Yield is calculated as the amount of filled pouches correctly produced divided by the total amount of filled pouches produced and reported as a ratio. If we have a low yield, then one of the machines or processes may not be operating correctly. Therefore, monitoring the process yield can help us to identify potential issues before they become breakdowns or other scenarios which lead to waste and therefore higher operating costs.

SECTION 3

Sales variances

Sales price variances

Sales price variances arose for only two of the six options. Small and Large 4-meal kit boxes both have adverse price variances. This is expected due to the 20% discount available on the 4-meal Small and Large size boxes in November.

Sales mix variances

The sales mix variances for Small OSHB suggest proportionately more 2 and 3 meal OSHB's and proportionately less 4-meal OSHB's were sold than expected. Overall, the Small OSHB mix variance is favourable, suggesting increased profits compared to the budgeted mix of the actual quantities sold. This change in the mix for the Small 2 and 3 meal boxes seems to have been influenced by the special recipe available in those boxes in November. The special recipes, only available for 2 and 3 meals, may have been more attractive than the 20% reduction on 4 meals and appear to have pulled sales away from the 4 meal boxes.

For Large OSHB's, proportionally less 2 meal and 4 meal and proportionately more 3 meal boxes were sold compared to the standard mix. As the overall variance is adverse, this suggests a reduced profit compared to the budgeted mix of the actual quantities sold. This change in mix for the Large box is likely to have been influenced by the lack of packaging available for the Large size boxes, which will have affected the different meal sizes. Given the lack of availability of the Large 4 meal option, it appears customers have opted for the closest alternative offered the 3-meal kit. This may suggest that customers have stretched ingredients to cover four meals rather than the recommended three meals or the price differential of 2 x 2 meal kits compared to 1 x 4 meal kits is too much.

The impact of the discount is difficult to evaluate. The special recipes appear to have been more attractive than a discount in the small range. In the large range, the impact has been negated by the lack of availability, so it is impossible to say if it would have worked. Changing too many variables (and inflation) makes it very difficult to isolate the impact of the discount.

Sales quantity variances

The sale quantity variance for the Small boxes was favourable, while for the Large boxes, it was adverse. Where the variance is adverse, fewer boxes of that size were sold in the standard mix than expected compared to the original budget. The 20% discount might have been expected to lead to an increase in sales, however, this has not been the case.

Lower sales may be partly due to the rise in interest rates which will directly affect discretionary spending on luxury items. This may be due to reduced cash flow, for example, due to increases in mortgage repayments. Such cash flow issues may affect families more acutely, as they are likely to have less disposable income, and this may be reflected in the adverse variance for sales quantity in Large boxes.

It would have been helpful to have the Sales quantity profit variances for each of the options so that we could gauge the overall volume change for each of the options. The mix variances show how their respective volumes have changed in relation to the standard mix of actual quantities sold, but the individual quantity variance would have linked the standardised mixes to the budget.

Overall sales performance

Overall, both the Small and Large OSHB sales variances indicate profits will not be as high as expected, despite introducing the 20% discount for Small and Large 4 meals box sizes. The level of profit reduction for the Small box has been slightly offset by the favourable mix variance and the larger overall volume of Small boxes sold, but this did not happen for Large boxes. It is disappointing that the 20% discount on the 4-meal boxes didn't encourage more sales of both Small and Large 4-meal options. In fact, actual results for Small and Large showed a move away from four meal choices.

It appears the packing problem led to lost sales of Large boxes but unfortunately, the information reported does not allow us to see what those customers bought instead. They could have bought two or three sized Large meals or switched to multiple Small meals: the variances calculated show possible substitutions within large and Small not between them. The impact of interest rates on disposable income, which are beyond our control, could have had a larger impact on families, who are more likely to buy Large boxes.

Explanation of working capital cycle information in relation to budget

The working capital cycle represents the cost to OSHB of financing the time it takes goods to move through the production process and ultimately for customers to purchase the meal kits, while this working capital cycle information in the table does not put a value on the amount of working capital used and therefore its cost. We can say that the longer our working capital cycle, the more working capital is used which, in turn, increases costs of financing such as interest payments on overdrafts used for example. As we have budgeted for working capital of 10 days, and we currently have a cycle of 49 days, we are financing an extra 39 days of cashflow over what we budgeted for which requires investigation.

Actual raw material days are very similar to budgeted figures. Especially when considering actual calculations are only for 2 months of trading compared to the budgeted figures which cover a year and therefore average raw material inventory for the whole period which includes, for example, seasonal variations. In addition, if stored correctly, spices have a shelf life of more than 2 months. On this basis there doesn't seem to be any cause for concern currently.

Work-in-progress (WIP) is over 50% higher than budgeted, and while this only amounts to 5 days, the cause should be investigated. It is possible that OSHB sales have not grown as quickly as anticipated in the budget, leaving the unused stock of packeted spices and recipe cards in inventory. While WIP should be minimised to ensure working capital is minimised, the life span of the spices means this can be managed through production adjustments.

Trade payable days are currently only half what was expected at 30 days compared to a budgeted 60 days. Trade payable days are effectively a period of credit for us and reduce the amount of finance used, therefore having a 50% shorter credit period means we are using considerably more finance than budgeted.

Receivable days currently stand at zero in both budgeted and actual figures, this is to be expected as we do not currently have credit customers, with all retail customers paying for goods when ordered.

Actions (based on the information in table 3) which will improve the working capital cycle

Assuming there is no change to existing policies governing holding periods, neither raw material adjustments nor receivable days can be used to materially affect the amount of working capital currently being used. If the company decided to change its inventory holding policy, which led to reduced inventory being held, then this would lead to lower amounts of working capital being used to finance inventory. Small adjustments to production schedules may be possible to reduce the expected days to the budgeted figures for raw materials. Bearing in mind there needs to be sufficient WIP to allow all orders to be met in the required timescale.

The main item which may help improve the working capital cycle is to delay supplier payments so they reflect budgeted expectations. Delaying to 60 days is likely to improve cash flow significantly, as cash will remain in the bank for approximately 30 days longer than currently. However, there are some risks of using such a policy. Extending payments to 60 days will mean we lose the 0.5% payment discount. Therefore, before the decision is made, we should consider the relative cost of the lost discount versus the reduction in finance costs. That said, it should be possible to extend the payment terms to 45 days without losing the discount, which would still be a 50% improvement.

As well as financial costs, as a major supplier of the new product, we need to ensure we maintain a good relationship to ensure consistent quality supplier, and this relationship may be affected if we allow payment terms to drift.

SECTION 4

IAS 2: Inventories

The spices, boxes and pouches will be included in the closing inventory figures, as they will only be collected as part of OSHB's food recovery programme in January 2023. Closing inventory value will affect the year-end statement of profit or loss and the statement of financial position. In the statement of the financial position, closing inventory will form part of current assets, while in the statement of profit or loss closing inventory will be part of the cost of goods sold.

Inventory value included in the financial statements will, in line with IAS 2, be recorded at the lower of cost or net realisable value (NRV), which is the price the inventory can be sold for.

Historically, the inventory was recorded at its cost of N$363,497 in line with IAS 2. Due to the water damage, each item's NRV has fallen below its original cost. So, to meet IAS 2 criteria, the asset value in the financial statements will need to be reduced from their cost of N$363,497 to their NRV of N$26,581. This will reduce the value of closing inventory in current assets in the statement of financial position and in cost of goods sold in the profit or loss account.

In addition to the change in the value of the financial statements, adjustments will also be needed to the notes to the financial statements. In the notes, each category of inventory will be identified separately. This means that spices and boxes will be included in raw materials, while filled pouches will be included in work in progress.

The notes to the financial statements will also include the value of inventory carried at NRV, and there will be an explanation of the circumstances of the leak and water damage which led to the inventory being written down to its NRV.

IAS 10: Events after the reporting period

While the leak occurred in November 2022, which is before our year-end, the insurance claim receipt will not be received until January 2023 which is after our year-end.

IAS 10 Events after the Reporting Period states that material events which occur between the year-end date (31 December 2022) and the date that the financial statements are approved (which will be later in 2023 and presumably after the receipt of the insurance monies) can be classified as either adjusting or non-adjusting events. An adjusting event is one which gives evidence of a condition that existed at the reporting date.

In this instance, the insurance receipt will give us evidence of a condition at the report date, that being the outstanding insurance claim for the leak. As an adjusting event, we can record the insurance receipt in our financial statement statements for the year-end 31 December 2022. The effect of this will be to increase profit for the year and increase current receivables, which will mitigate the impact of the inventory write off.

Stress Test Drill

To test the effect of a cyber-attack on the production scheduling system in the business, we could isolate the production scheduling system to ensure it is unavailable for use. We would then continue with business as usual for a set period, for example, a month, without using this system. This would indicate whether the loss of the system would affect our ability to trade at budgeted levels and the stress it would place on the business' budgeted cash flow.

For example, we would have to use backup production scheduling systems to allow us to continue with production. We may also have to adapt systems, for example, using paper-based systems where expected alternatives are not available. This will place additional operational stress on the business and may require overtime from staff or external specialist contractors which would mean expected costs would rise in a short period.

However, the scenario may also identify new areas of efficiency, such as new, more flexible scheduling methods. This may mean an improvement in expected budgeted figures.

We can then look at the overall effect on the related budget areas such as sales and cash flow to establish how such items will affect sales and cash flow allowing us to put in place additional, more flexible sources of finance to make the business more resilient in the future.

Relevant costs of accepting a contract with Solid promotions

Relevant costs are those which will vary due to the decision taken. To be relevant, costs must be in the future, affect cash flow rather than just be accounting entries and be incremental or different depending on whether the Solid Promotions contract is taken or normal production completed.

Relevant costs

The following costs are relevant and should be included in the costing for the project:
The N$20,000 contribution lost, due to completing the contract and being unable to complete "normal" production for two weeks, is an opportunity cost and is relevant, as it is a real cash flow that will occur in the future. Since it will be lost if the new contract is taken, it will change depending on which decision is taken.

The cost of the Keluwak spice will also be relevant, as this is a specific cost of putting together the promotional boxes for Solid Promotions Inc, which would not otherwise be incurred.

Non relevant costs

Costs which do not meet the above criteria and therefore should not form part of the costing for the project:

The design team costs will not be relevant as these are sunk costs. This means they have already been irrevocably incurred so will not vary according to whether the Solid Promotions contract is completed or not.

The machine depreciation of N$5,000 is not relevant, as it is an accounting adjustment used to spread the machine's cost over its lifetime, rather than an actual cash flow.

More information required

To decide if the head office costs are relevant, we will need further clarification. If the costs are general costs that are being apportioned to this project, then they will not be relevant. However, if they are specific head office costs that are only incurred due to the project, then they will be relevant.

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Operational level case study – Examiner's report

May 22 – August 2022 exam session

This document should be read in conjunction with the examiner's suggested answers and marking guidance.

General comments

The OCS examinations for May 2022 and August 2022 were based on Meals@Home, a company that sells meal-kits direct to customers through a digital subscription service. A meal-kit includes the ingredients for a single meal for a set number of portions that meal and a recipe card that gives instructions on how to prepare and cook the meal at home. The company is based in Newland, a country in Europe. During the year to 31 December 2021, the company's revenue was N$62.5 million, and its operating loss was N$3.7 million. For the year ending 31 December 2022, sales revenue is budgeted to be N$75.8 million, and the company is expected to make its first operating profit of N$2.1 million.

Six variants were written based on Meals@Home. The focus of each variant was as follows:

- Variant 1: expansion into corporate sales market.
- Variant 2: launch of a new Party Box product.
- Variant 3: the Production Facility and increasing digitalisation.
- Variant 4: launch of a new range of smoothies, soups and sauces.
- Variant 5: expansion of the Production Facility and launch of a range of vegan meal-kits.
- Variant 6: launch of an Organic Spice & Herb Box product.

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 elements. Each element of a task was then broken down into between one and five traits for marking. For each trait, there was a detailed marking guide that 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.

To achieve a level 3 for most traits, it was expected that a candidate would demonstrate a good technical understanding of the topic being tested, through a clear and comprehensive explanation, and apply this technical understanding to the Meals@Home business and the particular scenario within the task.

If a candidate scored only at a level 1 on a trait, they likely did some or all of the following:

- Demonstrated some technical understanding, but with gaps in knowledge.
- Identified issues and points rather than explained.
- Explained issues too briefly or with a lack of clarity.
- Failed to relate their answer to the task scenario and the specifics of Meals@Home.

It must be stressed that 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, the application is not possible, and therefore the importance of candidates ensuring that their knowledge base is complete needs to be stressed.

One other area worthy of mention is the candidates' ability to explain. At the operational level, many of the tasks require explanation and, to achieve high level 2 and level 3, it is expected that this will be clear and comprehensive. It should also be an explanation or justification rather than a description, identification or simple statement.

Candidate Performance

Candidate performance was more varied compared to the previous session. There were some high-scoring answers across all variants where candidates demonstrated their technical understanding in the context of the business and the situation given. These candidates fully utilised the information given in the pre-seen and the case itself when applying technical knowledge and answered the task set comprehensively. There were also a significant number of very low-scoring answers across all variants where candidates appeared wholly unprepared for this examination. Some of these candidates produced answers for all tasks, but did not have the technical knowledge to be able to write anything relevant. Most candidates though were in the mid-range, often because of a combination of gaps in technical understanding in some topic areas, a lack of application to the scenario and a lack of clarity and depth in answers.

Specific topic areas where candidates typically demonstrated good technical understanding (and usually good application) included relevant costing, profit-volume charts, decision making under conditions of uncertainty, expected value, sales price variances, digital costing systems, general working capital management and decision trees. There were however, several topic areas where candidates demonstrated a lack of technical understanding and also a lack of application. These included activity based costing, zero based budgeting, direct and indirect costs in the context of digital cost objects, sales mix and quantity variances, fixed overhead capacity variances and flexible budgeting.

There continues to be a lack of explanation or justification in some of the tasks, especially in relation to financial reporting tasks on IAS 16, IFRS 5 and IFRS16 and relevant costing. Remember, an explanation requires more than a short sentence on a point or simple identification of a rule in a financial reporting standard or identification of a relevant cost. Application to the specifics of the scenario and the situation at hand was also lacking at times.

With respect to the core activities, candidate performance was typically best for B (budgeting), F (working capital), E (decision making) and C (performance evaluation). The less competent core activities continue to be (costing) and D (financial reporting), but this often depended on the topic area that the task was based on. Most answers were clearly laid out, with headings and sub-headings.

To sum up, the difference between a fail / bare pass and a good pass is often the candidates' 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 Comments on performance

Task 1

The first sub-task asked for an explanation of how to revise a cost budget for the second half of 2022 using a flexible budgeting approach. It also asked for an explanation of why it was important to flex this original cost budget. This tested core activity B. The quality of answers here was reasonably good, with many candidates scoring high level 2 and above for the first part of this sub-task. Most candidates demonstrated an understanding of how the fixed and variable costs would react to changes in volume and made good use of the information given in the attachment to the email to apply their answers to the scenario. Where candidates scored poorly, this was either because of a lack of reference to the costs given or because of confusion over what flexible budgeting is (some candidates talked about revising the budget for changes in standards rather than flexing the budget to reflect changes in volumes). The explanation of the importance of flexing the budget was often limited to better cost control and variances. Therefore, scores for this part were not as good.

The second sub-task asked for an explanation of the factors to consider when agreeing to initial credit terms with corporate customers and the actions that the company would need to take to manage the receivables balances of these customers after starting to trade with them. This tested core activity F. When explaining the factors to consider in agreeing initial credit terms, many candidates explained whether selling goods on credit was a good idea. This was not answering the task and scored no marks. Some candidates did focus on the potential corporate customers and made sensible comments about the risk of non-payment and how to determine the creditworthiness of these customers. Very few candidates focussed on the credit terms (the amount of credit to give and the period to allow for payment), which was disappointing. Regarding managing receivables most candidates recognised the need for a credit control function. However, many then suggested debt factoring or invoice discounting and explained how settlement discounts would encourage customers to pay more quickly, rather than focus on actions such as chasing for payment, issuing statements and reviewing aged receivables reports. Answers here tended to be generic rather than applied to the scenario and as such scores were often limited to low level 2.

Task 2

The first sub-task asked for an explanation of how to determine the cost per user of a new app. It also asked for an explanation of the difficulties associated with doing this. This tested core activity A. It seemed that a significant number of candidates did not know how to answer the first part of this sub-task and instead answered the task that they had prepared for, which was to explain what each of the costs were and how they would arise. Some candidates did comment on the nature of costs (fixed / variable, direct /indirect) but

failed to elaborate on how this would impact calculating the cost per user. Some excellent answers scored at level 3, where candidates clearly explained how to determine a cost per user of the app and provided sensible comments about each of the costs given in the scenario to support their answer. The difficulties given were often generic and not linked to the scenario, which meant that many answers scored low level 2 for this part.

The second sub-task asked for identification, with a justification of whether each of the costs in Table 1 was relevant of irrelevant when deciding which option was better financially. It also asked for an explanation of other factors that should be considered before deciding whether to outsource transaction processing. This tested core activity E. Many candidates scored at level 3 for the identification and justification of the relevant and irrelevant costs. Candidates that didn't score well here typically did so because they failed to adequately justify why a cost was either relevant or irrelevant. Regarding other factors, answers were mixed. There were some excellent answers where candidates explained other factors relevant to outsourcing of transaction processing including factors such as the security of customer data. However, some candidates failed to expand on the factors given or failed to consider outsourcing factors in the context of transaction processing. Indeed, some candidates explained factors to consider in the context of a physical product rather than transaction processing, perhaps as a result of not reading the scenario carefully enough.

Task 3

The first sub-task asked for suggestions of three KPIs that could be used to monitor the performance of the new Corporate Sales Manager, including an explanation of how each KPI would be measured and why it would be appropriate. This tested core activity C. Although the explanation of useful KPIs is a topic that appears in all OCS exams, this was not answered well. Candidates often gave KPIs that measured the performance of the business's sales activity generally and not of the sales manager. Explanations of how the KPI would be measured was also often not clear.

The second sub-task asked for an explanation of the potential benefits and drawbacks of involving Bina Keo in setting budgets and KPI targets for corporate sales. This tested core activity B. There were lots of explanations of the benefits and drawbacks of participative budgeting, but they read as textbook answers with poor application to the new sales manager, Bina Keo. Such answers scored mid-level 2 at best. Some candidates did comment on how Bina had worked in the industry and could bring that knowledge with her and that because she was being paid a bonus on volume meant she would potentially build in slack. Both applied points which often resulted in a high level 2 or level 3 score.

The third sub-task asked for an explanation of the maximax, maximin and minimax regret decision criteria and how each of these should be used to decide which initial order option to choose. It also asked for identification of the option that would be chosen under each criterion. This tested core activity E. These decision criteria have been examined many times, but the candidates' description of

each decision-making criteria was sometimes poor, lacking detail and clarity. Also, even those who could describe each one, sometimes struggled to identify the correct options.

Task 4

The first sub-task asked for an explanation of what each of the variances in Table 1 and Table 2 meant and possible reasons for their occurrence. This tested core activity C. Most candidates were able to explain the sales price variance and the reason for the adverse variance with clarity, demonstrating a good understanding of this variance. However, many candidates could not explain what the sale mix and quantity variances meant and the reasons for the favourable and adverse variances. This was especially the case for the sales mix variance, which had been calculated using the weighted average method. Very few candidates identified that the reason why the Meat/fish boxes gave a favourable variance was because the weighted average profit was bigger than the Meat/fish box profit and therefore proportionately less of this type of box must have been sold. Most candidates interpreted the sales mix variances as if they had been calculated using the individual units method, demonstrating either a lack of understanding or poor reading of the task.

The second sub-task asked for an explanation of how each of the items of expenditure in Table 3 should be recorded in the financial statements for the year ended 31 December 2022. This tested core activity D. This was not always answered well. Most candidates successfully explained the conditions for IAS 16 capitalisation, but the reasons for expensing the maintenance were often omitted. Many candidates did not explain the prepayment and the depreciation and therefore did not provide a full answer to the task.

The final sub-task asked for an explanation of whether the old herb portioning machine met the criteria to be reclassified as a non-current asset held for sale in the financial statement for the year ended 31 December 2022 and an explanation of how the asset would be treated in those financial statements. This tested core activity D. In many cases, the explanation of the IFRS 5 criteria for reclassification were good but the application was often missing or vague with little use of information from the scenario. For the treatment, most candidates knew to stop depreciation and to reclassify the asset, but many answers tried to add the selling and dismantling costs to the carrying amount. A good number of candidates also thought the asset would be treated as held for sale from November not December, having missed that fact that it could not be held for sale until it had been dismantled. As a result, many answers here scored only at mid-level 2.

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Variant 2 Comments on performance

Task 1

The first sub-task asked for an explanation and justification of how the new property would be initially recorded and subsequently measured in the financial statements for the year ended 31 December 2022. This tested core activity D. The initial recording of the new property was reasonably well answered by many candidates who demonstrated sound knowledge and understanding of IAS16. Some candidates though concluded that the expenditure on the roof should be expensed as a repair rather than capitalised (and then treated as a separate asset for depreciation purposes). Subsequent measurement was also reasonably well answered by many candidates, who recognised that the roof should be depreciated over 10 years, with the property over 25 years. The fact that any land within the property value should not be depreciated was rarely commented on by candidates. A common error was to depreciate from 1 March 2022, when the property was acquired, rather than from 1 September 2022, when the facility came into productive use.

The second sub-task asked for an explanation of the suitability of the new production facility as a pilot for the introduction of ABC. This tested core activity A. Most candidates failed to answer the task and as a result scored poorly. What was expected was an explanation of when ABC would usually be beneficial, for example, when indirect costs are relatively high, and the production process is a complex one: neither of these points being relevant to the scenario given. Candidates instead explained the basic principles of how ABC worked, such as creating cost pools and identifying cost drivers, which scored no marks and wasted time.

The third sub-task asked for an explanation of how the use of a digital costing system could improve the costing information and why this would benefit the business. This tested core activity A. Although this sub-task was reasonably well attempted by some candidates, marks were lost by not focussing on how a digital costing system would improve the company's costing system and the benefits of this. Some candidates correctly discussed issues such as continuously updating of product costs leading to benefits in pricing decisions and variance analysis. However, many candidates in contrast only discussed external issues, for example, linking in with suppliers or monitoring competitors' prices.

Task 2

The first sub-task asked for an explanation of what Chart 1 indicated about the cost structure of the two options for the supply of platters. It also asked for two reasons why the decision about which option to take should not be based on the expected value of demand. This tested core activity E. Most candidates answered this reasonably well by explaining the difference in cost structures between the two options and providing sensible comments about why the decision should not be based on expected values. However,

some candidates took the opportunity to explain the three common risk attitudes that managers may take, which was not required, and not many candidates commented on seasonality of demand over the next 12 months.

The second 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 the platters in-house. This tested core activity E. Again, this section was reasonably well answered, although not many candidates were able to put forward three relevant points, which often resulted in level 2 rather than level 3 scores. Candidates that did score at level 3, recognised that the potential supplier was only a small company and commented on relevant issues such as quality, lead time and reliability of deliveries.

The third sub-task asked for an explanation of what the information contained in Table 2 indicated about how each supplier managed its working capital and its suitability to be the tray supplier. This tested core activity F. This was well answered by most candidates. From the information given, most candidates were able to make sensible comments on each suppliers working capital management, often leading to the valid conclusion that Snack Excel would probably be too risky a supplier for Meals@Home. Many candidates scored high level 2 and level 3 for this sub-task.

Task 3

The first sub-task asked for an explanation of whether it would be worthwhile buying additional trays with an emergency order and how to determine, based on the graph provided, how many trays should be ordered. This tested core activity E. This was probably the worst answered section of this variant. Many candidates demonstrated that they understood what the shadow price meant but failed to explain how the linear programming graph could be used to determine how many trays to order. Some candidates simply ignored this part of the sub-task or explained the current feasible region or the AB intersection point, neither of which addressed the task given. What was expected was an explanation of how the iso-contribution would move up to a new optimum point of BD, which would still be constrained by the number of packing line hours available. Overall, very few candidates scored at more than level 1 for this sub-task.

The second sub-task asked for an explanation how a ZBB approach could be applied to create a budget for machinery maintenance costs in the new production facility. This tested core activity B. There were very few good answers to this sub-task. Many candidates struggled to explain the principles of how decision packages could be developed for machinery maintenance, for example, some consideration of incremental and mutually exclusive packages. This was surprising because ZBB has been examined in several past Case Studies, but many candidates are still not picking up on this. Too many candidates just compared traditional incremental budgeting with what read more like activity-based budgeting or bottom-up budgeting.

The third sub-task asked for an explanation of two benefits and two challenges of using ZBB to prepare the machinery maintenance cost budget. This tested core activity B. Most candidates were able to make some valid suggestions, but points made were often

rather generalised in nature. For example, for challenges, many candidates just said this was the time required to implement a ZBB approach. As a result, many candidates only scored at mid-level 2 here.

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, based on the information from Greta and the extract from the KPI dashboard in Table 2. This tested core activity C. This was generally well answered by most candidates. Although there was occasionally some misunderstanding of what the variances meant (especially with respect to the variable overhead variances), the explanations of the reasons for the variances were usually accurate. A common weakness in candidates' answers was a failure to use and refer to the extract of the KPI dashboard, which had been specifically asked for. Also, many candidates' answers needed to be clearer with the use of the word "budget" because this could be read as either the original budget or the flexed budget for the actual activity levels in the period.

The final sub-task asked for suggestions of two suitable KPIs relating to sustainability that could be added to the dashboard for the Party Box Production Facility, and to explain why each KPI would be appropriate and how it would be measured. This tested core activity C. Many candidates made a reasonable attempt at suggesting KPIs that would be useful for sustainability for Meals@Home, however, not many candidates explained for each KPI how it could be measured. Some candidates either omitted to explain why their suggested KPIs were appropriate, or sometimes proposed KPIs that were too similar to the current wastage KPI used by the company (the sub-task was for KPIs that could be added to the dashboard). Some candidates also proposed cost related KPIs rather than sustainability ones.

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Variant 3 Comments on performance

Task 1

The first sub-task asked for an explanation of the components of a time series analysis. This tested core activity B. This was reasonably well answered. Most candidates could explain the meaning of the trend and interpret it well, although few candidates commented that sales had risen more steeply in recent years. Candidates also explained what seasonal variations were and correctly identified the seasonal variations impacting the sales of meal-kit boxes. Fewer candidates offered reasons why these seasonal variations may have occurred in the context of the case.

The second sub-task asked for an explanation of the limitations of using the data and time series analysis to forecast sales volumes. This tested core activity B. The quality of answers here was mixed. Many candidates explained the problems of relying on past data and the issues with the time series analysis in a general way, which limited scores to mid-level 2. However, there were some excellent answers where candidates utilised information from the pre-seen and the scenario to provide application.

The third sub-task asked for an explanation of a decision tree and how it could be used to select which AI supplier would be the best financially. It also asked for an explanation of the limitations of using this data and the expected value to make the decision. This tested core activity E. Again, the quality of answers here was mixed. Most candidates commented on how the tree was drawn and the meaning of the various elements of the tree such as the circles and the squares as well as how the expected value figures had been determined. Some candidates merely stated what they could see, therefore simply repeating the information in the task and not addressing how to use the tree. Good candidates explained each stage of using the tree working from right to left, clearly articulating the decisions at each square. Many candidates were able to recommend the correct decision of AI supplier, however, sometimes this was purely based on an assessment of the highest expected value as opposed to from analysis from right to left. Most candidates addressed the limitations well. However, as in other questions of this type, to score well application to the scenario was required for higher level 2 and level 3 scores.

Task 2

The first sub-task asked for an explanation of the information shown on a multi-product break-even chart and the benefits and limitations of using this data to analyse the break-even position. This tested core activity E. Most candidates did well here and were able to explain the fixed cost line, the two product mix lines (referring to the individual products) and the breakeven points, explaining why these were different depending on the line. Fewer candidates mentioned the relative gradients of the lines. Some candidates either had not prepared for this topic and did not know the meaning of the lines or lacked clarity in their explanation. Most candidates understood the

relationship between C/S ratios and the ability of the company to breakeven. Candidates were not able to articulate the benefits and limitations very well and unfortunately, these were, far too often, vague at best. Again, the application is key here to score a good mark.

The second sub-task asked for an explanation of how adopting an ABC approach would change the way in which production overheads were absorbed by Herbs & Spices products and how using ABC could improve overall cost control in that department. This tested core activity A. Most candidates gave an explanation of ABC (cost drivers and cost pools) without applying this to the available information given about the blending process. Some candidates did successfully identify the specific activities from the blending process, however, few candidates attempted to then identify appropriate cost drivers for those activities and even fewer how this would then impact the distribution of overheads. Case tasks on ABC are highly applied and, as such, candidates would benefit from taking time to think about the scenario before launching into their answer. Regarding cost control, most candidates were able to explain that a better understanding of what drives the costs would focus management, although only a few candidates gave examples. Some candidates discussed other benefits of ABC, such as more accurate cost-based pricing, however, these did not address the task which focussed on cost control.

Task 3

The first sub-task asked for an explanation of the meaning of each of the fixed production overhead variances sown in Table 1 and the possible reasons why each variance had occurred. This tested core activity C. Candidates should be reminded that if they are asked to explain the meaning, this does not mean they should state how the variance is calculated, rather what the adverse or favourable attached to the variance, tells us. For example, the adverse overhead expenditure variance means that more was spent on fixed overheads than budget. Most candidates were clear on the meaning of the fixed overhead expenditure variance and articulated well the reasons this had occurred. Many candidates could also explain the meaning and the reasons for the efficiency variance. Many candidates did however struggle to explain the meaning of the capacity variance or indeed the reasons for it specifically. The total fixed overhead variance represents over or, in this case, under-absorption. Few candidates commented on the total variance at all, and fewer correctly identified this as under-absorption. Rote learning formulae for variances are not that helpful for the Case Study where the emphasis is on meaning and interpretation and not calculation.

The second sub-task asked for a suggestion and justification of three KPIs that were appropriate for inclusion in the service level agreement in relation to the performance and maintenance of the robots. This tested core activity C. Candidates that scored at a high level 2 or level 3 did so because they broke this sub-task down to firstly identify SMART KPIs and then secondly, justify why these were appropriate. However, for many candidates, marks were lost because of a lack of clarity over the measure and a lack of detail regarding the justification.

The third sub-task asked for an explanation of how a right-of-use asset would initially be measured and how it would impact the financial statements for the year ending 31 December 2022. This tested core activity D. Most candidates seem to have a reasonable understanding of the rules in IFRS 16 for initial measurement of a right-of-use asset. However, this was not the case for the subsequent measurement rules, as many candidates either missed this out altogether or provided only limited commentary. Even when there was evidence that candidates understood the treatment by showing the journal entries, there were limited explanations around this. The emphasis should be on the ability to communicate to a non-financially minded individual, and unfortunately showing just the journal entries would not be understood by such a person. Some candidates wasted time in explaining the treatment of the lease liability which was not required.

Task 4

The first sub-task asked for an explanation of why changing the initial assumption about each of four variables adversely by 5% would impact budgeted contributions and profits for the period as shown in Table 2. It also asked for an explanation of two limitations of using this what-if analysis. This tested core activity B. Candidate answers were generally quite poor, and many candidates scored at low or mid-level 2. Most candidates demonstrated an understanding of the contribution and profit and how changing the sales volume, selling price and variable costs would impact these. Very few candidates explained the scale of change referring to the impact of the relative absolute values on contribution and profit. Many candidates just re-wrote what was presented to them in the question, which was disappointing. Explanations in respect of fixed costs were poor. Many candidates were able to explain limitations of the what-if analysis, however, some answers were too vague and not specific to the scenario.

The second sub-task asked for an explanation of the suitability of the EOQ model for use in managing the inventory of outer boxes and whether the model could be adapted by relaxing some of its underlying assumptions. This tested core activity F. For a level 3 answer, candidates required a good knowledge of not only the purpose of the model, but also its underlying assumptions. Therefore, candidates needed to explain each assumption of the model and how this may or may not be suited to the situation regarding supply of the outer boxes. For example, the economic order quantity requires that the lead time be constant, or the demand be known. Neither situation was possible from the scenario. Many candidates explained inventory management in a more general way. Candidates were expected to comment on whether the model could be adapted. Many candidates commented however on the adoption of economic order quantity rather than the adaptation of it. This lack of focus in answering the sub-task given resulted in lower scores.

The final sub-task asked for an explanation of how each of the two issues should be treated in the financial statements for the year ended 31 December 2022. This tested core activity D. Both issues concerned IAS 10. Most candidates answered this well. Most were able to correctly identify whether the event was adjusting or non-adjusting. Clarity of explanation is key to this type of task, and this is where some candidates lost marks.

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Variant 4 Comments on performance

Task 1

The first sub-task asked for an explanation of the importance of preparing budgets for the new Ready@Home production facility and how these budgets would assist Victor in this management of the new facility. This tested core activity B. Many candidates were able to explain the importance of preparing budgets in relation to planning, control, co-ordination and so on, but often scores were limited to a lower level 2 because answers lacked application to this specific scenario. A significant number of candidates failed to explain how the budget would assist Victor which also limited the marks given. Some candidates clearly didn't know how to answer this and took this as an opportunity to write what they knew about incremental and zero-based budgeting. This approach scored no marks and was a waste of the candidate's time.

The second sub-task asked for an explanation of the sources and types of big data that would assist with creating a sales forecast for the new Ready@Home range. This tested core activity B. Most candidates demonstrated a general understanding of the basic concept of big data, but often could not explain how this would be helpful in creating a sales forecast. To score at a higher level 2 or level 3, candidates needed to explain both sources and types of big data relevant for a sales forecast for the new Ready@Home range. For example, long range weather forecasts or industry reports from the internet. Very few candidates did this.

The third sub-task asked for an explanation of how, by managing receivables, the company could limit the impact that selling to retailers could have on cash flow. This tested core activity F. Those candidates that had read the task properly, generally scored well here. Unfortunately, a significant number of candidates failed to identify that this task was focussed on the management of receivables. These candidates explained how to improve the company's cash flow by, for example, taking longer to pay suppliers, introducing JIT, or obtaining more loan finance. None of these are about receivables management, and therefore no marks could be awarded. Candidates that focussed on factoring, prompt payment discounts and good credit control practices often scored at level 3.

Task 2

The first sub-task asked for an explanation of what each of the statistical measures in Table 2 meant in the context of the information given. It also asked for an explanation of how the decision about which promotional campaign to choose would be made using a risk neutral, risk seeking and risk averse approach, stating the choice under each approach. This tested core activity E. Most candidates did well here, with many level 3 scores. Common reasons for not achieving a level 3 score were a lack of technical accuracy and clarity when explaining the statistical measures and applying the maximin decision criterion for the risk averse approach. Again, candidates are reminded that maximax and maximin decision criteria are not appropriate in risk situations where probabilities are given.

The second sub-task asked for an explanation of how the lease for the cooking vats will be initially recorded and then subsequently measured in the financial statements for the year ending 31 December 2022. This tested core activity D. This was either answered very well or very poorly, indicating that candidates either had the technical knowledge, or did not. How to account for leased assets is a common task at OCS and therefore it is surprising that there are still so many very poor answers.

The third sub-task asked for an explanation of how purchasing outright would affect the way that the cooking vat assets are reflected in the financial statements for the year ending 31 December 2022. This tested core activity D. Most candidates were able to accurately and fully explain the accounting treatment for purchasing the assets outright, which was good to see. However, very few candidates actually commented on how this treatment differed to the lease treatment and as a result lost marks.

Task 3

The first sub-task asked for explanation of what the information shown in Chart 1 indicated. This tested core activity E. This was well answered by most candidates, with many achieving a level 3 score, indicating good preparation for this type of task. Candidates that didn't score well here usually did so because their answers only identified information from the chart with little or no explanation or limited their answers to just one of the lines.

The second sub-task asked for an explanation of how the chart and break-even position would be affected by a change in the budgeted mix of products sold (with a higher proportion of sauces and a lower proportion of soups) and a change in the mix of sales channels (with a higher proportion through the website compared to through retailers). This tested core activity E. Most candidates were able to accurately explain the impact of the changes in the mix to the break-even position. However, far fewer candidates explained the impact on the chart. What was expected here was an explanation of how the gradients of the lines would change as well as an explanation of the changes to the lengths of the segments AB and CD.

The third sub-task asked for an explanation of what was meant by unit, batch, product and facility level activities in the context of the Ready@Home range and the new production facility. It also asked for examples of overhead costs for each of these categories. This tested core activity A. There were very few good answers here, and most candidates scored at level 1. It was apparent that most candidates had little knowledge of the hierarchy and, as a result, struggled to provide examples of activities and overhead costs for each level, other than in the most basic of terms. To do well, candidates were expected to demonstrate understanding that unit-level activities were ones where the consumption of resources was linked to the level of output, batch-level activities where resources were consumed in proportion to the number of batches and so on. They were also expected to give sensible examples of overheads in the context of this business.

Task 4

The first sub-task asked for an explanation of what the sales price, sales mix profit and sales quantity profit variances in Table 1 meant and possible reasons for each variance. This tested core activity C. Most candidates were able to explain the meaning of the sales price variance with accuracy and to give appropriate reasons for both variances. However, only a small number of candidates explained the mix and quantity variances with accuracy. Regarding the mix variance, some candidates explained the variances as if they had been calculated using the weighted average method rather than the individual unit methods. Other candidates explained the mix variances as meaning either more or less of a range had been sold, rather than a higher of lower proportion of a range had been sold. Regarding the quantity variance, most candidates explained the meaning of this variance as if it was a volume variance and failed to recognise that both the actual and budgeted volumes were in the standard mix and that therefore this variance should be considered in total.

The second sub-task asked for an explanation of whether it would be beneficial to split the Everyday sales price variance into its planning and operational elements and any possible problems faced when doing so. This tested core activity C. Most candidates demonstrated an understanding of planning and operational variances in a general sense but failed to reference this to the Everyday sales price variance. Many of the possible problems given were generic rather than applied to the scenario. As a result, many candidates failed to score higher than a low level 2.

The third sub-task asked for suggestions of three KPIs that would be appropriate for the dashboard for Ready@Home website sales. It also asked for an explanation of how each KPI would be measured and why it would be appropriate. This tested core activity C. Whilst most candidates demonstrated an understanding of KPIs, their suggestions were not always focussed on the success of social media marketing or for measuring customer buying behaviour. Some candidates gave KPIs linked to the website itself, which were not really relevant in this context. There was generally also a lack of clarity in how the proposed KPIs could be measured.

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Variant 5 Comments on performance

Task 1

The first sub-task asked for an explanation of what Table 1 and Chart 1 showed and why using this information to produce a forecast of demand for vegan meal-kits for quarter 4 of 2022 onwards would be difficult. This tested core activity B. To score well here, candidates were required to apply their knowledge of time series and forecasting to the information given in the scenario. Most candidates were able to explain the general features of the trend and the seasonal variations within the data as well as explain how the data in the table had been determined. However, many candidates ignored the clues in the scenario and did not discuss the complexities in the data, for example, the impact of the TV show on the data in 2020. Most candidates could identify difficulties but sometimes these were generic and not well articulated. Few candidates mentioned the difficulty in establishing market share. Candidates are reminded that application is key for a higher level 2 or level 3 mark.

The second sub-task asked for an explanation of the direct and indirect costs associated with a specific video and the potential difficulties of determining a total cost for each specific video. This tested core activity A. The few candidates that scored well for the first part of this sub-task gave a clear explanation of direct and indirect costs in the context of the video series. Most candidate explanations were often too vague, lacked application and seemed to be based on a preprepared generic answer about the costing of digital products. It was surprising how many answers included costs that the candidate had made up, as opposed to those already given in the scenario, which was then ignored. As these answers were not applied and not wholly relevant, they did not score well. It should be noted that a list with no explanation or justification will also not be sufficient for a higher level 2 or level 3 mark. In explaining the difficulties of establishing a cost for a specific video, there were far too many generic answers such as ‘up-front costs are substantial and marginal costs are near to zero’. Not only was this not applied, but it was also not wholly correct here. Good answers thought about the problems relating to costing one specific video and used the information they had been given to base their answers.

Task 2

The first sub-task asked for an explanation of information shown in Table 1 and which option should be chosen using a risk neutral approach to decision making. It also asked for an explanation of one limitation of using this approach and one limitation of using this information to make the decision. This tested core activity E. Most candidates did well in explaining the decision, and most were able to correctly identify the lowest cost option of contract 2 (some chose the highest). However, most candidates did not explain the information in the table very well. This should be relatively straightforward but candidates in many cases either ignored it and went straight to the decision or gave a brief account of joint probabilities. There were a small number of answers that discussed the best-case scenario and worst-case scenario and the four potential scenarios modelled in the table, which was required for level 3. The part

of the sub-task about limitations was very specific, and candidates did not gain additional credit if they identified more than one. In this type of task, answers need to be well applied and expanded to gain the maximum marks for each point made (as opposed to listing several brief bullet points). Some candidates did not offer a limitation of both the method and the information so again did not gain high marks.

The second sub-task asked for an explanation, with appropriate justification, of how the old herbs & spices machinery would be reflected in the financial statements for the year ending 31 December 2022. This tested core activity D. Many candidates were able to identify most of the IFRS 5 criteria, however, some candidates did not apply the information they had been given in the scenario to the criteria. To score well, candidates should start by explaining the criteria and then how it is applied in the case they are dealing with. In explaining the accounting treatment of the asset, many candidates became confused with the date at which depreciation should cease, otherwise this part of the sub-task was done well.

The third sub-task asked for an explanation of how the disposal of the warehouse property would affect the amount of capital tax payable by the company for the year ending 31 December 2022. This tested core activity D. Most candidates had a good idea of how the capital gain would be calculated. However, many confused their answer by talking about depreciation, and there was very little knowledge of how indexation allowance would be applied.

Task 3

The first sub-task asked for an explanation of what each of the variances in Table 1 meant and possible reasons for their occurrence. This tested core activity C. Candidates are reminded that explaining the meaning of a variance is different from explaining how a variance is calculated and, although an explanation of the calculation involved may help to explain the meaning, it is not sufficient unless the meaning is also clear. For example, some candidates correctly explained that the fixed overhead expenditure variance compares actual fixed overhead spend to budget. However, to infer meaning, they needed to explain that an adverse variance means that the actual was more than budget. In explaining efficiency and capacity, many answers did not make clear that the overhead rate was based on machine hours and hence the meaning of the variance was not always clear. Most candidates did correctly identify the reasons for the variances. However, some candidates tried to throw every possible reason into each variance in the hope of covering the correct reason. These answers lacked clarity and therefore lost marks.

The second sub-task asked for an explanation of why each of the KPIs in Table 2 was appropriate for measuring the performance of the Herb & Spices Department Manager and the reasons why each measure had either been achieved or had not been achieved. This tested core activity C. Most candidates did well here and scored a high level 2 / level 3. Weaker candidates often failed to explain the appropriateness of the measures and did not relate their answers to the information in the scenario, instead discussing each more generically.

The third sub-task asked for an explanation of the factors to be considered when choosing a type of short-term investment of these funds. This tested core activity F. Most candidates were able to identify liquidity, risk and yield as factors, but only some candidates expanded on each factor using examples of relevant financial products as well as applying their answers to the scenario.

Task 4

The first sub-task asked for an explanation, for each of the items in Table 1, which were relevant, and which were irrelevant to the decision on whether to proceed with the roadshow. It also asked for indication, where appropriate, of further information that would be required to quantify the relevant costs and revenues. This tested core activity E. As is common in these types of tasks, candidates did themselves no favours by failing to explain the reason why the costs were relevant or not. This needed to be done for each cost or element of cost. It is not sufficient to include a definition of relevant costs at the start of an answer and then list relevant costs based on this underneath. It was clear in some cases that candidates knew whether a cost was relevant but did not justify it and therefore did not score many marks. There were a few good answers that articulated the additional information well. Some candidates did try to comment on other information, but this was more about the general success of the roadshow and not about the information needed to establish the relevant cost.

The second sub-task asked for an explanation of the features of a beyond budgeting approach and how it might be applied. It also asked for an explanation of the benefits to the business of using a beyond budgeting approach. This tested core activity B. Most candidates did well here and were able to explain the features of the approach. However, fewer managed to really explain how these could be applied. In explaining benefits, it was sometimes hard to determine what the actual benefit was as many answers were quite generic. Candidates are encouraged to state the benefit clearly before then expanding their answer. This avoids overlap between points given and helps students articulate their points more clearly.

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Variant 6 Comments on performance

Task 1

The first sub-task asked for an explanation, based on the information in Table 1, of how the features of a digital costing system could benefit the business. This tested core activity A. This was answered well by most candidates, with good use of the scenario material. Application of case material and answering the task set are key to success at OCS, and the majority of candidates achieved both with the data provided for the digital costing system. However, one weakness frequently demonstrated in this task was the tendency to repeat the information without adding any value. It was expected that candidates explain how and why the various features in the table amounted to a benefit for the company: not to simply to assert that it was.

The second sub-task asked for an explanation of how the promotional budget for the launch of the new OSHB range would be prepared using a ZBB approach. It also asked for an explanation of the potential limitations of using a ZBB approach across the business. This tested core activity B. This sub-task was less well answered. Many candidates provided a truncated rote-learned approach to ZBB without any specific application to the exhibit material or applied the data in the exhibit material to budgeting in general, often concluding that the inhouse cost was lower than the outsourced cost. In more than a few instances, candidates confused ZBB with activity-based budgeting which earned them very little credit. The general quality of candidate answers was disappointing for this sub-task with very few scoring at mid-level 2 or higher.

Task 2

The first sub-task asked for an explanation of how to use a decision tree to decide which marketing option should be chosen. It also asked for an explanation of the issues with using the information in the decision tree to make this situation. This tested core activity E. Although there are no marks for calculations in the OCS examination, using the figures presented in order to explain the relevant technique is always going to be the most concise and complete approach. There were some excellent answers, but a significant number of candidates presented little more than a description of the decision tree and how it had been constructed from left to right. This was not answering the task set and earned little credit. With regard to the issues with the information, almost all candidates gave a mechanical repeat of the textbook limitations of expected value. Few candidates considered that one of the outcomes was considered to be 100% certain or that the probabilities associated with “high sales” demand were significantly different.

The second sub-task asked for suggestions of three KPIs which measured food waste and one KPI which measured food recoverability. It also asked, for each of the four KPIs, an explanation of how it would be calculated and why it would be appropriate. This tested core activity C. KPIs are examined in every OCS variant, and it should be no surprise to any candidate that they are required to compile

these. Most candidate answers were quite poor, with no explanation of how they should be calculated and limited justification. Often, a justification was simply restating the title of the KPI but using more words, this was not enough value added to count as a justification. Frequently, the KPIs were outside the scope of the definition given in the scenario for food waste or recoverability. Some answers applied the KPIs to the existing meal-kits rather than the new product. Candidates must be careful to read the task carefully, as answers that address tasks that have not been posed earn no marks.

Task 3

The first sub-task asked for an explanation of what each of the variances in Tables 1 and 2 meant, giving possible reasons why the variances had occurred and what the variances indicated about the overall sales performance for the new OSHB range in November 2022. This tested core activity C. Whilst most candidates were competent with the sales price variance, few could explain the meaning of the sales profit mix or sales profit quantity adequately. The majority of candidates believe that the sales volume variance is the sales profit quantity variance (it isn't) and few could attribute the facts presented in the scenario to the correct variance with any conviction. This subject is core to the P1 syllabus, and it is disappointing that so few candidates appear to understand sales variances. Candidates were also asked to explain what the variances indicated about overall sales performance and practically no candidates addressed this.

The second sub-task asked for an explanation of what the working capital cycle information in Table 3 indicated about the actual level of working capital compared to budget, including any potential effects on cashflow and any limitations of the available information. This tested core activity F. The first part of this task was answered quite well, as most candidates appear to have a good understanding of the working capital cycle, although weaker candidates simply described the data given rather than explaining what it meant. For example, "raw material days are three days higher than budget" without any further comment or judgement, is not enough to earn marks.

The third sub-task asked for an explanation of any actions that could be taken to shorten the actual working capital cycle. This tested core activity F. Most candidates presented more than one reasonable action to shorten the working capital cycle, but a few suggested that the company should start offering customers credit which would have had the opposite effect.

Task 4

The first sub-task asked for an explanation of how the different items of inventory in Table 1 would affect the financial statements for the year ending 31 December 2022. This tested core activity D. Candidates appear to have limited knowledge or understanding of IAS 2: Inventory. It was disappointing to see so few answers that addressed the effect of a simple inventory write-off on both the statement of financial position and the statement of profit or loss.

The second sub-task asked for an explanation of how the insurance claim receipt in Table 1 would affect the financial statements for the year ending 31 December 2022. This tested core activity D. Again, it was disappointing how few candidates were able to explain the impact of a relatively straightforward accrual for income on the financial statements.

The third sub-task asked for an explanation of how stress test drills following a simulated cyber-attack on the production scheduling system would improve awareness of the short-term impact of such an attack. It also asked for examples relating to the achievement of budgeted output levels and cashflows. This tested core activity B. This was answered well by the vast majority of candidates, even though this is an area that has not been examined extensively before. Most candidates demonstrated an understanding of what a stress test drill was and were able to explain its benefits comprehensively within the context given.

The fourth sub-task asked for an explanation of why each of the costs in Table 2 and the accompanying notes was relevant, or not, to the decision regarding the acceptance of an offer from Solid Promotions. This tested core activity E. Similar questions have been posed in almost every OCS examination and candidates who had taken the trouble to attempt past papers scored highly. Unfortunately, there were a significant number of candidates who did not read the exhibit evidence carefully enough. For example, the design work had already been undertaken and was therefore a sunk cost and not, as many suggested, a future incremental cost. Furthermore, some candidates had no understanding of relevant costs at all and were not able to secure any marks.

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Operational Level Case Study May and August 2022

Marking Guidance

Variant 1

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 Professional Qualification Operational Case Study [May–August 2022].

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, and markers are subject to extensive training, standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken to not 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.

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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.

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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.	52%
(b)	F	Prepare information to manage working capital.	48%
Section 2			
(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 3			
(a)	C	Analyse performance using financial and non-financial information.	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 4			
(a)	C	Analyse performance using financial and non-financial information.	40%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	24%
(c)			36%

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SECTION 1			
Task (a): **Explain** how to revise the cost budget for the second half of 2022 using a flexible budgeting approach. Please also explain why it is important to flex this original cost budget.			
Trait			
Cost budget	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of flexible budgeting. The explanation of how to prepare a flexible cost budget is limited and lacks clarity, completeness and application to the scenario.	1 – 3
	Level 2	Demonstrates reasonable understanding of flexible budgeting. The explanation of how to prepare a flexible cost budget lacks some clarity, completeness and/or application to the scenario.	4 – 6
	Level 3	Demonstrates good understanding of flexible budgeting. The explanation of how to prepare a flexible cost budget is mostly clear and complete, with application to the scenario.	7 – 8
Importance	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of the importance of flexing the cost budget. The explanation lacks clarity and application to the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of the importance of flexing the cost budget. The explanation lacks some clarity or application to the scenario.	3 – 4
	Level 3	Demonstrates good understanding of the importance of flexing the cost budget. The explanation is mostly clear and applied to the scenario.	5

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SECTION 1 (CONTINUED)			
Task (b): **Explain** the factors to consider when agreeing initial credit terms with corporate customers and the actions we will need to take to manage the receivables balances of these customers after we start trading with them.			
Trait			
Credit terms	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies factors to consider when agreeing initial credit terms with the new corporate customers, but there is a lack of depth, clarity and application to the scenario in the explanation.	1 – 2
	Level 2	Identifies factors to consider when agreeing initial credit terms with the new corporate customers. The explanation lacks some depth, clarity and application to the scenario.	3 – 4
	Level 3	Identifies factors to consider when agreeing initial credit terms with the new corporate customers. The explanation is comprehensive and clear, and there is application to the scenario.	5 – 6
Manage receivables	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies actions that will need to be taken, although there is a lack of clarity, depth and application to the scenario in the explanation.	1 – 2
	Level 2	Identifies actions that will need to be taken. The explanation lacks some depth, clarity and application to the scenario.	3 – 4
	Level 3	Identifies actions that will need to be taken. The explanation is comprehensive and clear, and there is application to the scenario.	5 – 6

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SECTION 2			
Task (a): **Explain** how to determine the cost per user of the new app. Please also explain the difficulties associated with doing this.			
Trait			
Cost per user	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to determine the cost per user of the new app. There is little if any reference to the costing information provided or recognition of the nature of some of the costs. The explanation lacks clarity and depth.	1 – 2
	Level 2	Demonstrates reasonable understanding of how to determine the cost per user of the new app. There is some reference to the costing information provided and some recognition of the nature of some of the costs. The explanation lacks some clarity and/or depth.	3 – 4
	Level 3	Demonstrates good understanding of how to determine the cost per user of the new app. There is reasonable reference to the costing information provided and recognition of the nature of some of the costs. The explanation is mostly clear.	5 – 6
Difficulties	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies some of the difficulties associated with determining the cost per user of the new app. There is a lack of clarity and depth to the explanation. There is no application to the scenario.	1 – 2
	Level 2	Identifies some of the difficulties associated with determining the cost per user of the new app. The explanation may lack some clarity and/or depth. There is some application to the scenario.	3 – 5
	Level 3	Identifies most of the difficulties associated with determining the cost per user of the new app. The explanation is mostly clear and comprehensive. There is reasonable application to the scenario.	6 – 7

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SECTION 2 (CONTINUED)			
Task (b): Identify, with justification, whether each of the costs in Table 2 are relevant or irrelevant when deciding which option is better financially. Please also explain other factors that we would need to consider before deciding whether to outsource the transaction processing.			
Trait			
Relevant / irrelevant	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies correctly whether some of the costs are relevant or irrelevant. Justification may be missing or lack clarity.	1 – 2
	Level 2	Identifies correctly whether most of the costs are relevant or irrelevant. Justification may be occasionally missing or lack some clarity.	3 – 4
	Level 3	Identifies correctly whether most of the costs are relevant or irrelevant. Justification is mostly clear.	5 – 6
Other factors	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one other factor within the context of the scenario. The explanation may lack clarity.	1 – 2
	Level 2	Explains at least two other factors within the context of the scenario. The explanation may lack some clarity.	3 – 4
	Level 3	Explains at least three other factors within the context of the scenario. The explanation is mostly clear.	5 – 6

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SECTION 3			
Task (a): Suggest three KPIs that could be used to monitor the performance of the new Corporate Sales Manager. Please include an explanation of how each KPI would 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 monitoring the performance of the Corporate Sales Manager. The justification and explanation of how the KPI(s) would be measured is likely to lack clarity, depth and application to the scenario.	1 – 3
	Level 2	Identifies at least two KPIs which are appropriate for monitoring the performance of the Corporate Sales Manager. The justification and explanation of how the KPIs would be measured may lack some clarity, depth and/or application to the scenario.	4 – 6
	Level 3	Identifies three KPIs which are appropriate for monitoring the performance of the Corporate Sales Manager. The justification and explanation of how the KPIs would be measured is mostly clear, comprehensive and applied to the scenario.	7 – 9

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SECTION 3 (CONTINUED)			
Task (b): Explain the potential benefits and drawbacks of involving Bina Keo in setting budgets and KPI targets for corporate sales.			
Trait			
Participation	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one potential benefit or drawback of involving Bina Keo in budget and target setting. The explanation is likely to lack clarity with little reference to the scenario.	1 – 2
	Level 2	Explains at least two potential benefits or drawbacks of involving Bina Keo in budget and target setting. The explanation may lack some clarity or reference to the scenario.	3 – 5
	Level 3	Explains at least three potential benefits or drawbacks of involving Bina Keo in budget and target setting, with at least one of each. The explanation is mostly clear, and there is a good attempt to reference the scenario.	6 – 7
Task (c): Explain the maximax, maximin and minimax regret decision criteria and how we should use each of these to decide which initial order option to choose. Please identify the option that would be chosen under each criterion.			
Trait			
Decision criteria	**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 may lack a little clarity or one of the correct options may not be selected.	7 – 9

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SECTION 4			
Task (a): **Explain** what each of the variances in Table 1 and Table 2 means 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 of the variances with technical accuracy. The explanation lacks clarity and depth. The reasons given are generic, as there is limited reference to the scenario and the context. There is no linkage made between any of the variances.	1 – 3
	Level 2	Explains the meaning of at least two of the variances with technical accuracy. The explanation may lack some clarity and depth. The reasons given are usually linked to the correct variances, and there is reasonable reference to the scenario and the context. There is some attempt to make links between the variances.	4 – 7
	Level 3	Explains the meaning of all three variances with technical accuracy. The explanation is mostly clear and comprehensive. The reasons given are mostly linked to the correct variances, and there is good reference to the scenario and the context. There is a reasonable attempt to make links between the variances.	8 – 10

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SECTION 4 (CONTINUED)			
Task (b): **Explain** how each of the items of expenditure in Table 3 should be recorded in our financial statements for the year ended 31 December 2022.			
Trait			
IAS 16	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains with technical accuracy how one or two of the items of expenditure will be recorded in the financial statements. The explanation lacks clarity and reference to the information given.	1 – 2
	Level 2	Explains with technical accuracy how two or three of the items of expenditure will be recorded in the financial statements. The explanation may lack some clarity but does attempt to reference the information given.	3 – 4
	Level 3	Explains with technical accuracy how all three of the items of expenditure will be recorded in the financial statement. The explanation is mostly clear and makes good reference to the information given.	5 – 6

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SECTION 4 (CONTINUED)			
Task (c): **Explain** whether the old herb portioning machine meets the criteria to be reclassified as a non-current asset held for sale in our financial statements for the year ended 31 December 2022. Please also explain how the asset will be treated in these financial statements.			
Trait			
Criteria	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates general understanding of some of the criteria in IFRS 5 for reclassification as an asset held for sale. There is limited application of these criteria to the scenario.	1 – 2
	Level 2	Demonstrates general understanding of most of the criteria in IFRS 5 for reclassification as an asset held for sale. There is reasonable application of these criteria to the scenario.	3 – 4
	Level 3	Demonstrates general understanding of the criteria in IFRS 5 for reclassification as an asset held for sale. There is good application of these criteria to the scenario.	5
Treatment	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains little about how the asset held for sale will be recorded (separate category of current asset and depreciation stopped) or valued (lower of carrying value and fair value less costs to sell). The explanation lacks clarity and depth.	1
	Level 2	Explains some aspects of how the asset held for sale will be recorded and valued. The explanation may lack some clarity.	2 – 3
	Level 3	Explains most aspects of how the asset held for sale will be recorded and valued. The explanation is mostly clear.	4

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Operational Level Case Study May 2022–August 2022

Marking Guidance

Variant 2

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [May–August 2022].

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, and markers are subject to extensive training, 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.

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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.	48%
(b)	**A**	Prepare costing information for different purposes to meet the needs of management.	32%
(c)	**A**	Prepare costing information for different purposes to meet the needs of management.	20%
Section 2			
(a)	**E**	Prepare information to support short-term decision making.	36%
(b)	**E**	Prepare information to support short-term decision making.	24%
(c)	**F**	Prepare information to manage working capital.	40%
Section 3			
(a)	**E**	Prepare information to support short-term decision making.	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)	**C**	Analyse performance using financial and non-financial information.	76%
(b)	**C**	Analyse performance using financial and non-financial information.	24%

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SECTION 1			
Task (a) **Explain** and **justify** how the new property will be initially recorded and subsequently measured in our financial statements for the year ending 31 December 2022.			
Trait			
Initial	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of the initial recognition rules in IAS 16. The explanation lacks clarity, depth and/or 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 initial recognition rules in IAS 16. The explanation may lack some clarity or depth or include some technical inaccuracies. There is a reasonable attempt to reference the information given in the scenario.	3 – 4
	Level 3	Demonstrates good technical understanding of the initial recognition rules in IAS 16. The explanation is mostly clear, comprehensive and technically accurate. There is a good attempt to reference the information given in the scenario.	5

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SECTION 1 (CONTINUED)			
Task (a) continued: **Explain** and **justify** how the new property will be initially recorded and subsequently measured in our financial statements for the year ending 31 December 2022.			
Trait			
Subsequent	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of the subsequent measurement rules in IAS 16. The explanation lacks clarity, depth and/or 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 in IAS 16. The explanation may lack some clarity or depth or include some technical inaccuracies. There is a reasonable attempt to reference the information given in the scenario.	3 – 5
	Level 3	Demonstrates good technical understanding of the subsequent measurement rules in IAS 16. The explanation is mostly clear, comprehensive and technically accurate. There is a good attempt to reference the information given in the scenario.	6 – 7

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SECTION 1 (CONTINUED)			
Task (b): **Explain** the suitability of the new production facility as a pilot for the introduction of ABC.			
Trait			
ABC	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of when ABC is suitable. The explanation lacks clarity and application to the scenario.	1 – 3
	Level 2	Demonstrates reasonable understanding of when ABC is suitable. The explanation may lack some clarity and/or application to the scenario.	4 – 6
	Level 3	Demonstrates good understanding of when ABC is suitable. The explanation is mostly clear and applied to the scenario.	7 – 8
Task (c): **Explain** how the use of a digital costing system could improve our costing information and why this would benefit our business.			
Trait	**Level**	**Descriptor**	**Marks**
Digital costing		No rewardable material	0
	Level 1	Explains what is meant by a digital costing system but does not necessarily explain how this would improve costing information. Some attempt to explain benefits of more accurate costing information which are not necessarily linked to the use of digital information. The explanation is likely to lack clarity.	1 – 2
	Level 2	Explains what is meant by a digital costing system and attempts to explain how this would improve costing information. Reasonable attempt to explain benefits of more accurate costing information. The explanation may lack clarity.	3 – 4
	Level 3	Explains clearly what is meant by a digital costing system and how this would improve costing information. Good attempt to explain benefits of more accurate costing information.	5

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SECTION 2			
Task (a): **Explain** what Chart 1 indicates about the cost structure of the two options for the supply of platters. Please also give two reasons why the decision about which option to take should not be based on the expected value of demand.			
Trait			
Cost structure	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates limited understanding of the cost structures shown in Chart 1. The explanation is likely to lack clarity, technical accuracy and reference to the information in the chart.	1 – 2
	Level 2	Demonstrates reasonable understanding of the cost structures shown in Chart 1. The explanation may lack some clarity and/or technical accuracy. There is some attempt to reference the information in the chart.	3 – 4
	Level 3	Demonstrates good understanding of the cost structures shown in Chart 1. The explanation is mostly clear and technically accurate with reference to the information in the chart.	5
Decision	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains one reason why the decision about which option to take should not be based on the expected value of demand. The explanation lacks clarity and application to the scenario.	1
	Level 2	Explains at least one reason why the decision about which option to take should not be based on the expected value of demand. The explanation may lack some clarity or application to the scenario	2 – 3
	Level 3	Explains two reasons why the decision about which option to take should not be based on the expected value of demand. The explanation is mostly clear and applied to the scenario.	4

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SECTION 2 (CONTINUED)			
Task (b): **Explain** three factors that need to be considered before making a final decision about whether to buy in from the supplier or produce the platters in-house.			
Trait			
Factors	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one relevant factor. The explanation may lack clarity, depth and/or application.	1 – 2
	Level 2	Explains at least two relevant factors. The explanation may lack some clarity, depth and/or application.	3 – 4
	Level 3	Explains at least three relevant factors. The explanation is mostly clear and applied to the scenario.	5 – 6

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SECTION 2 (CONTINUED)			
Task (c): **Explain** what the information contained in Table 2 indicates about how each supplier manages its working capital and its suitability to be our tray supplier.			
Trait			
Gem Catering	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of how Gem Catering manages its working capital based on the information given. The explanation lacks clarity, depth and is unlikely to comment on the company's suitability as a supplier.	1 – 2
	Level 2	Demonstrates reasonable understanding of how Gem Catering manages its working capital based on the information given. The explanation may lack some clarity or depth or may not comment on the company's suitability as a supplier.	3 – 4
	Level 3	Demonstrates good understanding of how Gem Catering manages its working capital based on the information given. The explanation is clear and comprehensive and does comment on the company's suitability as a supplier.	5
Snack Excel		No rewardable material	0
	Level 1	Demonstrates some understanding of how Snack Excel manages its working capital based on the information given. The explanation lacks clarity, depth and is unlikely to comment on the company's suitability as a supplier.	1 – 2
	Level 2	Demonstrates reasonable understanding of how Snack Excel manages its working capital based on the information given. The explanation may lack some clarity or depth or may not comment on the company's suitability as a supplier.	3 – 4
	Level 3	Demonstrates good understanding of how Snack Excel manages its working capital based on the information given. The explanation is clear and comprehensive and does comment on the company's suitability as a supplier.	5

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SECTION 3			
Task (a): **Explain** whether it is worthwhile buying additional trays with an emergency order and how to determine, based on Graph 1, how many trays we should order.			
Trait			
Additional trays	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of binding constraints and shadow price to determine if it is worthwhile buying additional trays. Makes little attempt to explain how to use the graph to determine how many to order. The explanation lacks clarity and reference to the information in the scenario.	1 – 3
	Level 2	Demonstrates reasonable understanding of binding constraints and shadow price to determine if it is worthwhile buying additional trays. Makes some attempt to explain how to use the graph to determine how many to order. The explanation lacks some clarity, although there is an attempt to reference the information in the scenario.	4 – 6
	Level 3	Demonstrates good understanding of binding constraints and shadow price to determine if it is worthwhile buying additional trays. Makes a reasonable attempt to explain how to use the graph to determine how many to order. The explanation is mostly clear with good reference to the information in the scenario.	7 – 8

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SECTION 3 (CONTINUED)			
Task (b): Explain how a ZBB approach can be applied to create a budget for machinery maintenance costs in the new production facility.			
Trait			
ZBB	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of the principles of ZBB, but the explanation lacks clarity, depth and application to the scenario.	1 – 3
	Level 2	Demonstrates understanding of the principles of ZBB, but the explanation may lack some clarity, depth and/or application to the scenario.	4 – 6
	Level 3	Demonstrates understanding of the principles of ZBB, and the explanation is mostly clear, comprehensive and applied to the scenario.	7 – 9
Task (c): Explain two benefits and two challenges of using ZBB to prepare the machinery maintenance cost budget.			
Trait			
Benefits	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one benefit, but the explanation lacks clarity and application to the scenario.	1
	Level 2	Explains at least one benefit. The explanation may lack some clarity and/or application to the scenario.	2 – 3
	Level 3	Explains two benefits. The explanation is clear and applied to the scenario.	4
Challenges	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one challenge, but the explanation lacks clarity and application to the scenario.	1
	Level 2	Explains at least one challenge. The explanation may lack some clarity and/or application to the scenario.	2 – 3
	Level 3	Explains two challenges. The explanation is clear and applied to the scenario.	4

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SECTION 4			
Task (a): **Explain** what each of the variances shown in Table 1 means and possible reasons for their occurrence, based on the information from Greta above and the extract of the KPI dashboard in Table 2.			
Trait			
Raw materials	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates technical understanding of one of the variances, but the explanation lacks clarity and application to the scenario.	1
	Level 2	Demonstrates technical understanding of both variances, but the explanation may lack some clarity. The reasons for and/or what the variances indicate may not be clear or appropriate for the variance.	2 – 3
	Level 3	Demonstrates understanding of both variances. The reasons and what the variances indicate are mostly clear and appropriate for the variance.	4
Direct labour	**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 – 2
	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 indicate may not be clear or appropriate for the variance.	3 – 4
	Level 3	Demonstrates understanding of all three variances. The reasons and what the variances indicate are mostly clear and appropriate for the variance.	5 – 6

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SECTION 4 (CONTINUED)			
Task (a) continued: **Explain** what each of the variances shown in Table 1 means and possible reasons for their occurrence, based on the information from Greta above and the extract of the KPI dashboard in Table 2.			
Trait			
Variable overhead	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates technical understanding of one of the variances, but the explanation lacks clarity and application to the scenario.	1 – 2
	Level 2	Demonstrates technical understanding of both variances, but the explanation may lack some clarity. The reasons for and/or what the variances indicate may not be clear or appropriate for the variance.	3 – 4
	Level 3	Demonstrates understanding of both variances. The reasons and what the variances indicate are mostly clear and appropriate for the variance.	5
KPI review	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Provides some reference to the KPIs in the dashboard when explaining the variances, but this is limited and not necessarily related to the correct variance.	1
	Level 2	Provides reasonable reference to the KPIs in the dashboard when explaining the variances, but this may not necessarily relate to the correct variance.	2 – 3
	Level 3	Provides good reference to the KPIs in the dashboard when explaining the variances.	4

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SECTION 4 (CONTINUED)			
Task (b): **Suggest** two KPIs relating to sustainability that could be added to the dashboard for the Party Box Production Facility. Please explain why each KPI would be appropriate and how it would be measured.			
Trait			
KPIs	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Suggests at least one appropriate KPI. The explanation of why the KPI(s) is (are) appropriate and how it (they) would be measured lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Suggests at least one appropriate KPI. The explanation of why the KPI(s) is (are) appropriate and how it (they) would be measured may lack some clarity, depth and/or application to the scenario.	3 – 4
	Level 3	Suggests two appropriate KPIs. The explanation of why the KPIs are appropriate and how (they) would be measured is mostly clear, comprehensive and applied to the scenario.	5 – 6

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Operational Level Case Study May 2022–August 2022

Marking Guidance

Variant 3

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [May–August 2022].

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, and markers are subject to extensive training, standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken to not 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.

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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.

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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.	32%
(b)	**B**	Prepare budget information and assess its use for planning and control purposes.	20%
(c)	**E**	Prepare information to support short-term decision making.	48%
Section 2			
(a)	**E**	Prepare information to support short-term decision making	48%
(b)	**A**	Prepare costing information for different purposes to meet the needs of management.	52%
Section 3			
(a)	**C**	Analyse performance using financial and non-financial information.	36%
(b)	**C**	Analyse performance using financial and non-financial information.	36%
(c)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	28%
Section 4			
(a)	**B**	Prepare budget information and assess its use for planning and control purposes.	40%
(b)	**F**	Prepare information to manage working capital.	36%
(c)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	24%

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SECTION 1			
Task (a): **Explain** the components which make up a time series analysis.			
Trait			
Components	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of the components of time series analysis. The explanation lacks clarity, depth and application to the scenario.	1 - 3
	Level 2	Demonstrates reasonable understanding of the components of time series analysis. The explanation may lack some clarity, depth and/or application to the scenario.	4 - 6
	Level 3	Demonstrates good understanding of the components of time series analysis. The explanation is mostly clear, comprehensive and there is application to the scenario.	7 - 8
Task (b): **Explain** the limitations of using this data and time series analysis to forecast our sales volumes.			
Trait			
Limitations 1	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one limitation. The explanation is likely to lack clarity and not refer to the scenario.	1 - 2
	Level 2	Explains at least two limitations. The explanation may lack some clarity and may not reference the scenario.	3 - 4
	Level 3	Explains at least two limitations. The explanation is mostly clear and effectively references the scenario.	5

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SECTION 1 (CONTINUED)			
Task (c): **Explain** the decision tree and how it can be used to select which AI software supplier would be best financially. Please also explain the limitations of using this data and expected values to make this decision.			
Trait			
Use	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of the decision tree but explains limited aspects of how the decision tree could be used to make the decision. There is little or no reference to the scenario, and the explanation lacks clarity.	1 - 2
	Level 2	Demonstrates reasonable understanding of the decision tree and explains some aspects of how the decision tree could be used to make the decision. Reference to the scenario or data in the decision tree may be a little limited, and the explanation may lack some clarity.	3 - 4
	Level 3	Demonstrates good understanding of the decision tree and explains most aspects of how the tree can be used to make the decision. The explanation makes reference to the scenario, and data in the decision tree and is mostly clear.	5 - 6
Limitations 2	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one limitation, but the explanation may lack clarity, depth and/or may not reference the data in the decision tree.	1 - 2
	Level 2	Explains at least two limitations, but the explanation may lack some clarity or depth or may lack reference to the data in the decision tree.	3 - 4
	Level 3	Explains at least three limitations and makes reference to the data in the decision tree. The explanation is mostly clear and comprehensive.	5 - 6

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SECTION 2			
Task (a): **Explain** the information shown on the multi-product break-even chart and the benefits and limitations of using this data to analyse our break-even position.			
Trait			
Meaning of information	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains some of the information shown by the break-even chart, but the explanation lacks clarity and makes little if any reference to the data in the chart.	1 - 2
	Level 2	Explains some of the information shown by the break-even chart and does make reference to the data in the chart. The explanation may lack a little clarity.	3 - 4
	Level 3	Explains clearly most of the information shown by the break-even chart and makes good reference to the data in the chart.	5 - 6
Benefits and limitations	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one benefit or limitation. The explanation is likely to lack clarity and not refer to the scenario.	1 - 2
	Level 2	Explains at least two benefits or limitations. The explanation may lack some clarity and may not reference the scenario.	3 - 4
	Level 3	Explains at least three benefits or limitations (with at least one of each). The explanation is clear and references the scenario.	5 - 6

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SECTION 2 (CONTINUED)			
Task (b): **Explain** how adopting an ABC approach would change the way in which production overheads are absorbed by Herbs & Spices products and how using ABC could improve overall cost control in that department. I have provided a summary of the blending processes (in Schedule 1).			
Trait			
Compare with current system	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of the differences between an ABC and an absorption costing approach with limited or no reference to the herbs & spices mix production process.	1 - 3
	Level 2	Demonstrates a reasonable understanding of the differences between an ABC and an absorption costing approach with some reference to the herbs & spices mix production process.	4 - 6
	Level 3	Demonstrates good understanding of the differences between an ABC and an absorption costing approach with good reference to the herbs & spices mix production process.	7 - 9
Impact on costs	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of the benefits of ABC for cost control but with no reference to the scenario. Note that this question is specifically focussed on cost control and therefore there is no credit for explanation of other benefits of ABC.	1
	Level 2	Demonstrates reasonable understanding of the benefits of ABC for cost control with a reasonable attempt to explain within the context of the scenario.	2 - 3
	Level 3	Demonstrates good understanding of the benefits of ABC for cost control with a good attempt to explain its suitability within the context of the scenario.	4

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SECTION 3			
Task (a): **Explain** the meaning of each of the fixed production overhead variances shown in Table 1 and the possible reasons why each variance has occurred.			
Trait			
Variances	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains the meaning of 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 the meaning of 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 drawn from the information given in the task.	4 - 6
	Level 3	Explains the meaning of at least three of the variances with technical accuracy. The explanation is mostly clear, and the reasons given relate to the specific variance and are drawn from the information presented in the task.	7 - 9
Task (b): Suggests and justifies three KPIs that are appropriate for inclusion in the service level agreement in relation to the performance and maintenance of the robots.			
Trait			
KPIs	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies at least one KPI which is appropriate for assessing the performance of supplier. 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 the supplier. 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 the supplier which are well justified and explained for the most part.	7 - 9

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SECTION 3 (CONTINUED)			
Task (c): Explain how the right-of-use asset will initially be measured and how it will impact our financial statements for the year ending 31 December 2022.			
Initial amount	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to initially measure a right-of-use asset. The explanation lacks clarity and does not include all elements of the right-of use asset's initial amount.	1
	Level 2	Demonstrates reasonable understanding of how to initially measure a right-of-use asset. The explanation may lack some clarity or may not include all elements of the right-of use asset's initial amount.	2 - 3
	Level 3	Demonstrates good understanding of how to initially measure a right-of-use asset. The explanation is clear and does include all elements of the right-of use asset's initial amount.	4
Financial statements	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of how the right-of-use asset will impact the financial statements. The explanation lacks clarity and depth and may contain technical inaccuracies.	1
	Level 2	Demonstrates reasonable understanding of how the right-of-use asset will impact the financial statements. The explanation may lack some clarity and/or depth or may contain some technical inaccuracies.	2
	Level 3	Demonstrates good understanding of how the right-of-use asset will impact the financial statements. The explanation is clear, comprehensive and technically accurate.	3

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SECTION 4			
Task (a): **Explain** why changing the initial assumption about each of the four variables adversely by 5% will impact on the budgeted contributions and profits for the period as shown in Table 2. Please also explain two limitations of using this what-if analysis.			
Trait			
Budget effect	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates limited technical understanding of how changing the variables adversely by 5% will impact budgeted contribution and profit. The explanation lacks clarity, depth and technical accuracy.	1 - 2
	Level 2	Demonstrates some technical understanding of how changing the variables adversely by 5% will impact budgeted contribution and profit. The explanation may lack some clarity, depth and/or technical accuracy.	3 - 4
	Level 3	Demonstrates good technical understanding of how changing the variables adversely by 5% will impact budgeted contribution and profit. The explanation is mostly clear, comprehensive and technically accurate.	5 - 6
Limitations 3	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one limitation of this what-if analysis, although the explanation lacks clarity and makes no reference to the scenario.	1
	Level 2	Explains at least one limitation of this what-if analysis, but the explanation may lack clarity or depth and/or there may be limited application to the scenario.	2 - 3
	Level 3	Explains two limitations of this what-if analysis. The explanation is mostly clear, and there is good application to the scenario.	4

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SECTION 4 (CONTINUED)			
Task (b): **Explain** the suitability of the EOQ model for use in managing the inventory of outer boxes and whether the model could be adapted by relaxing some of its underlying assumptions.			
Trait			
Suitability	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates limited understanding of the EOQ model and its suitability for managing the inventory of outer boxes. The explanation lacks clarity, depth and/or application to the scenario.	1 - 2
	Level 2	Demonstrates some technical understanding of the EOQ model and its suitability for managing the inventory of outer boxes. The explanation may lack some clarity, depth and/or technical accuracy.	3 - 4
	Level 3	Demonstrates good technical understanding of the EOQ model and its suitability for managing the inventory of outer boxes. The explanation is mostly clear, comprehensive and technically accurate.	5 - 6
Adaptation of model	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one adaptation to the model, although the explanation lacks clarity and makes no reference to the scenario.	1
	Level 2	Explains at least one adaptation to the model, but there is limited application to the scenario.	2
	Level 3	Explains at least one adaptation to the model. The explanation is clear, and there is good application to the scenario.	3

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SECTION 4 (CONTINUED)			
Task (c): **Explain** how each issue should be treated in our financial statements for the year ended 31 December 2022.			
Trait			
Issues	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some 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 reasonable 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 - 4
	Level 3	Demonstrates good 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.	5 - 6

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Operational Level Case Study May 2022–August 2022

Marking Guidance

Variant 4

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1. Read the candidate's response in full

2. Select the level

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- 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.

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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.	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 2			
(a)	E	Prepare information to support short-term decision making.	40%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	40%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	20%
Section 3			
(a)	E	Prepare information to support short-term decision making.	28%
(b)	E	Prepare information to support short-term decision making.	24%
(c)	A	Prepare costing information for different purposes to meet the needs of management.	48%
Section 4			
(a)	C	Analyse performance using financial and non-financial information.	40%
(b)	C	Analyse performance using financial and non-financial information.	24%
(c)	C	Analyse performance using financial and non-financial information.	36%

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SECTION 1			
Task (a): **Explain** the importance of preparing budgets for the new Ready@Home production facility and how these budgets will assist Victor in his management of the new facility.			
Trait			
Importance of budgets	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of the importance of preparing budgets for the new production facility. The explanation is unlikely to consider how the budgets will assist Victor's management. It will also lack clarity and application to the scenario.	1 - 3
	Level 2	Demonstrates reasonable understanding of the importance of preparing budgets for the new production facility. The explanation does attempt to consider how the budgets will assist Victor's management. It may lack some clarity and /or application to the scenario.	4 - 7
	Level 3	Demonstrates good understanding of the importance of preparing budgets for the new production facility. The explanation does consider how the budgets will assist Victor's management and is mostly clear and applied to the scenario.	8 - 10

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SECTION 1 (CONTINUED)			
Task (b): **Explain** the sources and types of big data that will assist with creating a sales forecast for the new Ready@Home range.			
Trait			
Big data	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one source of big data. The explanation is unlikely to consider the types of data that could be obtained and is likely to lack clarity and application to the scenario.	1 – 2
	Level 2	Explains at least one source of big data. The explanation does consider the types of data that could be obtained but may lack a little clarity and/or application to the scenario.	3 – 5
	Level 3	Explains at least two sources of big data. The explanation does consider the types of data that could be obtained and is mostly clear and applied to the scenario.	6 - 7

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SECTION 1 (CONTINUED)			
Task (c): **Explain** how**,** by managing our receivables, we could limit the impact that selling to retailers could have on our cash flow.			
Trait			
Limit impact	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Provides at least one suggestion for how to limit the impact of selling to retailers on cash flow. The explanation is likely to lack clarity and application to the scenario and will not consider positive and negative effects of the suggestion(s).	1 – 3
	Level 2	Provides at least one suggestion for how to limit the impact of selling to retailers on cash flow. The explanation may lack some clarity and/or application to the scenario and may not consider positive and negative effects of the suggestions, if more than one suggestion is given.	4 – 6
	Level 3	Provides at least two suggestions for how to limit the impact of selling to retailers on cash flow. The explanation is mostly clear, applied to the scenario and does consider positive and negative effects of the suggestions.	7 - 8

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SECTION 2			
Task (a): **Explain** what each of the statistical measures in Table 2 mean in the context of the information given. Please also explain how the decision about which promotional campaign to choose will be made using a risk-neutral, risk-seeking and risk-averse approach, stating the choice under each approach.			
Trait			
Measures	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains the meaning of at least one of the measures with technical accuracy. The explanation makes little if any reference to the information given.	1 – 2
	Level 2	Explains the meaning of at least two of the measures with technical accuracy. Does attempt to explain in the context of the information given.	3 – 4
	Level 3	Explains the meaning of all three measures with technical accuracy. Makes a good attempt to explain in the context of the information given.	5
Risk attitudes	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates technical understanding of at least one of the risk-attitude approaches. The explanation is likely to lack clarity, and the correct decision may not be stated.	1 – 2
	Level 2	Demonstrates technical understanding of at least two of the risk-attitude approaches. The explanation may lack some clarity, and the correct decision may not always be stated.	3 – 4
	Level 3	Demonstrates technical understanding of all three risk-attitude approaches. The explanation is mostly clear, and the correct decisions have been stated.	5

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SECTION 2 (CONTINUED)			
Task (b): **Explain** how the lease for the cooking vats will be initially recorded and then subsequently measured in our financial statements for the year ending 31 December 2022.			
Trait			
Lease liability	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to initially record and subsequently measure the lease for the year ending 31 December 2022. The explanation lacks clarity and reference to the information given.	1 - 2
	Level 2	Demonstrates reasonable understanding of how to initially record and subsequently measure the lease liability for the year ending 31 December 2022. The explanation may lack some clarity but does attempt to reference the information given.	3 - 4
	Level 3	Demonstrates good understanding of how to initially record and subsequently measure the lease liability for the year ending 31 December 2022. The explanation is mostly clear and does reference the information given.	5
Right-of-use asset	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of how to initially record and subsequently measure the right-of-use asset for the year ending 31 December 2022. The explanation lacks clarity and reference to the information given.	1 - 2
	Level 2	Demonstrates reasonable understanding of how to initially record and subsequently measure the right-of-use for the year ending 31 December 2022. The explanation may lack some clarity but does attempt to reference the information given.	3 - 4
	Level 3	Demonstrates good understanding of how to initially record and subsequently measure the right-of-use asset for the year ending 31 December 2022. The explanation is mostly clear and does reference the information given.	5

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SECTION 2 (CONTINUED)			
Task (c): **Explain** how purchasing outright would affect the way that the cooking vat assets are reflected in our financial statements for the year ending 31 December 2022.			
Trait			
Purchase outright	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains with some technical accuracy how the cooking vat assets will be reflected in the financial statements for the year ending 31 December 2022. The explanation is likely to lack clarity and is unlikely to comment on how this treatment compares to the treatment for leasing the assets.	1 - 2
	Level 2	Explains with reasonable technical accuracy how the cooking vat assets will be reflected in the financial statements for the year ending 31 December 2022. The explanation may lack some clarity and may not comment on how this treatment compares to the treatment for leasing the assets.	3 - 4
	Level 3	Explains with good technical accuracy how the cooking vat assets will be reflected in the financial statements for the year ending 31 December 2022. The explanation is clear and does comment on how this treatment compares to the treatment for leasing the assets.	5

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SECTION 3			
Task (a): Explain what the information shown in Chart 1 indicates.			
Trait			
Chart 1	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of what Chart 1 indicates about the budget. The explanation is not always technically accurate and lacks clarity, depth and reference to the information in the chart.	1 - 2
	Level 2	Demonstrates reasonable understanding of what Chart 1 indicates about the budget. The explanation may contain some technical inaccuracy and may lack some clarity, depth and reference to the information in the chart.	3 – 5
	Level 3	Demonstrates good understanding of what Chart 1 indicates about the budget. The explanation is technically accurate, clear, comprehensive and makes reference to the information in the chart.	6 – 7
Task (b): Explain how the chart and break-even position would be affected by a change in the budgeted mix of products sold (with a higher proportion of sauces and a lower proportion of soups) and a change in the mix of sales channels (with a higher proportion through our own website compared to through retailers).			
Trait			
Effect of changes	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains how at least one of the changes will affect the chart and break-even position. The explanation lacks technical accuracy, clarity and reference to the scenario.	1 – 2
	Level 2	Explains how at least one of the changes will affect the chart and break-even position. The explanation may lack some technical accuracy, clarity and/or reference to the scenario.	3 – 4
	Level 3	Explains how both of the changes will affect the chart and break-even position. The explanation is technically accurate, clear and makes reference to the scenario.	5 - 6

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SECTION 3 (CONTINUED)			
Task (c): Explain what is meant by unit, batch, product and facility level activities in the context of the Ready@Home range and our new production facility. Please include examples of overhead costs for each of these categories.			
Trait			
Unit and batch	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of what is meant by unit and batch level activities. The explanation lacks clarity, and any examples given are likely to be incorrect or generic rather than drawn from the information given.	1 - 2
	Level 2	Demonstrates reasonable understanding of what is meant by unit and batch level activities. The explanation may lack a little clarity. The examples given may not always be correct or drawn from the information given, although there will be some attempt to use this information.	3 – 4
	Level 3	Demonstrates good understanding of what is meant by unit and batch level activities. The explanation is mostly clear. The examples are mostly correct and drawn from the information given.	5 – 6
Product and facility	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of what is meant by product and facility level activities. The explanation lacks clarity and any examples given are likely incorrect or generic rather than drawn from the information given.	1 – 2
	Level 2	Demonstrates reasonable understanding of what is meant by product and facility level activities. The explanation may lack a little clarity. The examples given may not always be correct or drawn from the information given, although there will be some attempt to use this information.	3 – 4
	Level 3	Demonstrates good understanding of what is meant by product and facility level activities. The explanation is mostly clear. The examples are mostly correct and drawn from the information given.	5 - 6

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SECTION 4			
Task (a): **Explain** what the sales price, sales mix profit and sales quantity profit variances in Table 1 mean and possible reasons for each variance.			
Trait			
Sales variances	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of the technical meaning of the variances from a general perspective. The meaning of the variances in this context may be limited, and any reasons given are unlikely to relate to the correct variance. The explanation lacks clarity and makes no attempt to link any of the variances together.	1 - 3
	Level 2	Demonstrates reasonable understanding of the technical meaning of the variances from a general perspective, and there is a reasonable attempt to explain the meaning of the variances in this context. The reasons given may not always relate to the correct variance and may not use all of the information available. The explanation lacks some clarity and makes little attempt to link any of the variances together.	4 – 7
	Level 3	Demonstrates good understanding of the technical meaning of the variances from a general perspective, and there is a good attempt to explain the meaning of the variances in this context. The reasons given mostly relate to the correct variance and uses most of the information available. The explanation is mostly clear and does attempt to link some of the variances together.	8 - 10

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SECTION 4 (CONTINUED)			
Task (b): **Explain** whether it would be beneficial to split the Everyday sales price variance into its planning and operational elements and any possible problems we would face when doing this.			
Trait			
Planning and operational	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of the distinction between planning and operational variances. The explanation makes little reference to whether it would be beneficial and little if any reference to the scenario or difficulties.	1 – 2
	Level 2	Demonstrates reasonable understanding of the distinction between planning and operational variances. The explanation makes some reference to whether it would be beneficial, the scenario and/or difficulties.	3 – 4
	Level 3	Demonstrates good understanding of the distinction between planning and operational variances. The explanation makes reasonable reference to whether it would be beneficial, and there is reasonable reference to the scenario and difficulties.	5 - 6
Task (c): **Suggest** three KPIs that would be appropriate for the dashboard for Ready@Home website sales. 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 which is relevant. The explanation of how to measure and why appropriate may lack clarity and application to the scenario.	1 – 3
	Level 2	Suggests at least two KPIs which are relevant. The explanation of how to measure and why appropriate may lack some clarity and some application to the scenario.	4 – 6
	Level 3	Suggests three KPIs which are relevant. The explanation of how to measure and why appropriate is mostly clear and applied.	7 - 9

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Operational Level Case Study May and August 2022

Marking Guidance

Variant 5

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [May–August 2022].

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, and markers are subject to extensive training, standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken to not 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.

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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.

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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.	52%
(b)	**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)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	44%
(b)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles.	20%
Section 3			
(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 4			
(a)	**E**	Prepare information to support short-term decision making.	56%
(b)	**B**	Prepare budget information and assess its use for planning and control purposes.	44%

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SECTION 1			
Task (a): **Explain** what Table 1 and Chart 1 show us and why using this information to produce a forecast of demand for our vegan meal-kits for quarter 4 of 2022 onwards will be difficult.			
Trait			
Table 1 & Chart 1	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of what Table 1 and Chart 1 show in respect of the trend and seasonal variations. The explanation lacks clarity, lacks technical accuracy and does not reference the information given.	1 – 2
	Level 2	Demonstrates reasonable understanding of what Table 1 and Chart 1 show in respect of the trend and seasonal variations. The explanation lacks some clarity and/or some technical accuracy. There is some attempt to reference the information given.	3 – 5
	Level 3	Demonstrates good understanding of what Table 1 and Chart 1 show in respect of the trend and seasonal variations. The explanation is mostly clear and technically accurate, with reference to the information given.	6 – 7
Difficulties	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one difficulty. The explanation may lack clarity and/or application.	1 – 2
	Level 2	Explains at least two difficulties. The explanation may lack some clarity and/or application.	3 – 4
	Level 3	Explains at least three difficulties. The explanation is mostly clear and applied.	5 – 6

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SECTION 1 (CONTINUED)			
Task (b): **Explain** the direct and indirect costs associated with a specific video. Please also explain the potential difficulties of determining a total cost for each specific video.			
Trait			
Direct & Indirect	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of the distinction between direct and indirect costs. The explanation lacks clarity, lacks technical accuracy and does not refer to many if any of the costs given in the scenario.	1 – 2
	Level 2	Demonstrates reasonable understanding of the distinction between direct and indirect costs. The explanation may lack some clarity but does reference with technical accuracy some of the costs given in the scenario.	3 – 4
	Level 3	Demonstrates good understanding of the distinction between direct and indirect costs. The explanation is mostly clear and does reference with technical accuracy most of the costs given in the scenario.	5 – 6
Potential problems	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one potential problem of determining a cost for each specific video. The explanation may lack clarity and/or application to the scenario.	1 – 2
	Level 2	Explains at least two potential problems of determining a cost for each specific video. The explanation may lack some clarity and/or some application to the scenario.	3 – 4
	Level 3	Explains at least three potential problems of determining a cost for each specific video. The explanation is mostly clear and applied to the scenario.	5 – 6

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SECTION 2			
Task (a): Explain the information shown in Table 1 and which option should be chosen using a risk neutral approach to decision making. Please also explain one limitation of using this approach and one limitation of using this information to make this decision.			
Trait			
Table 1 and decision	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of how to make the decision using a risk neutral approach. The explanation of the information in Table 1 is likely to be limited, and the correct option may not be chosen.	1 – 2
	Level 2	Demonstrates understanding of how to make the decision using a risk neutral approach. The explanation of the information in Table 1 may be a little limited, although the correct option is likely to have been chosen.	3 – 4
	Level 3	Demonstrates understanding of how to make the decision using a risk neutral approach. The explanation of the information in Table 1 is reasonable, and the correct option has been chosen.	5
Limitations	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains one limitation, but this explanation lacks clarity and application to the scenario.	1
	Level 2	Explains at least one limitation. The explanation may lack clarity and/or application to the scenario.	2 – 3
	Level 3	Explains two limitations. The explanation is mostly clear and applied to the scenario.	4

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SECTION 2 (CONTINUED)			
Task (b): **Explain** with appropriate justification, how the old herbs & spices machinery will be reflected in our financial statements for the year ending 31 December 2022.			
Trait			
Criteria	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates technical understanding of some 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 – 2
	Level 2	Demonstrates technical understanding of many 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.	3 – 4
	Level 3	Demonstrates technical understanding of most of the criteria for reclassification as an asset held for sale. The explanation of these criteria is mostly clear and applied to the scenario.	5 – 6
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 valued in the financial statements. The explanation lacks clarity and application to the scenario.	1 – 2
	Level 2	Demonstrates technical understanding of how the asset held for sale should be recorded and valued in the financial statements. The explanation may lack some clarity and may not be well applied to the scenario.	3 – 4
	Level 3	Demonstrates technical understanding of how the assets held for sale should be recorded and valued in the financial statements. The explanation is mostly clear and applied to the scenario.	5

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SECTION 2 (CONTINUED)			
Task (c): **Explain** how the disposal of the warehouse property will affect the amount of capital tax payable by the company for the year ending 31 December 2022.			
Trait			
Tax payable	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of how the disposal will affect tax payable. The explanation lacks clarity, technical accuracy and reference to the information given.	1 – 2
	Level 2	Demonstrates reasonable understanding of how the disposal will affect tax payable. The explanation may lack some clarity, technical accuracy and/or reference to the information given.	3 – 4
	Level 3	Demonstrates good understanding of how the disposal will affect tax payable. The explanation is mostly clear, technically accurate and references the information given.	5

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SECTION 3			
Task (a): Explain what each of the variances in Table 1 means and possible reasons for their occurrence.			
Trait			
Variances	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates technical understanding of what at least one of the variances means. The explanation lacks clarity, and the reasons given may not relate to the correct variance or be drawn from the scenario.	1 – 3
	Level 2	Demonstrates technical understanding of what at least two of the variances mean. The explanation may lack some clarity, and the reasons given may not always relate to the correct variance or be drawn from the scenario.	4 – 6
	Level 3	Demonstrates technical understanding of what at least three variances mean. The explanation is mostly clear, and the reasons given mostly relate to the correct variance and are drawn from the scenario. There is some attempt to link the variances together.	7 – 9

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SECTION 3 (CONTINUED)			
Task (b): Explain why each of the KPIs in Table 2 is appropriate for measuring the performance of the Herbs & Spices Department Manager and reasons why each measure has either been achieved or not been achieved.			
Trait			
KPIs	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of why at least one of the KPIs is appropriate. The explanation lacks clarity, and the reasons given may not relate to the correct KPI or be drawn from the scenario.	1 – 3
	Level 2	Demonstrates technical understanding of why at least two of the KPIs are appropriate. The explanation may lack some clarity, and the reasons given may not always relate to the correct KPI or be drawn from the scenario.	4 – 6
	Level 3	Demonstrates technical understanding of why all three of the KPIs are appropriate. The explanation is mostly clear, and the reasons given mostly relate to the correct KPI and are drawn from the scenario. There is some attempt to link the KPIs together.	7 – 9
Task (c): Explain the factors to be considered when choosing a type of short-term investment for these funds.			
Trait			
Factors to consider	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one appropriate factor to be considered. The explanation lacks clarity and is unlikely to reference different types of investment.	1 – 2
	Level 2	Explains at least two appropriate factors to be considered. The explanation may lack some clarity and/or may not reference different types of investment.	3 – 5
	Level 3	Explains at least three appropriate factors to be considered. The explanation is mostly clear and references different types of investment.	6 – 7

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SECTION 4			
Task (a): Explain for each of the items in Table 1, which are relevant, and which are irrelevant to the decision whether to proceed with the roadshow. Please also indicate, where appropriate, further information that may be required to quantify the relevant costs and revenues.			
Trait			
Items 1 - 3	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates general understanding of relevant costs and correctly identifies some of the items as relevant or irrelevant. The explanation of why be missing or lack clarity, and little reference is made to further information required.	1 – 2
	Level 2	Demonstrates general understanding of relevant costs and correctly identifies most of the items as either relevant or irrelevant. The explanation of why may lack some clarity. There may not be much reference to further information required.	3 – 5
	Level 3	Demonstrates general understanding of relevant costs and correctly identifies most of the items as either relevant or irrelevant. The explanation of why is mostly clear, and there is some reference made to further information required.	6 – 7

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SECTION 4 (CONTINUED)			
Task (a): **Explain** for each of the items in Table 1, which are relevant, and which are irrelevant to the decision whether to proceed with the roadshow. Please also indicate, where appropriate, further information that may be required to quantify the relevant costs and revenues.			
Trait			
Items 4 - 6	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates general understanding of relevant costs and correctly identifies some of the items as either relevant or irrelevant. The explanation of why may be missing or lack clarity, and little reference is made to further information required.	1 – 2
	Level 2	Demonstrates general understanding of relevant costs and correctly identifies most of the items as either relevant or irrelevant. The explanation of why may lack some clarity. There may not be much reference to further information required.	3 – 5
	Level 3	Demonstrates general understanding of relevant costs and correctly identifies most of the items as either relevant or irrelevant. The explanation of why is mostly clear, and there is some reference made to further information required.	6 – 7

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SECTION 4 (CONTINUED)			
Task (b): **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 understanding of some of the features of beyond budgeting. The explanation is likely to lack clarity and may not consider how to apply these in the business.	1 – 2
	Level 2	Demonstrates understanding of most of the features of beyond budgeting. The explanation may lack some clarity or may not consider how to apply these in the business.	3 – 4
	Level 3	Demonstrates understanding of most of the features of beyond budgeting. The explanation is mostly clear and does consider how to apply these in the business.	5
Benefits	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one benefit of using a beyond budgeting approach. The explanation may lack clarity and application to the scenario.	1 - 2
	Level 2	Explains at least two benefits of using a beyond budgeting approach. The explanation may lack some clarity and/or application to the scenario.	3 – 4
	Level 3	Explains at least three benefits of using a beyond budgeting approach. The explanation is mostly clear and applied to the scenario.	5 – 6

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Operational Level Case Study May and August 2022

Marking Guidance

Variant 6

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [May–August 2022].

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, and markers are subject to extensive training, standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken to not 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.

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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)	**B**	Prepare budget information and assess its use for planning and control purposes.	48%
Section 2			
(a)	**E**	Prepare information to support short-term decision making.	52%
(b)	**C**	Analyse performance using financial and non-financial information.	48%
Section 3			
(a)	**C**	Analyse performance using financial and non-financial information.	52%
(b)	**F**	Prepare information to manage working capital.	24%
(c)	**F**	Prepare information to manage working capital.	24%
Section 4			
(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	16%
(c)	**B**	Prepare budget information and assess its use for planning and control purposes.	24%
(d)	**E**	Prepare information to support short-term decision making.	28%

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SECTION 1			
Task (a): **Explain,** based on the information in Table 1, how the features of a digital costing system could benefit our business.			
Trait			
Benefits	**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

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SECTION 1 (CONTINUED)			
Task (b): **Explain** how the promotional budget for the launch of our new OSHB range would be prepared using a ZBB approach. Please also explain the potential limitations of using a ZBB approach across the business.			
Trait			
ZBB approach	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of how ZBB will be used to prepare the promotional 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 promotional 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 promotional budget. The explanation is clear, comprehensive and refers to the scenario and the information given.	5 - 6
Limitations	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one limitation of using ZBB across the business. The explanation is likely to lack 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

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SECTION 2			
Task (a): **Explain** how to use the decision tree in Schedule 1 to decide which marketing option should be chosen. Please also explain the issues with using the information in this decision tree to make this decision.			
Trait			
Decision tree	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of what the decision tree shows. Limited explanation of how to use the tree to make the decision. The explanation lacks clarity, depth and has little/no application to scenario.	1 - 2
	Level 2	Demonstrates reasonable technical understanding of what the decision tree shows and how to use it to make the decision. The explanation lacks some clarity and/or depth and has only limited application to the scenario.	3 - 5
	Level 3	Demonstrates clear technical understanding of what the decision tree shows and how to use it to make the decision. The explanation is mostly clear, comprehensive and applied to the scenario.	6 - 7
Issues	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one issue of using the information in this decision tree to make the decision. The explanation is likely to lack clarity, depth and application to the scenario.	1 - 2
	Level 2	Explains at least two issues of using the information in this decision tree to make the decision. The explanation may lack some clarity, depth and/or application to the scenario.	3 - 4
	Level 3	Explains at least three issues of using the information in this decision tree to make the decision. The explanation is mostly clear, comprehensive and applied to the scenario.	5 - 6

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SECTION 2 (CONTINUED)			
Task (b): **Suggest** three KPIs which measure food waste **and** one KPI which measures food recoverability. For each of the four KPIs, please explain how it would be calculated and why it would be appropriate.			
Trait			
Food waste	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies at least one KPI which is relevant for measuring food waste. Explanation of the calculation method and appropriateness lacks clarity, depth and application to the scenario.	1 - 3
	Level 2	Identifies at least two KPIs which are relevant for measuring food waste. Explanation of the calculation method and appropriateness may lack some clarity, depth and application to the scenario.	4 - 6
	Level 3	Identifies three KPIs which are relevant for measuring food waste. Explanation of the calculation method and appropriateness is mostly clear, comprehensive and applied to the scenario.	7 - 9
Food recoverability	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies a KPI which is relevant for measuring food recoverability. The explanation of the calculation method and appropriateness lacks clarity, depth and application to the scenario.	1
	Level 2	Identifies a KPI which is relevant for measuring food recoverability. The explanation of the calculation method and appropriateness lacks some clarity, depth and application to the scenario.	2
	Level 3	Identifies a KPI which is relevant for measuring food recoverability. Explanation of the calculation method and	3

		appropriateness is mostly clear, comprehensive and applied to the scenario.	

SECTION 3			
Task (a): **Explain** what each of the variances in Tables 1 and 2 mean, giving possible reasons why the variances have occurred and what the variances indicate about the overall sales performance for our new OSHB range in November 2022.			
Trait			
Sales price	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of what a price variance represents. Makes little attempt to explain the meaning of the price variances given or the reasons why they have occurred.	1
	Level 2	Demonstrates technical understanding of what a price variance represents. Makes a reasonable attempt to explain the meaning of the price variances given and the reasons why they have arisen.	2
	Level 3	Demonstrates technical understanding of what a price variance represents. Makes a good attempt to explain the meaning of the price variances given and the reasons why they have occurred.	3
Sales mix	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some technical understanding of what a mix variance based on the individual units method represent. There is a limited attempt to explain the meaning of the mix variances given or the reasons why they have occurred.	1
	Level 2	Demonstrates technical understanding of what a mix variance based on the individual units method represents. Makes a reasonable attempt to explain the meaning of the mix variances given and the reasons why they have occurred	2 - 3
	Level 3	Demonstrates technical understanding of what a mix variance based on the individual units method represents. Makes a good	4

		attempt to explain the meaning of the mix variances given and the reasons why they have occurred.	

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SECTION 3 (CONTINUED)			
Task (a): **Explain** what each of the variances in Tables 1 and 2 mean, giving possible reasons why the variances have occurred and what the variances indicate about the overall sales performance for our new OSHB range in November 2022.			
Trait			
Sales quantity	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates technical understanding of what a quantity variance represents. Makes little attempt to explain the meaning of the quantity variances given or the reasons why they have occurred.	1
	Level 2	Demonstrates technical understanding of what a quantity variance represents. Makes a reasonable attempt to explain the meaning of the quantity variances given and the reasons why they have occurred.	2
	Level 3	Demonstrates technical understanding of what a quantity variance represents. Makes a good attempt to explain the meaning of the quantity variances given and the reasons why they have occurred.	3
Overall	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Provides limited explanation of what the variances indicate about the performance of the new OSHB range in November 2022.	1
	Level 2	Provides some explanation of what the variances indicate about the performance of the new OSHB range in November 2022.	2
	Level 3	Provides good explanation of what the variances indicate about the performance of the new OSHB range in November 2022.	3

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SECTION 3 (CONTINUED)			
Task (b): Explain what the working capital cycle information in Table 3 tells us about our actual level of working capital compared to budget, including any potential effects on cashflow and any limitations of the available information.			
Trait			
Working capital cycle	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of how the actual level of working capital compares to budget. Limited attempt to explain why the differences may have occurred, the effects on cashflow and limitations of the information.	1 - 2
	Level 2	Demonstrates reasonable understanding of how the actual level of working capital compares to budget. Reasonable attempt to explain why the differences may have occurred, the effects on cashflow and limitations of the information.	3 - 4
	Level 3	Demonstrates good understanding of how the actual level of working capital compares to budget. Good attempt to explain why the differences may have occurred, the effects on cashflow and limitations of the information.	5 - 6
Task (c): Explain any actions we could take to shorten the actual working capital cycle.			
Trait			
Actions	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one action. The explanation lacks clarity, depth and application to the scenario.	1 - 2
	Level 2	Explains at least one action. The explanation may lack some clarity, depth and / or application to the scenario.	3 - 4
	Level 3	Explains at least two actions. The explanation is mostly clear, comprehensive and applied to the scenario.	5 - 6

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SECTION 4			
Task (a): **Explain** how the different items of inventory in Table 1 will affect our financial statements for the year ending 31 December 2022.			
Trait			
IAS 2	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of the lower of cost and NRV rule in IAS 2. The explanation of the effect in the financial statements lacks clarity, technical accuracy, application to the scenario and is not complete.	1 - 3
	Level 2	Demonstrates understanding of the lower of cost and NRV rule in IAS 2. The explanation of the effect in the financial statements lacks some clarity, technical accuracy, application to the scenario and may not be complete.	4 - 6
	Level 3	Demonstrates understanding of the lower of cost and NRV rule in IAS 2. The explanation of the effect in the financial statements is mostly clear, technically accurate and complete. There is a good attempt to apply to the scenario.	7 - 8

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SECTION 4 (CONTINUED)			
Task (b): **Explain** how the insurance claim receipt will affect our financial statements for the year ending 31 December 2022.			
Trait			
IAS 10	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of the distinctions between adjusting and non-adjusting events. The explanation of how to treat the insurance receipt lacks clarity and technical accuracy. No reference is made to the scenario.	1
	Level 2	Demonstrates understanding of the distinction between adjusting and non-adjusting events. The explanation of how to treat the insurance receipt lacks some clarity and/or technical accuracy and may not reference the scenario.	2 - 3
	Level 3	Demonstrates good understanding of the distinction between adjusting and non-adjusting events. The explanation of how to treat the insurance receipt is mostly clear and technically accurate with good reference to the scenario.	4

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SECTION 4 (CONTINUED)			
Task (c): **Explain** how stress test drills following a simulated cyber-attack on our production scheduling system will improve our awareness of the short-term impacts of such an attack. Please use examples relating to the achievement of budgeted output levels and cashflows.			
Trait			
Stress test drill	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of the nature of stress test drills but then fails to explain in detail what would be expected and how this could be used to improve budgeting/operations, with no application to scenario.	1 - 2
	Level 2	Demonstrates reasonable understanding of the nature of stress test drills but the explanation of how this could be used lacks detail, has little application/relevance to the scenario but links the stress test drill to the budgets or operations.	3 - 4
	Level 3	Demonstrates full understanding of the nature of stress test drills. Comprehensive explanation of how this could be used to improve budgeting or operations. Relevant examples which are applied to the scenario.	5 - 6

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SECTION 4 (CONTINUED)			
Task (d): **Explain** why each of the costs in Table 2 and the accompanying note is relevant, or not, to the decision regarding the acceptance of the offer from Solid Promotions.			
Trait			
Relevant costs	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of the difference between relevant and non-relevant costs for decision making. Some of the costs have been correctly identified as relevant or not relevant, although the explanation of why this is the case may be missing at times.	1 - 3
	Level 2	Demonstrates understanding of the difference between relevant and non-relevant costs for decision making. Most of the costs are likely to have been correctly identified as relevant or not relevant, although the explanation of why this is the case may sometimes be missing.	4 - 5
	Level 3	Demonstrate full understanding of the difference between relevant and non-relevant costs for decision making. Most if not all the costs are likely to have been correctly identified as relevant or not relevant. For the most part, the explanation of why this is the case is valid.	6 - 7