November 2021 and February 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

November 2021 and February 2022 operational case study pre-seen can be found here

Examiner's report (available from 19 April)

The November 2021 and February 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 (available from 19 April)

- 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
- Marking guidance for variant 4 can be accessed here
- 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

November 2021–February 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.

TreadCushy

CONTENTS:

Content	Page
Your role	2
Introduction	3
Extracts from the TreadCushy website: • What's special about our athletic shoes? • Where can I buy a pair of TreadCushy athletic shoes?	4–5
The directors	6
Production, Sales & Distribution and Finance teams	7–8
Other information about company operations	9–15
The industry	16–17
Financial statements for the year ended 30 June 2021	18–20
Budget information for the year ending 30 June 2022	21–23
Articles	24–25
Tax regime in Keyland	26

Your role

You are a Finance Officer working within the Finance Department of TreadCushy. 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

TreadCushy is a company that designs, manufactures and sells a range of athletic shoes made using natural and recycled materials. The company is based in Keyland, a country located in mainland Europe, which has the K$ as its currency.

TreadCushy was founded in 2007 by Sophia Grigg and Harry Blanc. Prior to founding the company, Sophia and Harry worked for the same major worldwide athletic shoe and clothing brand. Sophia and Harry were, and still are, passionate about the environment, sustainability and the use of natural materials. Whilst working for this worldwide brand, they increasingly found themselves frustrated at the lack of focus on environmental concerns and the lack of natural and recycled materials being used to create athletic shoes.

As a result, Sophia and Harry decided to develop their own brand of athletic shoes and founded TreadCushy in 2007 based in a small workshop. They worked closely with raw material suppliers and by early 2010 they had developed the first range of casual athletic shoes made almost entirely from natural materials. These included wool, natural rubber, sugar cane and caster beans. The athletic shoes were launched to the market in mid-2010. Sales, all of which were through the company's own website, amounted to 25,000 pairs in the first year after the launch.

Sophia and Harry decided that production would be kept "in-house" so that they could control the sustainability of the manufacturing process and to ensure that there was a focus on craftsmanship. Therefore, in early 2010, a site in Central Keyland was purchased. A Production Facility, Distribution Centre and Head Office were established on that site.

In its early stages, the company was funded with venture capital finance as well as by private investors who saw promise in this new and innovative brand. The passion and drive of both Sophia and Harry, as well as the support of early investors, ensured that TreadCushy went from strength to strength, not only gaining brand awareness in Keyland but in many other European countries.

In 2015, the company launched a range of athletic shoes with uppers made from fabric created from yarn derived from wood pulp. With such fabric giving natural weather-resistant properties, Sophia and Harry developed a range of performance athletic shoes for running which were first launched to the market in 2017. In the same year, TreadCushy opened its first store in the capital city of Keyland having previously relied entirely on direct selling through its own website. In addition, the Production Facility was expanded, and a new Distribution Centre was opened 10 kilometres from the main site.

In the year to 30 June 2021 the company's revenue was K$68 million and profit before tax was K$6 million. During that year, the company sold more than 700,000 pairs of athletic shoes in 10 European countries and opened its fourteenth store. By 2025, TreadCushy aims to be selling over 1 million pairs of athletic shoes a year across more than 20 countries. The company also has the aim to be carbon neutral by 2030.

Extracts from the TreadCushy website:

What's special about our athletic shoes?

There are three main things that make our athletic shoes special:

Made from 100% natural or recycled materials

We use yarn made from sustainably sourced wool or wood pulp to create our shoe uppers. We use combinations of natural rubber and sugar cane composites to mould into the midsoles and outsoles of our athletic shoes. All insoles are made from caster bean, laces from recycled plastic and even eyelets are stitched using sustainably sourced cotton thread. Finally, all our packaging is made from 100% recycled cardboard.

Made in Keyland at our own Production Facility

We pride ourselves on keeping 100% of our production in-house. From weaving the fabric used to create our shoe uppers, to assembly and final inspection of the shoes. All this is carried out at our Production Facility in Central Keyland by our skilled craftspeople.

Created with both comfort and style in mind

All our athletic shoes are designed to be stylish whilst also being the most comfortable pair of athletic shoes that you will own. We strongly believe that once you've owned a pair of TreadCushy athletic shoes, you'll never want to go back to another athletic shoe brand!

Where can I buy a pair of TreadCushy athletic shoes?

Step 1: Pick from:

One of our **retail stores**, locations of which can be found by clicking ***here***.

or

Our **online store**, which is available on this website by clicking ***here***.

or

Our **shopping app**, available to download by clicking ***here***.

Step 2: Choose either:

CASUAL RANGE

For a pair of comfortable and stylish athletic shoes to wear every day.

or

PERFORMANCE RANGE

For a pair of athletic shoes which will support your feet and enhance your running performance.

Wool

Natural wool upper for complete comfort, available in many different designs and colours.

Wood

Natural wood upper for added weather proofing, available in many different designs and colours.

Hill

With a wood upper and a shoe design adapted for hill running, available in a range of Basic, Regular and Elite designs, each in five colours.

Flat

With a wood upper and a shoe design adapted for flat running, available in a range of Basic, Regular and Elite designs, each in five colours.

The directors

Sophia Grigg, Managing Director, is one of the co-founders of TreadCushy and has responsibility for the business as a whole. She also has responsibility for marketing and together with her co-founder, Harry Blanc, has final sign-off on new designs and products. Sophia has a keen interest in sustainability and is continually looking for ways to reduce any harmful impact of the business on the environment.

Harry Blanc, Product Development & IT Director, is the other co-founder of TreadCushy and has overall responsibility for the development of new athletic shoe designs, as well as the IT Department. Harry is passionate about fitness and well-being and is keen to expand the product base of the business into apparel and other fitness related products. He is also interested in digital and social media marketing and has recently appointed a dedicated Social Media Marketing Manager.

Oleg Scragg, Production Director, has been in post since 2010, having previously been a Senior Production Manager at a garment manufacturing facility. He has responsibility for the Production Facility (which includes the raw materials warehouse). He has an interest in sustainable production and works closely with Sophia to continually improve the working practices at the Production Facility.

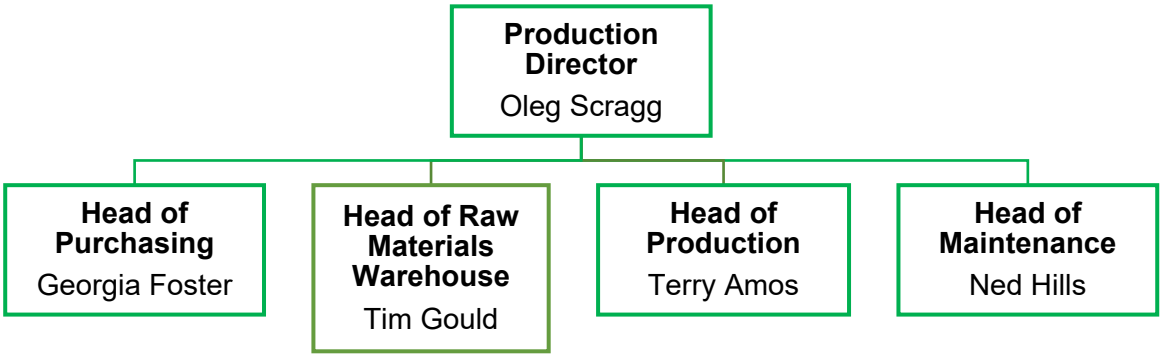
Jack Tang, Sales & Distribution Director, has been in post since 2020. He has responsibility for online sales, retail stores and the Distribution Centre. Jack has experience with technology and IT systems and would like the Distribution Centre to embrace the use of more technology.

Emily Queda, Finance Director, has been in post since 2012 and has been qualified as an accountant since 2002. She has responsibility for the Finance Department and was instrumental in securing financiers in the early stages of the business. Emily believes that the business is on a sound financial footing and that now is the time to invest in new products and markets.

Sara Gomez, Human Resources Director, has been in post since 2018 when the post was created. Previously Emily Queda had been responsible for human resources. Sara has responsibility for all aspects of human resource management across the business. She was keen to take this role because of TreadCushy's excellent reputation for staff welfare.

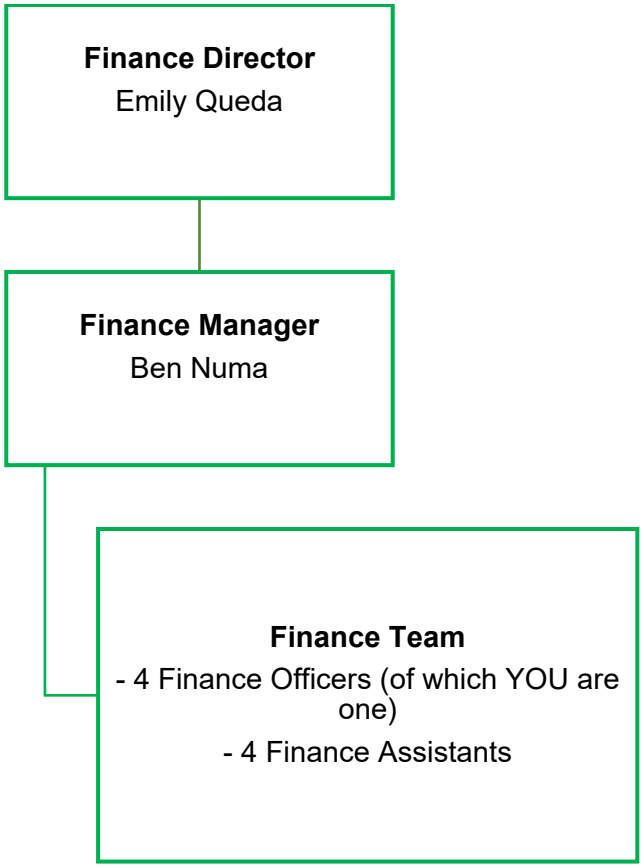
Production, Sales & Distribution and Finance teams

Production:



Sales & Distribution:

Finance:



Other information about company operations

Sales markets and sales channels

TreadCushy sells its athletic shoes to customers in Keyland and 9 other countries in Europe. The company has always had a policy of direct selling to customers and does not currently sell through intermediary retailers or wholesalers. Until 2017, all sales were made online via the company's website. In 2017, TreadCushy opened its first retail store in the capital city of Keyland. There are now 8 stores in major cities in Keyland and a further 6 stores in the capital cities of 6 other European countries. For the year ended 30 June 2021, TreadCushy's revenue is analysed as follows:

Revenue analysis	Keyland K$ million	Northern European K$ million	Southern Europe K$ million	Total K$ million
Online sales	30.9	14.9	5.4	51.2
Retail stores	9.7	6.8	0	16.5
Total	**40.6**	**21.7**	**5.4**	**67.7**

Sales are not uniformly distributed across the year. Peak sales are in the period October to December and then in the period April to June and correspond to new design launches which typically happen in March and September of each year. Online sales are managed from an office at the Distribution Centre (see below). Customers can either order from the website or through the TreadCushy shopping app which was launched in 2020.

TreadCushy athletic shoes appeal to a broad range of customers, across a wide age range. The Casual range is designed for casual every day wearing and is fast becoming one of the most "trendy" brands of athletic shoes to be seen in: partly because of TreadCushy's appealing designs and partly because of its sustainability credentials. The Performance range of running shoes is also growing in popularity and has a good reputation. It is currently targeted at people who use running to keep fit or as a hobby, rather than elite runners. For both the Casual and the Performance ranges, TreadCushy's prices are slightly above the market average for similar products.

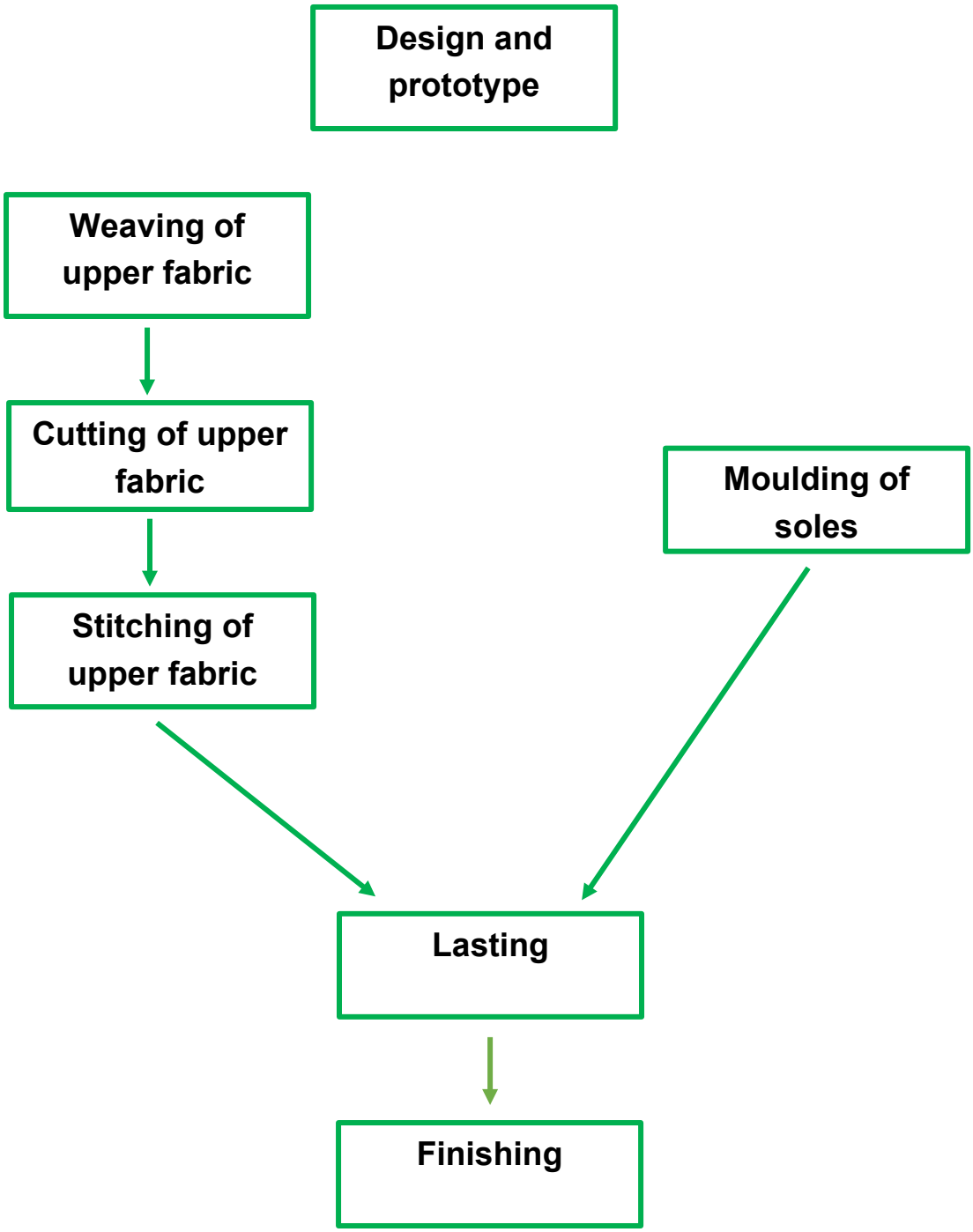
The mix of sales between Casual and Performance shoes is different in retail stores and online. This is because many customers prefer to come into store so that they can benefit from the expertise of the sales team when selecting their Performance shoe. Many of TreadCushy's customers are loyal to the brand and own more than one pair of TreadCushy athletic shoes.

Production Facility

TreadCushy makes all its shoes at its single Production Facility where it weaves the fabric from which shoe uppers are made, moulds the soles of the shoes and where the shoes are assembled and finished. The site includes a number of different buildings used for the different production operations and a Raw Materials Warehouse.

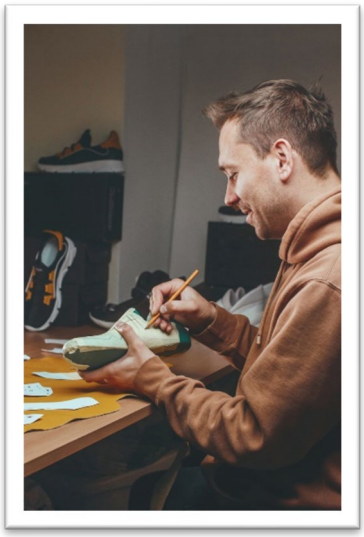
Production is typically for inventory rather than to order. On completion of production, finished goods are sent to TreadCushy's separate Distribution Centre which is located 10 kilometres from the Production Facility.

The production process



Design and prototype

New shoe designs are launched twice a year. Each design starts as a conceptual drawing in the Product Development Department. After initial approval, the paper design is digitalised using CAD software, which allows a pattern to be created. From this initial pattern, prototypes of the shoe are developed and rigorously tested, with the pattern and material requirements tweaked until the perfect shoe has been created. After final design approval, any new moulding and cutting dies required for production are sourced and then production can commence.



Weaving of fabric

All the fabric used to create the upper of TreadCushy's shoes is woven at the Production Facility by modern weaving machinery. The company buys in yarn made from either high-quality wool or from wood pulp and this is woven into rolls of fabric.

Cutting

Each shoe upper consists of a number of segments that need to be cut out from the fabric that has been woven. Two methods are used to cut out these segments: by hand using cutting dies or using digital laser-cutting machinery.

Stitching

All the segments of a shoe upper (outer layers and lining) are stitched together by one of TreadCushy's skilled craftspeople using modern sewing machines, designed specifically for the task. At this stage, eyelets are stitched into the upper ready for laces.

Moulding of soles

At the same time as shoe uppers are being made, a separate production team makes the midsoles and outsoles. Pellets of natural rubber and a composite made from sugar cane are combined in a melting vat and the soles are moulded by an injection moulding process.

Lasting

Lasting is the process where the shoe is assembled and takes its shape. A last is a metal model for the foot shape relevant to the type and size of the shoe being created. Lasting machinery is set up with the relevant lasts and the floppy shoe uppers are stretched onto these lasts. The bottom ends of the upper are folded over onto the base of the last and the midsole and outsole of the shoe are then pressed onto the upper by the machine. After the sole is added the shoe is taken off the last and is ready for finishing.

Finishing

Finishing involves adding insoles, laces and labels, before final quality checks and packing into our distinctive recycled cardboard TreadCushy shoe boxes.

Purchasing and suppliers

The main raw material inputs to the production process are:

Yarn	• There are two types of yarn used by TreadCushy: one made from wool and one made from wood pulp. • Each type of yarn has a single supplier. Both suppliers create their yarns in Keyland from natural resources sourced sustainably in the country.
Natural rubber	• Natural rubber in pellet form is sourced from three different suppliers: two in Asia and one in South America. • All three of TreadCushy's natural rubber suppliers are members of the World Federation Alliance of Sustainable Sourcing.
Sugar cane composite	• Since TreadCushy was founded, it has worked with TB Sweet Nature, a company based in South America, to develop a composite made from the waste product of sugar cane. • TB Sweet Nature is TreadCushy's only supplier of this composite which is used in the production of shoe soles.

In addition, TreadCushy buys the following from a range of suppliers mostly based in Keyland:

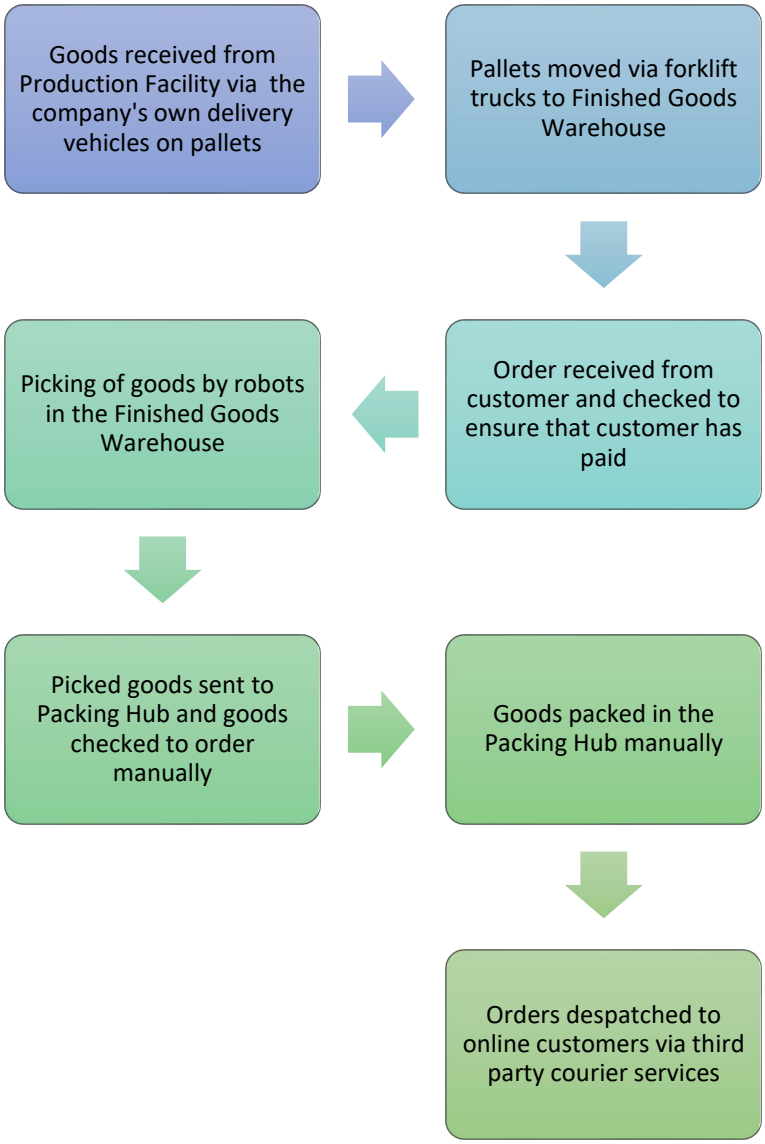
- insoles made from caster beans;
- laces made from recycled plastic;
- cotton thread; and
- packaging made from recycled cardboard.

TreadCushy takes a conservative approach to raw materials inventory management and takes advantage of bulk purchase discounts where possible. Payment terms granted by suppliers range from 30 to 60 days.

Distribution Centre and logistics

The company has a Distribution Centre located 10 kilometres from the Production Facility. The Distribution Centre includes a large warehouse for storage of finished goods inventory. There is also an office from which all online sales and retail store logistics are managed.

The process in respect of online sales is as follows:



Despatches to retail stores are carried out by an international logistics company.

TreadCushy takes a conservative approach to the management of finished goods inventory at the Distribution Centre. This is to ensure the full range of designs, colours and sizes are available for quick despatch to customers.

Retail stores

There are currently eight TreadCushy retail stores in Keyland, all located in major cities. There are a further six retail stores in the capital cities of other European countries. Each store is fitted out in the same way and displays the full range of our shoe designs. The retail stores sell only the TreadCushy brand.

Each store has a Store Manager whose responsibilities include inventory control as well as recruiting and training retail employees. Each Store Manager has a monthly sales target that they are expected to achieve.

Each store has touchscreen monitors giving customers information about the benefits of using natural resources such as wool, wood, caster beans and rubber as well as the science behind the shoe designs.

Employees

TreadCushy had the following number of employees on 30 June 2021:

	Number
Production Facility	284
Distribution Centre	124
Retail Stores	98
Head Office*	29
	535

*Head Office includes the product development, finance and human resources teams.

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 for both variable and fixed production overheads. Standard cost cards are produced for each shoe design and are updated annually.

Budgets are prepared annually on an incremental basis. Managers have limited involvement in budget setting and limited budget responsibility for their respective areas.

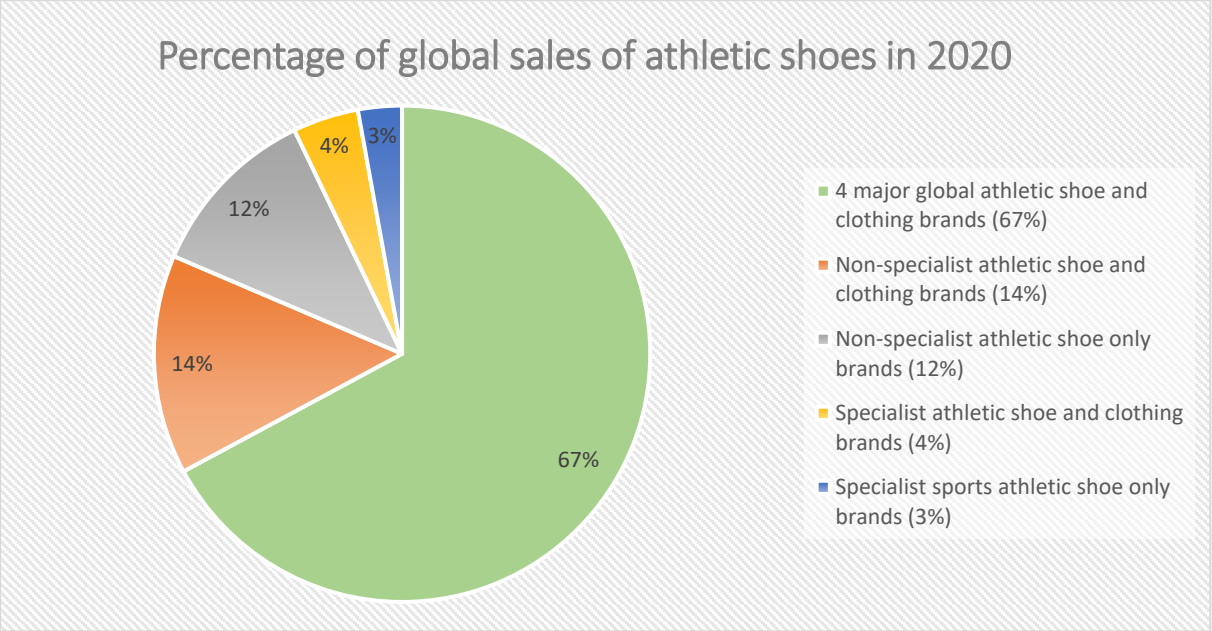
The industry

Global sales of athletic shoes

Global footwear sales in 2020 were K$180 billion, of which K$70 billion can be attributed to sales of athletic shoes.

The market for athletic shoes is dominated by four major athletic shoes and clothing brands that have a truly global presence. These four brands have operations across the world and sell a full range of athletic shoes and clothing for both sport and leisure. The other brands that sell athletic shoes can be categorised as either non-specialist or specialist, with the brand incorporating athletic shoes and clothing or just athletic shoes. Specialist brands are typically relatively small companies that focus on a niche within the market, such as athletic shoes made from recycled materials or athletic shoes for specific sports. TreadCushy is an example of a specialist athletic shoe only brand.

The K$70 billion of global sales of athletic shoes in 2020 were generated as follows:



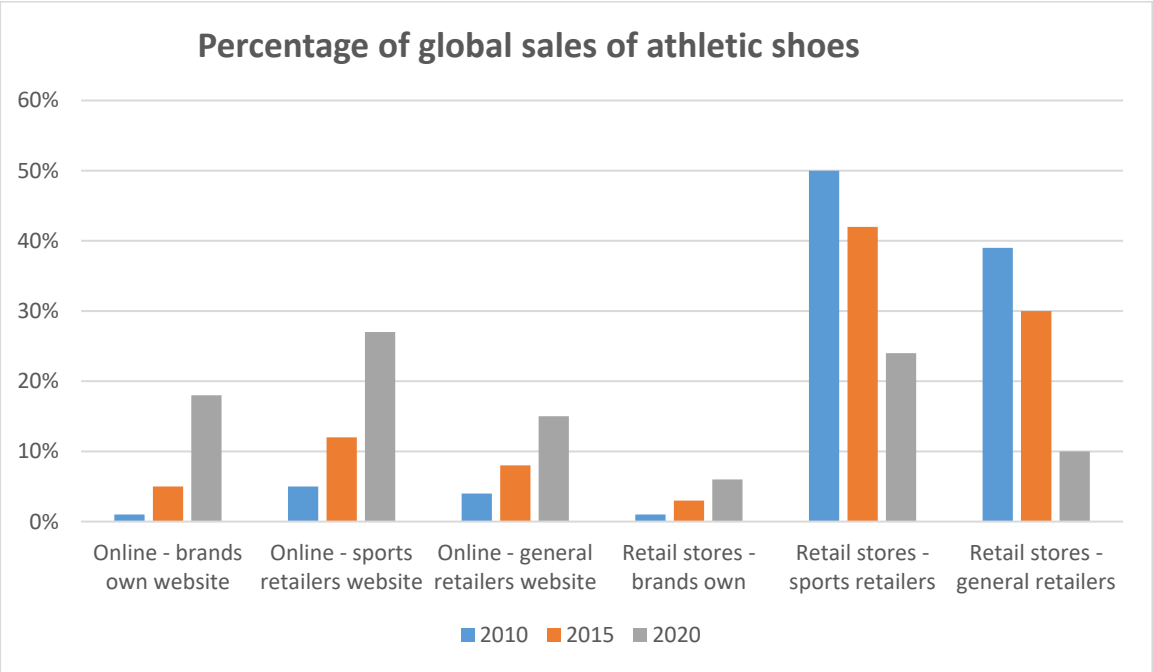
Of the K$70 billion of athletic shoe sales generated in 2020, approximately 50% relates to high performance sports shoes (covering a wide range of sports) and 50% relates to casual athletic shoes.

The global market for athletic shoes has grown by an average of 5% a year over the last 10 years and is expected to grow by 7% a year over the next 5 years. This is due in part to increasing interest in health and fitness generally but is also driven by Millennials who see athletic shoes as a fashion statement.

Sales channels for sports athletic shoes

Over the last 10 years consumer shopping habits have changed significantly. In 2010 only 10% of all athletic shoe sales were made online, with the other 90% made in retail stores. In 2020, online sales were 60% of total sales made.

Whether consumers buy their athletic shoes direct from the brand or from third party retailers has also changed slightly over the same 10-year period. Increasingly brands have used direct selling to consumers, either through their own online stores or their own dedicated retail stores. This is illustrated below:



Manufacturing

The vast majority of athletic shoes are manufactured in Asia. All four of the major brands outsource production as a means of keeping cost down.

However, over the past 10 years there have been a number of small companies proving that manufacturing in-house can be profitable. One such example is TreadCushy.

Financial statements for the year ended 30 June 2021

TreadCushy
Statement of profit or loss for the year ended 30 June 2021

	2021 K$000	2020 K$000
Revenue	67,740	59,120
Cost of sales	(32,515)	(28,970)
Gross profit	**35,225**	**30,150**
Selling, distribution and marketing costs	(23,053)	(21,585)
Administrative expenses	(6,100)	(5,440)
Operating profit	**6,072**	**3,125**
Finance costs	(390)	(390)
Profit before tax	**5,682**	**2,735**
Income tax expense	(1,620)	(805)
Profit for the year	**4,062**	**1,930**

TreadCushy
Statement of financial position at 30 June 2021

	2021 K$000	2021 K$000	2020 K$000	2020 K$000
ASSETS				
Non-current assets				
Property, plant and equipment		8,924		9,200
Right of use assets		724		620
		9,648		**9,820**
Current assets				
Inventory	8,580		8,420	
Other receivables	518		490	
Cash and cash equivalents	4,314		802	
		13,412		9,712
Total assets		**23,060**		**19,532**
EQUITY AND LIABILITIES				
Issued K$1 equity share capital		100		100
Retained earnings		9,188		7,126
Total equity		**9,288**		**7,226**
Non-current liabilities				
Borrowings	4,600		4,600	
Lease liability	542		433	
		5,142		5,033
Current liabilities				
Trade and other payables	6,912		6,380	
Tax liability	1,620		805	
Lease liability	98		88	
		8,630		7,273
Total equity and liabilities		**23,060**		**19,532**

TreadCushy
Statement of cash flows for the year ended 30 June 2021

	2021 K$000	2021 K$000
Cash flows from operating activities		
Profit before tax		5,682
Adjustments		
Depreciation for property, plant and equipment	1,640	
Profit on sale of property, plant and equipment	(13)	
Depreciation on right of use asset	80	
Finance costs	390	
		2,097
Movements in working capital		
Increase in inventory	(160)	
Increase in other receivables	(28)	
Increase in trade and other payables	532	
		344
Cash generated from operations		**8,123**
Tax paid		(805)
Interest paid		(390)
Net cash inflow from operating activities		**6,928**
Cash flows from investing activities		
Purchase of property, plant and equipment	(1,431)	
Proceeds on disposal of property, plant and equipment	80	
Net cash outflow from investing activities		(1,351)
Cash flows from financing activities		
Dividend paid	(2,000)	
Repayment of lease principal	(65)	
Net cash outflow from financing activities		(2,065)
Net increase in cash and cash equivalents		**3,512**
Cash and cash equivalents at the start of the year		802
Cash and cash equivalents at the end of the year		**4,314**

Budget information for the year ending 30 June 2022

Total budgeted gross profit

	Casual		Performance		
	Wool K$000	**Wood K$000**	**Hill K$000**	**Flat K$000**	**Total K$000**
Revenue	29,580	16,660	9,840	17,760	73,840
Cost of sales	(13,683)	(8,297)	(4,346)	(7,310)	(33,636)
Gross profit	**15,897**	**8,363**	**5,494**	**10,450**	**40,204**
Gross profit margin	**54%**	**50%**	**56%**	**59%**	**54%**

Budgeted sales

	Casual		Performance		
	Wool	**Wood**	**Hill**	**Flat**	**Total**
Sales volume (pairs)	348,000	196,000	82,000	148,000	774,000
	K$	**K$**	**K$**	**K$**	
Average selling price per pair*	85.00	85.00	120.00	120.00	
	K$000	**K$000**	**K$000**	**K$000**	**K$000**
Revenue	29,580	16,660	9,840	17,760	73,840

Budgeted cost of sales

	Casual		Performance		
	Wool	**Wood**	**Hill**	**Flat**	**Total**
Sales volume (pairs)	348,000	196,000	82,000	148,000	774,000
	K$	**K$**	**K$**	**K$**	
Average cost of sales per pair*:					
Raw materials	17.65	19.45	24.20	22.60	
Direct labour	9.70	10.42	13.64	12.48	
Variable production overheads	2.39	2.49	3.03	2.86	
Fixed production overheads	9.58	9.97	12.13	11.45	
Total	**39.32**	**42.33**	**53.00**	**49.39**	
	K$000	**K$000**	**K$000**	**K$000**	**K$000**
Cost of sales	13,683	8,297	4,346	7,310	33,636

*The average selling price and average cost of sales per pair, are the averages across all designs in each of the product ranges. For Performance shoes, there are three distinct ranges of design: Basic, Regular and Elite.

Example standard cost card

Casual Wool: Design TC210: Size 40 per pair				
	Quantity / hours	**Standard price / rate K$**	**Standard cost K$**	**Standard cost K$**
Materials:				
Yarn	0.10 kg	30.00	3.00	
Sugar cane composite	0.16 kg	15.00	2.40	
Natural rubber	0.20 kg	20.00	4.00	
Other components			7.80	
Packaging			0.60	
Total				**17.80**
Direct labour:				
Weaving	0.025 hours	20.45	0.51	
Moulding	0.055 hours	20.45	1.12	
Cutting & Stitching	0.32 hours	20.45	6.54	
Lasting & Finishing	0.10 hours	20.45	2.05	
Total				**10.22**
Variable production overheads:				
Weaving	0.025 machine hours	28.40	0.71	
Moulding	0.05 machine hours	12.60	0.63	
Cutting & Stitching	0.32 labour hours	1.94	0.62	
Lasting & Finishing	0.10 labour hours	4.64	0.46	
				2.42
Fixed production overheads:				
Weaving	0.025 machine hours	114.80	2.87	
Moulding	0.05 machine hours	50.60	2.53	
Cutting & Stitching	0.32 labour hours	7.75	2.48	
Lasting & Finishing	0.10 labour hours	18.56	1.86	
				9.74
Total production cost				**40.18**

Notes on standards and budget preparation

1. Standards are reviewed and updated annually for any known changes.
2. Normal raw material losses are included in the standard cost of each product.
3. All direct labour overtime premium is treated as variable production overhead. 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 four production overhead cost centres for weaving, moulding, cutting & stitching and lasting & finishing. Each production cost centre has its own variable and fixed production overhead absorption rates.
5. Budgeted selling prices include an allowance for planned discount promotions.

Articles

Business Today

1 October 2021 No. 1,223

TreadCushy: So, what's the secret?

It's the business that just seems to keep growing. From humble beginnings and the sale of its first pair of shoes in 2010, the last 3 years have seen revenue growth averaging 15% a year: a phenomenal rate of growth in a market which is dominated by major international brands. So, what's the secret of TreadCushy's success?

In an interview with Sophia Grigg, TreadCushy's Managing Director and co-founder, she states that there is no secret. For her, the success of the brand is a result of giving consumers what they want: an athletic shoe made from natural materials that is both stylish and comfortable at the same time. The company works hard on keeping designs fresh and is one of the few athletic shoe brands that keeps its manufacturing in-house. Even the fabric from which the shoe uppers are made is woven at TreadCushy's Production Facility.

It is clear from my interview with Sophia that she is passionate about the impact that the TreadCushy brand has on the environment. All the resources used in a pair of TreadCushy shoes are either sustainably sourced from nature or are recycled. Keeping manufacturing in-house, means that Sophia and her management team can limit wastage and ensure that the production process is as environmentally friendly as it can be.

Over the last 10 years, TreadCushy has managed to tap into growing consumer awareness on all matters related to sustainability. Not only that, through its clever designs, it has created shoes that are seen as "cool". And, that's another reason for its success: whether you are 16 or 60, TreadCushy shoes are increasingly the shoes to be seen in.

The future looks bright for this company. With new product ranges in the pipeline and continued focus on quality and sustainability, Sophia is confident that TreadCushy can continue to compete with the major brands!

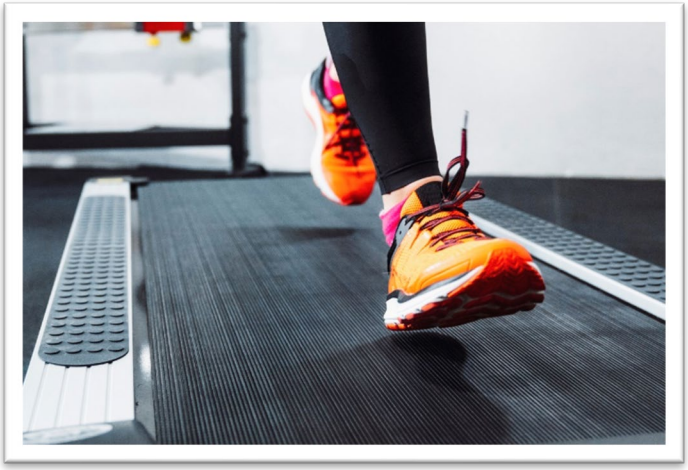
Running Weekly

17 October 2021 No. 450

Running shoes: what are the next new things?

Smart tech has already revolutionised the way that we monitor how we exercise. Through devices that we can wear on our wrist or arm, it's now easy to track our heart rates and our fitness progress on our mobile devices.

Smart tech in running shoes is a newer invention but is starting to make traction in the market. Prices of running shoes with smart tech embedded into the sole of the shoe are falling, as the leading brands (and some lesser-known brands) find ever more efficient ways to produce such shoes. This can only be good news for us!



It's not only running shoes that are changing. With the abundance of running shoe designs available in the market today, it's often difficult to choose a pair which suits our running style. More and more runners are turning to gait analysis (which involves running on a specialist treadmill that scans running action) before making a purchase.

Whether we over- or under- pronate when we run really matters when it comes to selecting what can be an expensive pair of running shoes. The good news is that increasingly athletic shoe companies seem to be more aware of this. Just last month one of the big four worldwide brands launched an in-store gait analysis service, free as long as you purchased a pair of shoes. How's that for customer service?

Tax regime in Keyland

- The corporate income tax rate to be applied to taxable profits is 30%.
- Unless otherwise stated below, accounting rules on recognition and measurement are followed for tax purposes.
- The following expenses are not allowable for tax purposes:
    - accounting depreciation
    - amortisation
    - impairment charges
    - entertaining expenditure
    - donations to political parties
    - taxes paid to other public bodies.
- Tax depreciation allowances are available on all items of plant and equipment (including computer equipment) at a rate of 25% per year on a reducing balance basis. A full year's allowance is available in the year that the asset is acquired. Tax depreciation allowances are not available for property assets.
- Tax losses can be carried forward indefinitely to offset against future taxable profits from the same business.
- Sales tax is charged on all standard rated goods and services at a rate of 20%. Tax paid on inputs into a business can be netted off against the tax charged on outputs from that business. All businesses are required to pay over the net amount due on a monthly basis.

Operational 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) 80% (b) 20%
2	45	1	3	(a) 40% (b) 32% (c) 28%
3	45	1	3	(a) 36% (b) 32% (c) 32%
4	45	1	3	(a) 40% (b) 16% (c) 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 December 2021 and you receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Performance of Weaving Department in November

The Senior Management Team (SMT) has asked for a report on the performance of the Weaving Department.

Attached in **Table 1** are some of the production variances for the Weaving Department for November. We have been developing a real time Key Performance Indicator (KPI) dashboard for production. It isn't yet available in real time, but I have prepared a dashboard to cover the same period as the variances (**Table 2** attached). I have spoken to Terry Amos, Head of Production, who told me that:

- In October, Oleg Scragg, Production Director, signed up a new supplier for some of the yarn used in production. The yarn from this supplier was used in production from the start of November.
- There was significant weaving machinery downtime in November as shown in the KPI dashboard. Some scheduled maintenance of the machinery was delayed in the month due to employee shortages in the Maintenance Department.
- Due to higher than expected demand, we hired some temporary employees during the month. Also, significant overtime premiums were paid.
- There were technical problems with the solar panels that we use to generate some of the electricity required to operate the machinery.

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

- What each of the variances shown in **Table 1** means and possible reasons for their occurrence based on what Terry has told me and the KPI dashboard in **Table 2**.

(sub-task (a) = 80%)

- The benefits to the managers in the Weaving Department of using a real-time KPI dashboard, such as that shown in **Table 2**.

(sub-task (b) = 20%)

Ben Numa
Finance Manager
TreadCushy

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

Table 1 | Table 2

Table 1: Variances for the Weaving Department for November 2021

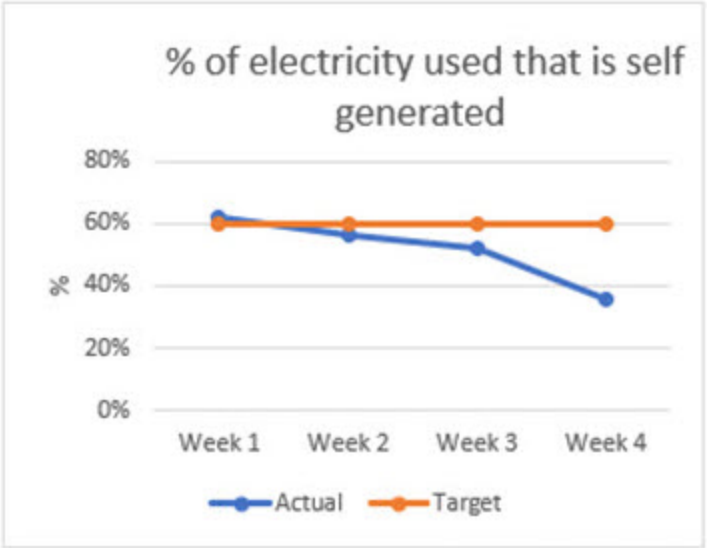
Variance	K$	
Raw material price	15,620	Favourable
Raw material usage	21,300	Adverse
Direct labour rate	3,510	Adverse
Direct labour idle time	2,045	Adverse
Direct labour efficiency	1,534	Favourable
Variable overhead expenditure	5,943	Adverse
Variable overhead efficiency	4,043	Adverse

Notes:

- Budgeted production was for enough fabric for 64,500 pairs of shoes. Enough fabric for 71,000 pairs of shoes was produced in the month of November.
- Idle time is not budgeted for.
- Variable overheads are absorbed on the basis of standard machine hours.

Table 1 | Table 2

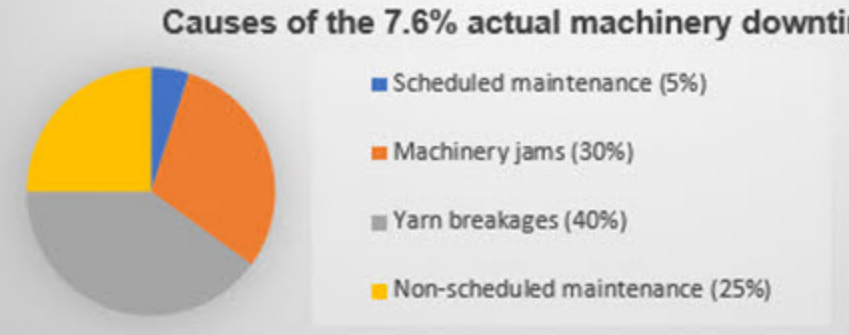
Table 2: KPI dashboard for the Weaving Department for November 2021



Machinery downtime

Target: 1.5% (all related to scheduled maintenance)

Actual: 7.6%



Close

Reference Material Pre-seen

Write the content for the report to the SMT as requested by Ben Numa in the box below.

Paragraph

Reference Material Pre-seen

It is now January 2022. A new range of casual athletic shoes made almost exclusively from recycled materials has recently been designed. This new range will be called Cushy-R and the shoe uppers will incorporate fabric woven from yarn made from recycled materials. You receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Sales forecast for Cushy-R and weaving machinery

We need to prepare a forecast for sales volumes of the new Cushy-R range which we will be launching in April 2022. There are a number of different athletic shoes made from recycled materials currently on the market at a range of price points.

I have sourced a graph that shows quarterly sales of athletic shoes made from recycled materials in Europe since the first quarter of 2018 (see **Graph 1** attached). We can use this as a starting point for our forecast. Please prepare briefing notes for the Senior Management Team (SMT) which explain:

- What **Graph 1** shows us. Please also explain how to use the data in the graph to determine a forecast of quarterly sales volumes for the new Cushy-R range, using a four-point moving average approach to determine a trend line.

(sub-task (a) = 40%)

To meet demand, we will be replacing our weaving machinery with larger, more efficient machinery (details of which are attached in **Table 1**). I know that there will be questions at the SMT meeting later today about these assets and therefore I would like you to include in your briefing notes an explanation, with appropriate justification, of:

- How the expenditure associated with the new weaving machinery will be initially recorded in our financial statements. Please also explain how the weaving machinery asset will be depreciated in our financial statements for the year ending 30 June 2022.

(sub-task (b) = 32%)

- How the existing weaving machinery that is to be sold will be treated in our financial statements for the year ending 30 June 2022.

(sub-task (c) = 28%)

Ben Numa
Finance Manager
TreadCushy

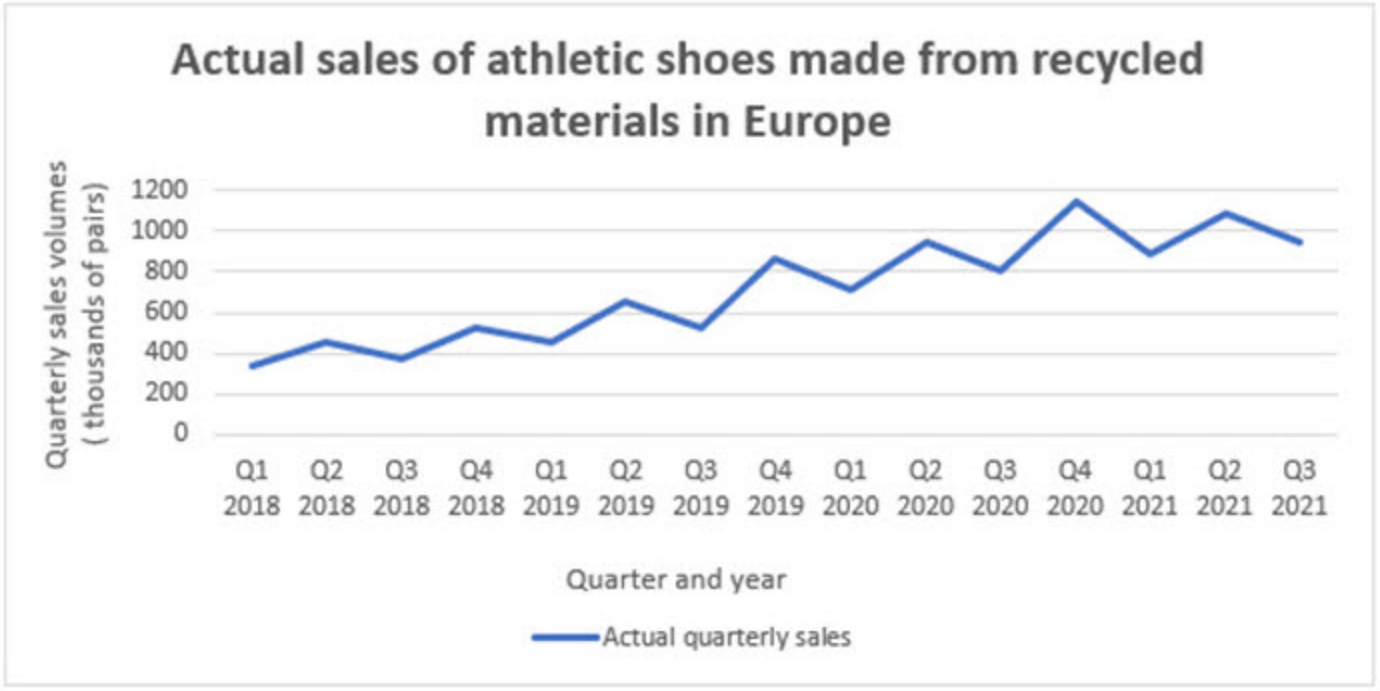
The attachments to the email can be found by clicking on the Reference Material button above.

Table 1: Weaving machinery

Transaction	Details
Purchase of new weaving machinery	• The new machinery will be purchased on 1 March 2022. Its purchase price will be K$825,000 and we will need to pay import duties of K$20,000. • Installation and testing of the machinery will happen throughout March at a cost of K$14,000. The machinery will start to be used from 1 April 2022. • We expect to use the new weaving machinery for 15 years, although the motors, which are a significant part of the machinery, will need to be replaced every 5 years.
Sale of existing weaving machinery	• The existing weaving machinery will continue to be used until 1 April 2022, when it will be dismantled. We expect dismantling to cost K$6,400 and be completed on 30 April 2022. The asset will then be advertised for sale. • Its carrying amount at 1 July 2021 was K$185,000 and it is being depreciated at K$2,500 a month. • There is a good second-hand market for this type of weaving machinery and therefore we expect to be able to find a buyer. Sophia Grigg, Managing Director, expects to sell the machinery in September or October 2022 for a sales price of around K$200,000.

Table 1 | Graph 1

Graph 1: Past sales history

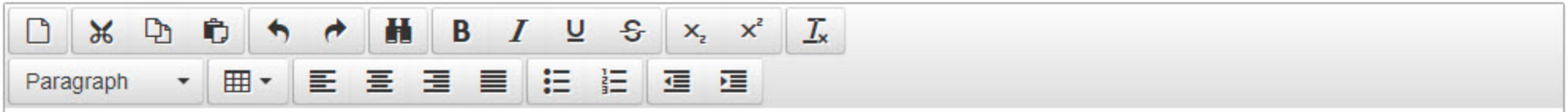


Note:

- Q1 is the period January to March and so on.

Reference Material Pre-seen

Write the briefing notes requested by Ben Numa in the box below.



Reference Material Pre-seen

It is a few weeks later. The first Cushy-R shoes will start to be produced on 1 April 2022 and the expansion of capacity at the Production Facility is progressing. Ben Numa, Finance Manager, says to you:

"Because the fabric made from recycled materials is harder to work with than our normal fabrics, we need to use specialised sewing machines for stitching Cushy-R shoe uppers. It has been decided to hire the machines for a period of 12 months and we have shortlisted three different suppliers. Each supplier has a different fee structure. Because of the uncertainty regarding the level of demand for this new range, I have prepared a schedule which I shall give to you shortly which includes a payoff table (**Table 1**) and a regret table (**Table 2**).

Please prepare a briefing paper that I can circulate to the Senior Management Team (SMT) that explains:

- The maximax, maximin and minimax regret decision criteria and how each of these can be applied to the information in **Table 1** and **Table 2** to decide which supplier to choose. Please state which supplier would be chosen for each criterion.

(sub-task (a) = 36%)

Jack Tang, Sales & Distribution Director, has suggested that we engage the services of MRT Consultancy which has offered, for a small fee, to quantify the probabilities associated with low, medium and high demand for performance athletic shoes. MRT Consultancy has also offered that, for an additional fee, it would give us a 100% accurate prediction of whether the demand will be low, medium or high for the Cushy-R range specifically.

Please include in the briefing paper an explanation of:

- How we would use probability information to make the decision about the supplier of sewing machines assuming a risk neutral approach to decision making. Please also explain, with reference to the information in **Table 1**, how we would determine the values to use when deciding whether it is worth paying the additional fee to MRT Consultancy for the accurate prediction of demand.

(sub-task (b) = 32%)

A company called ReYarnage is being considered as a supplier of the yarn to be used in Cushy-R. ReYarnage is a relatively new company, having started trading in 2016. Included in the schedule I shall give you shortly is some financial information about ReYarnage (**Table 3**).

Please also include in the briefing paper an explanation of:

- ReYarnage's working capital position based on the information in **Table 3**.

(sub-task (c) = 32%)

Thank you."

Ben then hands you his schedule which can be found by clicking on the Reference Material Button above.

Table 1: Payoff table showing the 12-month cost of specialised sewing machine hire

Demand for Cushy-R	Supplier 1 K$	Supplier 2 K$	Supplier 3 K$
Low	48,750	52,500	55,000
Medium	58,125	58,750	57,500
High	67,500	65,000	60,000

Table 2: Regret table based on Table 1

Demand for Cushy-R	Supplier 1 K$	Supplier 2 K$	Supplier 3 K$
Low	0	3,750	6,250
Medium	625	1,250	0
High	7,500	5,000	0

Table 3: Working capital ratios and financial information about ReYarnage

Ratio	Industry average	ReYarnage*			
	2021	2021	2020	2019	2018
	Days	Days	Days	Days	Days
Inventory days	58	65	76	68	56
Receivable days	45	68	91	77	60
Payable days	(51)	(62)	(84)	(72)	(64)
Operating cycle	**52**	**71**	**83**	**73**	**52**
	K$ million	K$ million	K$ million	K$ million	K$ million
Cash/(overdraft) balance	2.5	0.6	(2.1)	(0.7)	(0.2)
Long term finance	10.9	1.8	0.5	0.5	0.5
Revenue	35.6	12.1	9.9	6.2	3.1

*ReYarnage has a year end of 31 December and offers and receives 30-day credit terms.

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa in the box below.

Paragraph

Reference Material Pre-seen

It is now March 2022 and you receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Activity based costing (ABC) and what-if analysis

Production of the Cushy-R range will start next month. I think we should implement activity based costing (ABC) and also change how we schedule production runs. I need the approval of the Senior Management Team (SMT) and would like you to prepare a report that shows the benefits of ABC both in terms of costings and production planning. Please use the information shown in **Table 1** and **Table 2** (attached) about the Weaving Department.

Please prepare content for a report to the SMT which:

- Explains how the information in **Table 1** and **Table 2** supports the use of ABC instead of our current costing system. Please suggest how production runs should be scheduled in the Weaving Department and explain the benefits and potential issues to consider if your suggestion is implemented.

(sub-task (a) = 40%)

- Suggests, with supporting justification, appropriate cost drivers for each of the two cost pools identified in **Table 2**.

(sub-task (b) = 16%)

We now have a budget for the new Cushy-R range for the period 1 April 2022 to 30 June 2022 (**Table 3** attached). There is still however significant uncertainty over the budget variables, especially sales volumes and marketing spend. Therefore, I have calculated the sensitivity of profit to independent changes in the variables shown (**Table 4** attached).

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

- The sensitivity information shown in **Table 4** and why the level of sensitivity differs depending on the budget variable. Please also explain the benefits and limitations of this analysis.

(sub-task (c) = 44%)

Ben Numa
Finance Manager
TreadCushy

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

Table 1: Extract from monthly budget planning document

	Type of yarn used to make the fabric		
	Wool	**Wood**	**Recycled**
Machine time per m^2 (hours)	0.025	0.025	0.025
Number of colours needed	10	8	2
m^2 of fabric of each colour needed	1,000	600	400
Total output (m^2)	10,000	4,800	800
Number of inspections per production run	3	3	5
Time taken per inspection (minutes)	6	6	10

m^2 = square metre

Table 2: Suggested cost pools and related production duties

Cost pool	Detail
1	• Production is currently scheduled in runs of 100 m^2 of a particular yarn and colour. For example, we make 100 m^2 of blue wool fabric and then switch to a different colour or yarn combination. We continue alternating like this until the output needed for each fabric and colour is woven. • The yarn is supplied on spindles. Each spindle contains enough yarn for that month's production of fabric colour. For example, each spindle of wool yarn would have enough for 1,000 m^2 of fabric and there would be 10 spindles (one for each colour). • Each production run requires a change of spindle. • A change of spindle involves stopping the machinery to unload the partially used spindle from the weaving machinery and transporting this to the yarn storage area via a forklift truck. The spindle for the next production run is then moved from the storage area by forklift, loaded on to the weaving machinery by hand and the machinery aligned. This process is the same no matter the type or colour of the yarn.
2	• Inspections of the fabric are required during each production run. • Inspections involve stopping the machinery and examining the fabric to ensure that it is being woven to the correct tension.

Note: All of the costs, other than the cost of the yarns and those related to powering the weaving machines, are included in fixed production overheads.

Tables 1 and 2 | Tables 3 and 4

Table 3: Budget for the Cushy-R range for the period 1 April 2022 to 30 June 2022

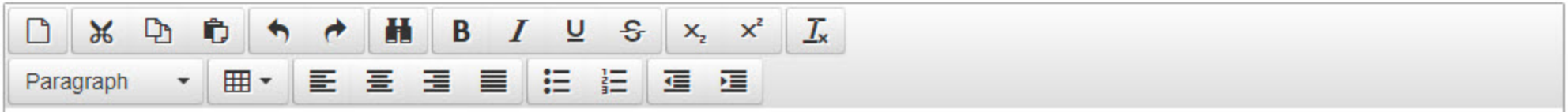
	K$000
Revenue	2,880
Variable costs	(1,472)
Contribution	**1,408**
Fixed costs	(750)
Marketing costs	(500)
Profit	**158**

Table 4: Sensitivity of profit to variables

Variable	Sensitivity
Selling price	5.5%
Sales volume	11.2%
Variable cost per unit	10.7%
Fixed costs	21.1%
Marketing costs	31.6%

Reference Material Pre-seen

Write the content for the report requested by Ben Numa 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) 24% (b) 20% (c) 56%
2	45	1	3	(a) 52% (b) 28% (c) 20%
3	45	1	3	(a) 40% (b) 28% (c) 32%
4	45	1	3	(a) 40% (b) 36% (c) 24%

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

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

Reference Material Pre-seen

Today is 1 December 2021. The Senior Management Team (SMT) has decided to introduce a subscription-based app for access to virtual fitness classes (called CushyFit). The company is also introducing a range of ethically sourced clothing (called CushyStyle). You receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Marketing campaign and CushyFit app

The SMT is planning a major 6-month promotional campaign to promote CushyFit, CushyStyle and our existing shoe ranges. There are three potential campaigns being considered and we need to decide which to choose. Each campaign is expected to have a different impact on the additional profit that will be generated depending on market reaction (**Table 1** attached). I have calculated the expected value, standard deviation and coefficient of variation for each campaign (**Table 2** attached). We have been offered perfect information about this decision for a fee of K$15,000 and so I have also calculated the value of perfect information (**Table 3** attached).

Sophia Grigg, Managing Director, has looked at **Tables 1, 2 and 3** and has sent a list of queries. To address these queries please prepare a briefing paper for Sophia which explains:

- 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 made under each approach.

(sub-task (a) = 24%)

- Based on the information in **Tables 1, 2 and 3**, how the risk attitude of the SMT will impact on its willingness to pay for the perfect information.

(sub-task (b) = 20%)

The CushyFit app will be launched on 1 January 2022 and will be available to download on multiple platforms. The app will allow the downloader, after subscribing and signing up to a monthly fee, to access every virtual fitness class available in real time from their own home or a place of their choosing. The monthly subscription fee will be the same regardless of the platform from which the app is downloaded. I have prepared a table of information (**Table 4** attached) about the costs associated with the CushyFit app and the virtual fitness classes. Sophia is considering how much to charge for a 1-month subscription to the CushyFit app and has asked for information about the costs associated with this. Please include in your briefing paper for Sophia an explanation of:

- How to determine the cost of providing a 1-month subscription to the CushyFit app and the difficulties associated with doing this.

(sub-task (c) = 56%)

Ben Numa
Finance Manager
TreadCushy

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

Table 1: Additional profit (after campaign costs) for each promotional campaign

Market reaction	Probability	Campaign 1 K$000	Campaign 2 K$000	Campaign 3 K$000
Good	0.3	700	1,000	900
Average	0.5	300	500	400
Poor	0.2	50	(50)	(100)

Table 2: Decision-making information

	Campaign 1 K$000	Campaign 2 K$000	Campaign 3 K$000
Expected value	370	540	450
Standard deviation	236	366	350
Coefficient of variation	0.64	0.68	0.78

Table 3: The value of perfect information

	K$000
The value of perfect information*	20

* This is before payment of the K$15,000 fee.

Table 4: Costs associated with the CushyFit app and the virtual fitness classes

Cost	Detail
Development	The app has been developed by FirstApps for a fee of K$1,500,000.
Fitness class production	Production, filming and streaming of the fitness class will be undertaken by GHH Productions which will charge us a fee per class. Each live class will be for 45 minutes. There will be 80 live classes produced each month and users will be able to access any of these, assuming they have a valid subscription.
Platform	The app will be hosted on three different platforms alongside the TreadCushy shopping app. Each platform provider will charge us an upfront fee for hosting the app and a fee each time that a live class is streamed through the app.
Technical support	FirstApps will provide technical support for the app, including updates and bug fixing. FirstApps will charge us for these support services on an hours-worked basis.
Administrative services	The app will be administered in-house via a dashboard by our IT Department.
Marketing	A major promotional campaign will be undertaken to promote the CushyFit app alongside the new CushyStyle range of clothing and the existing shoe range.

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa in the box below.

Paragraph

Reference Material Pre-seen

The next day Ben Numa, Finance Manager, says the following to you:

"The Senior Management Team (SMT) has asked for an analysis of the breakeven position of the new CushyStyle range of clothing. We shall be buying in this range from external suppliers, rather than manufacturing it. Our Distribution Centre is currently being expanded to accommodate goods inwards, inventory storage and despatch for this range. I have drawn up a profit-volume chart for the CushyStyle range based on the budget for the first 6 months which I shall send you shortly.

Please prepare a briefing paper for the SMT which explains:

- The multi-product profit-volume chart (**Chart 1**) and what it indicates about the new clothing range. Please also explain three factors that should be considered when interpreting this chart.

(sub-task (a) = 52%)

The SMT has decided to relax the policy on direct selling and to start selling to retailers. A number of retailers are interested including large national chains and small independent retailers. Retailers will expect a credit payment period of at least 30 days.

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

- The implications to the business of allowing credit to retailers.

(sub-task (b) = 28%)

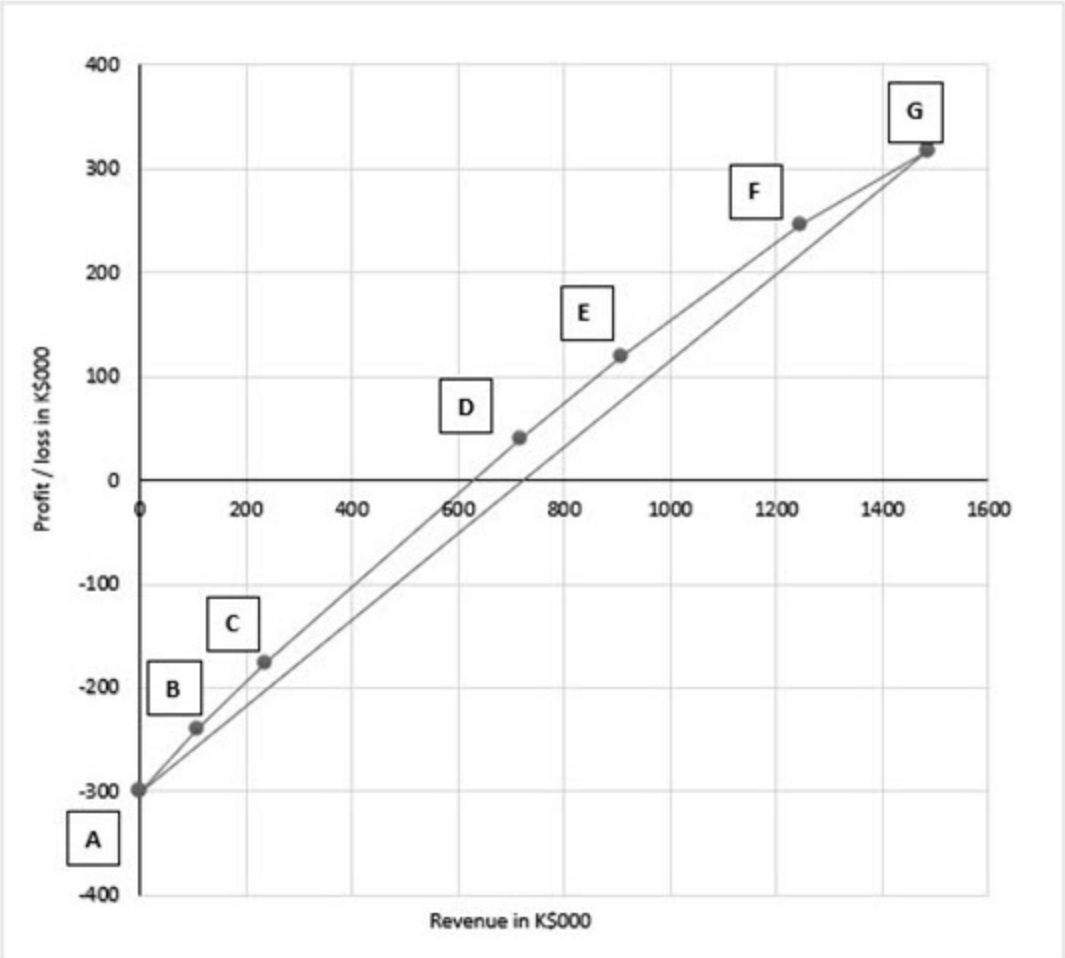
- The suitability of us offering prompt payment discounts to the retailers.

(sub-task (c) = 20%)

Thank you."

Ben then sends you Chart 1, which can be found by clicking on the Reference Material button above.

Chart 1: Multi-product profit-volume chart for the CushyStyle range



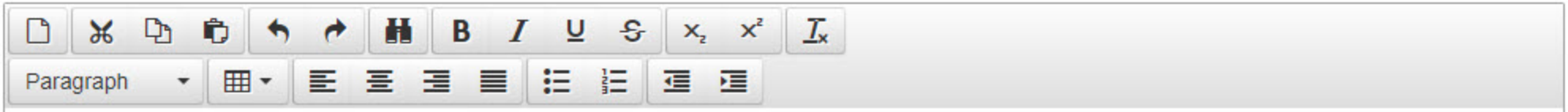
Notes:

- The chart is based on the budget for the new CushyStyle range for the period 1 January 2022 to 30 June 2022.
- The fixed costs shown on the chart are the additional fixed costs arising as a result of expanding the Distribution Centre.
- The budgeted weighted average contribution to sales (c/s) ratio is 0.42.
- The budgeted c/s ratio for each product is as follows:

Product	C/S Ratio
T-shirts	0.45
Sweatshirts	0.56
Socks	0.30
Hats	0.38
Sweatpants	0.50
Shorts	0.42

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa in the box below.



Reference Material Pre-seen

It is a week later, and the expansion of the Distribution Centre is progressing well. You receive the following email.

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Activity based budgeting and lease options

As a result of the Distribution Centre expansion, we need to revise the budget for its operating costs. Emily Queda, Finance Director, believes that, given the increase in the product range handled at the Distribution Centre, we should consider using an activity based budgeting (ABB) approach. She has asked for a briefing paper to be circulated to the Senior Management Team (SMT) on this, using the employee cost budget for the online sales packing hub for illustration. Information about the packing hub is attached (**Table 1**).

Please prepare a briefing paper for the SMT which explains:

- How an ABB approach would be applied to determine a budget for employee costs in the online sales packing hub of our Distribution Centre.

(sub-task (a) = 40%)

- The benefits and drawbacks of using ABB to determine the overall operating cost budget for the Distribution Centre.

(sub-task (b) = 28%)

As part of the expansion, we will need to lease additional robots for picking goods. There are two lease options available (see **Table 2** attached).

Please include in your briefing paper an explanation of:

- How the initial and subsequent measurement of the lease liability and the right-of-use asset in our financial statements for the year ending 30 June 2022 will differ between option 1 and option 2 shown in **Table 2**.

(sub-task (c) = 32%)

Ben Numa
Finance Manager
TreadCushy

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

Table 1 | Table 2

Table 1: Activities of packing employees in the packing hub at the Distribution Centre for online sales

Activity	Detail
Checking goods to order	• The goods for each online sales order are picked by robots and delivered to the packing hub. • Online sales orders are expected to include between one and four items and a single sales order can include shoes and items from the clothing range. • If the order includes shoes, the packing employee opens the shoe box and checks that the correct design and shoe size are inside and match the order. The employee then seals the shoe box with a sticker. • If the order includes clothing, the employee checks the tag on the clothing (which is easily visible and accessible) to ensure that the design and size on the sales order have been picked. • After checking, all items in an order are placed into a crate and sent to the packing area by conveyor.
Packing	• Irrespective of the number of items in an order, a single box per order is used for dispatch to the customer. Shoes and clothing are packed into the same single box. • The packing employee takes a crate from the conveyor and selects the appropriately sized box for the order. They then pack the checked items into the box and place padding into the box to protect the contents. Whether the order has one or four items, has a negligible impact on the time taken to complete this process. • The box is sealed, an address label is attached, and the box is placed on a separate conveyor ready for dispatch.

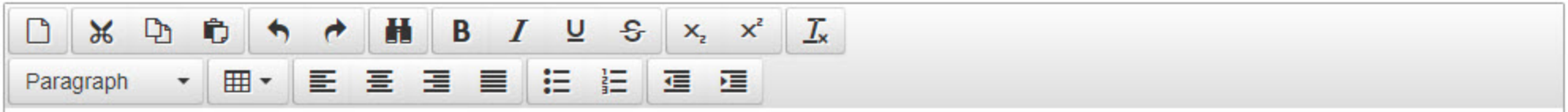
Table 1 | Table 2

Table 2: Details of the options for the robots lease

	Option 1	Option 2
Date lease commences	1 January 2022	1 January 2022
First lease payment	1 January 2022	31 December 2022
Annual lease payment	K$10,000	K$12,000
Number of annual lease payments	3	4
Annual interest rate implicit in the lease	10%	10%
Useful life of the robots	5 years	5 years
Ownership at end of lease term	Lessor	Lessee

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa in the box below.



Reference Material Pre-seen

It is now July 2022. Emily Queda, Finance Director, says to you:

"The Senior Management Team (SMT) is meeting to review the sales performance of CushyStyle in its first 6 months. To compare the performance of our different sales channels, I have calculated variances for our CushyStyle T-shirts. These are included in **Table 1** of a schedule I will send you shortly.

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

- What the sales variances in **Table 1** mean and reasons why they may have arisen.

(sub-task (a) = 40%)

Our Sales & Marketing Department uses digital marketing techniques and is constantly adding posts to our social media accounts. The department also does a lot of marketing via email. I think we need to monitor the impact of these activities by introducing a key performance indicator (KPI) dashboard for digital marketing.

Please prepare content for a report to the SMT which identifies:

- Three KPIs that could be included on the digital marketing dashboard, explaining how each would be calculated and why each would be appropriate.

(sub-task (b) = 36%)

In April we took a supplier to court for breach of contract and last week on 5 July, the supplier paid us K$10,000 in settlement of this case. We have decided to discontinue the particular lines from this supplier. On 30 June there were a total of 560 items from these lines in inventory which had cost us K$6,000. We will be selling all these items to one of our small retailers for K$6,100 and will incur total transportation costs of K$200.

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

- How to reflect the case settlement and the 560 items of inventory in our financial statements for the year ended 30 June 2022."

(sub-task (c) = 24%)

The schedule that Emily sends you can be found by clicking on the Reference Material button above.

Table 1: Sales variances for CushyStyle T-shirts for the 6-months to 30 June 2022

Variance	Website & own stores K$	Large retailers K$	Small retailers K$	Total K$
Sales price	38,500 A	4,860 A	0	**43,360 A**
Sales mix profit	5,196 A	21,073 A	2,872 F	**23,397 A**
Sales quantity profit				**28,827 F**

Notes:

- Budgeted volumes and actual sales volumes for CushyStyle T-shirts were:

	Budgeted volume	Actual volume
Website & own stores	18,000	17,500
Large retailers	4,000	8,100
Small retailers	2,000	1,600
Total	**24,000**	**27,200**

- The sales mix and quantity profit variances are calculated using the weighted average method. The standard weighted average profit per T-shirt is K$9.01. The standard profits per T-shirt are:

	Website & own stores K$	Large retailers K$	Small retailers K$
Standard profit per T-shirt	10.80	3.10	4.70

- Within each sales channel, all T-shirts in the range are sold at the same price. This price is after an allowance for standard discounts and commissions.
- Contracts with fewer small retailers and more large retailers than anticipated were secured by the Sales & Marketing Department during the period. Sales department managers earn commission based on the volume of sales secured and have the authority to offer discounts to retailers.
- During April and May, Jack Tang, Sales & Distribution Director, authorised a 25% discount on sales of the CushyStyle range through our website & own store sales. This was a reaction to issues in our Distribution Centre where orders were either lost or dispatched incorrectly.

Reference Material Pre-seen

Write the content for the report requested by Emily Queda in the box below.

Paragraph

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) 24% (c) 44%
2	45	1	4	(a) 28% (b) 24% (c) 32% (d) 16%
3	45	1	3	(a) 28% (b) 24% (c) 48%
4	45	1	3	(a) 32% (b) 32% (c) 36%

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

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

Reference Material Pre-seen

Today is 1 December 2021. As a result of product endorsement by celebrities, TreadCushy's sales have grown considerably in the last few months. To deal with one of the potential production bottlenecks at the Production Facility, capacity in the Cutting & Stitching Department has been expanded. You receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Variances and budgeting

Sophia Grigg, Managing Director, wants to analyse the fixed production overheads for the Cutting & Stitching Department for November. Attached in **Table 1** is the information that will be used to calculate the fixed production overhead variances for the department for the month.

Please prepare a briefing paper for Sophia which explains:

- How the fixed production overhead expenditure, efficiency and capacity variances for the Cutting & Stitching Department in November will be calculated based on the information in **Table 1** and whether they will be adverse or favourable. Please also give possible reasons for each variance.

(sub-task (a) = 32%)

Currently all the individual production managers are held accountable for all the production variances of their department. Sophia has expressed concern as to whether this is appropriate when the production manager is not always in control of the decisions being taken that affect their variances. For example, the decision to expand capacity in the Cutting & Stitching Department was taken by Sophia as a result of increased sales demand, but the Cutting & Stitching Department Manager will be held accountable for the variances that arise.

Please include in your briefing paper an explanation of:

- Whether it is appropriate to hold the Cutting & Stitching Department Manager accountable for the fixed production overhead variances of their department in November.

(sub-task (b) = 24%)

Sophia has read an article which suggests that rolling budgets are more effective than annual budgets. As you know, we currently prepare our budgets once a year (usually in May) for the following financial year.

Please include in your briefing paper an explanation of:

- How a rolling budget approach differs to how we currently prepare our budgets. Please also explain the potential benefits and drawbacks of adopting a rolling budget approach for our sales and production budgets.

(sub-task (c) = 44%)

Ben Numa
Finance Manager
TreadCushy

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

Table 1: Data for calculating the fixed production overhead variances for the Cutting & Stitching Department for November 2021

	K$
Budgeted expenditure	159,960
Actual expenditure	181,000
Overhead absorbed	188,480
Absorption rate per direct labour hour	7.75
	Pairs of shoes
Budgeted production	64,500
Actual production	76,000
	Hours
Budgeted direct labour hours	20,640
Standard hours produced	24,320
Actual hours worked	25,100

Notes:

- One direct labour hour should produce one standard hour of output.
- At the start of November, new sewing machines were installed to increase production capacity. Unfortunately, there were some initial issues and we had to pay an additional fee for the machines to be reset by the supplier.
- An additional stitching supervisor was employed.
- Three new inexperienced direct employees were employed.

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa in the box below.

Reference Material Pre-seen

It is now March 2022 and you receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Absorption versus marginal costing and one-off contract

At the last Senior Management Team (SMT) meeting, at which the latest fixed production overhead variances were discussed, a query was raised about using marginal costing rather than absorption costing. Based on actual sales and production levels for January and February I have calculated gross profit for each month on an absorption and marginal costing basis (see **Table 1** attached).

Please prepare a briefing paper for the SMT which explains:

- Why the calculation of profit is different using an absorption costing and a marginal costing approach and why, using the attached gross profit calculations, the approaches can produce different gross profit figures.

(sub-task (a) = 28%)

- Whether it would be beneficial to use marginal costing rather than absorption costing as our costing system.

(sub-task (b) = 24%)

We have been offered a one-off contract to supply 2,000 pairs of casual athletic shoes to the Keyland National Sports Organisation (KNSO). The shoes will be part of the team uniform for the International Games. KNSO has been let down by the original supplier and so would need the shoes as soon as possible. The price offered by KNSO is 50% of our normal selling price and therefore the SMT would like to know the minimum cost of producing the shoes. I've included details about the contract in **Table 2** (attached).

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

- Whether each of the cost items identified in **Table 2** is relevant or irrelevant to the decision whether to accept the contract.

(sub-task (c) = 32%)

- Two other factors to consider before deciding whether to accept the contract.

(sub-task (d) = 16%)

Ben Numa
Finance Manager
TreadCushy

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

Table 1 | Table 2

Table 1: Gross profit calculations for January and February 2022 using absorption and marginal costing

	January		February	
Number of pairs of shoes sold	78,000		65,000	
Number of pairs of shoes produced	66,000		70,000	
Absorption costing	**January K$000**	**K$000**	**February K$000**	**K$000**
Sales		7,441		6,201
Cost of sales				
Opening inventory	5,259		4,737	
Production cost	2,868		3,042	
Closing inventory	(4,737)		(4,954)	
		(3,390)		(2,825)
(Under)/over absorption		(36)		5
Gross profit		**4,015**		**3,381**
Marginal costing	**January K$000**	**K$000**	**February K$000**	**K$000**
Sales		7,441		6,201
Cost of sales				
Opening inventory	4,023		3,624	
Production cost	2,195		2,328	
Closing inventory	(3,624)		(3,791)	
		(2,594)		(2,161)
Contribution		**4,847**		**4,040**
Actual fixed production overhead		(710)		(710)
Gross profit		**4,137**		**3,330**

Close

Table 2: Cost items for the KNSO contract

Cost item	Detail
Fabric	In inventory, there is fabric of the correct colour that was woven last year at a total standard cost of K$15,000. We have a potential buyer for this fabric who would pay us K$5,000. There is no other use for this colour of fabric.
Other raw materials	All the other raw materials are regularly used and replaced. The prices of many of these raw materials have recently increased.
Packaging	Special packaging boxes would need to be purchased for this order at a cost of K$0.70 per box. The minimum order size is 2,500 boxes.
Direct labour	This order would require 1,300 hours of direct labour, which equates to K$26,585 at standard rate. Due to the urgency of the order, all these hours would be worked within normal hours. Employees are paid for a set number of hours each working week (Monday to Friday). However, as a result of this an extra shift at a weekend would be required to catch up with normal production, because we are already running at full capacity. Direct employees would be paid a 50% premium to normal rates for this extra shift.
Embroidery	Each shoe would have the National Sports Team emblem embroidered onto it. We have already ordered a machine that will be able to do this for a new range of shoes that we will be launching in a few months. The machine costs K$1,000 and will be paid for when we receive it.

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa in the box below.

Paragraph

Reference Material Pre-seen

It is two weeks later. There has been a fire at the Distribution Centre which has destroyed inventory of two shoe designs: The Classic and a design which is just about to be launched called The Special. To meet contractual obligations, a minimum of 3,500 pairs of each design are required for next week. However, 11,000 pairs of each design would be preferable to meet the maximum levels of forecast demand.

Ben Numa, Finance Manager, calls you and says:

"I asked the recently appointed Finance Assistant to help me determine the production plan to overcome the problems caused by the fire. The Finance Assistant has sent me a graph, which I will give you shortly, and an accompanying note which says "I think the optimum is either at Point 1 or Point 2, but I'm not sure how to determine which it is."

I would be grateful if you could write a briefing note for the Finance Assistant which explains:

- Two ways, either using the graph or otherwise, to determine which of Point 1 or Point 2 is the financial optimum.

(sub-task (a) = 28%)

Please also prepare a briefing note which I can send to the next Senior Management Team (SMT) meeting which explains:

- The factors to be considered before proceeding with the production plan identified from the graph as being optimum.

(sub-task (b) = 24%)

The fire has resulted in a significant loss of inventory, which has been made worse because we've always been quite conservative about our inventory holding. This applies equally to raw materials and finished goods. I have thought for a while that as a business we should consider a more aggressive approach and would like to suggest this at the next SMT meeting.

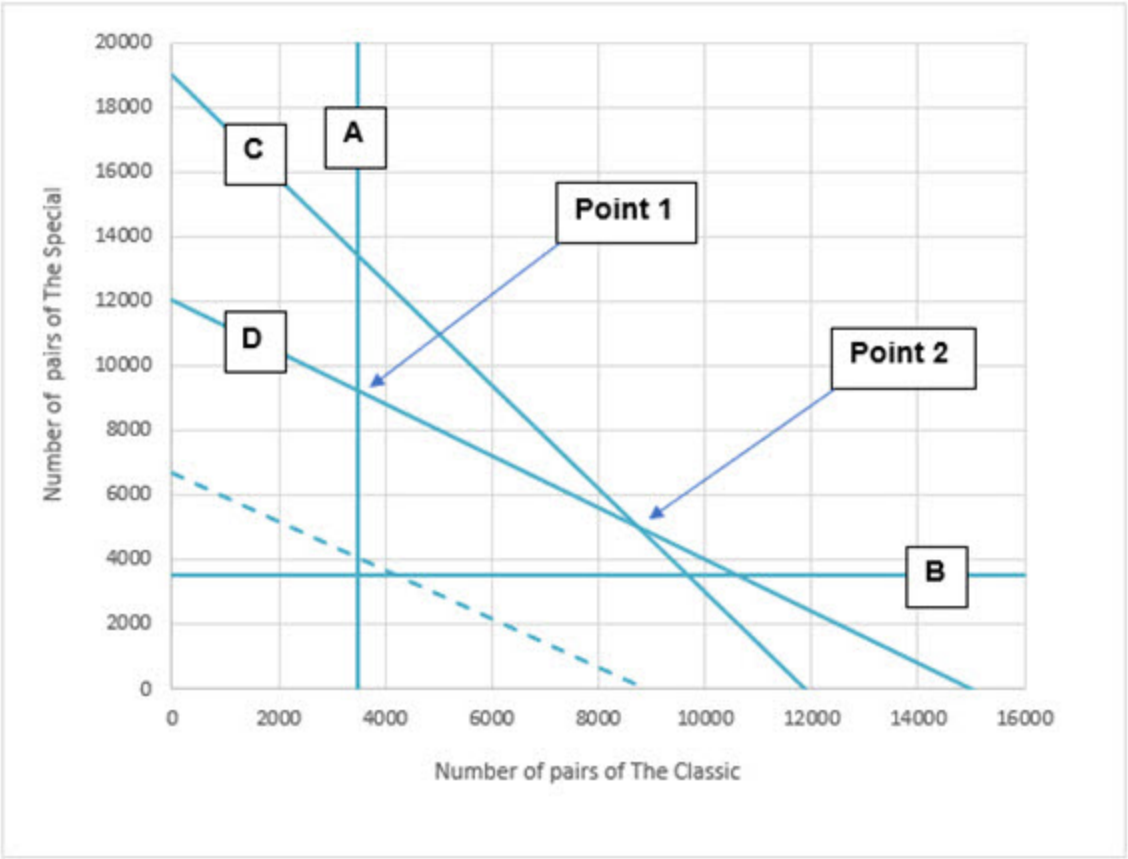
I would be grateful if you could include in the briefing note to the SMT an explanation of:

- The benefits of taking an aggressive approach to the management of our inventory levels and whether adopting Just-In-Time purchasing and Just-In-Time production would be a suitable way for us to achieve this."

(sub-task (c) = 48%)

Ben then sends you a copy of the linear programming graph (Graph 1) which 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 minimum quantities of The Classic and The Special shoe designs that need to be produced.
- Lines C and D are the constraint lines for cutting & stitching direct labour hours and moulding machine hours respectively.
- The dotted line is an iso-contribution line.

Reference Material Pre-seen

Write the briefing notes to the Finance Assistant and the SMT requested by Ben Numa in the box below.

Paragraph

Reference Material Pre-seen

It is now July 2022. The Senior Management Team (SMT) decided not to implement Just-in-Time. Instead, the Raw Materials Warehouse was reorganised during April and May. New equipment was installed and a new inventory management control system, which will integrate with the production systems, will soon be installed. The year-end inventory count took place on 30 June 2022.

You receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Financial statements and KPIs

I have just received some information from Oleg Scragg, Production Director, that will potentially affect our financial statements. Firstly, the year-end inventory count has identified two lines of inventory that may need to be written down (**Table 1** attached). Secondly, as a result of the reorganisation, there are two items of old equipment that have either been damaged or put into storage (**Table 2** attached).

Please send me some notes which I can use to brief the SMT that explain:

- How to value the inventory identified in **Table 1** in our financial statements for the year ended 30 June 2022.

(sub-task (a) = 32%)

- How to account for the items of old equipment identified in **Table 2** in our financial statements for the year ended 30 June 2022.

(sub-task (b) = 32%)

The new inventory management control system which is just about to be installed in the Raw Materials Warehouse will allow us to track all kinds of data about our raw materials inventory. To utilise this data, Oleg would like to incorporate a dashboard into the system with a range of Key Performance Indicators (KPIs) by raw material line.

Please include in your notes:

- Suggestions of three KPIs to include in the Raw Materials Warehouse dashboard with an explanation of how these would be calculated and why they would be appropriate.

(sub-task (c) = 36%)

Ben Numa
Finance Manager
TreadCushy

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

Table 1: Raw material and work-in-progress inventory

Inventory	Detail
120 kilogrammes of pink yarn	This yarn is no longer used in production. The invoice shows that the purchase price of this yarn was K$20.50 per kilogramme 6 months ago, although we did later receive a rebate from our supplier equivalent to 10% of purchase price. The yarn is in good condition and we could sell it for K$12.00 per kilogramme, although we would need to pay for delivery to the buyer at a total cost of K$100.
1,000 pairs of partially completed shoes	We usually try to ensure that there is no work-in-progress at the year end. However, this year there are 1,000 pairs of shoes in the Lasting & Finishing Department that are partially complete.

Table 2: Old equipment

Old equipment	Detail
Lifting equipment	During the reorganisation of the raw materials storage area, lifting equipment was damaged. The damage occurred on 1 May 2022 and was quickly repaired at a cost of K$5,000. As a result of the damage though, the useful life of the lifting equipment from 1 May 2022 has been reduced to 4 years. We originally purchased the equipment on 1 July 2020 for K$100,000 when we assessed its useful life to be 10 years.
Racking	As part of the reorganisation, old racking was dismantled on 31 May 2022 and replaced with new, more easily accessible racking. The racking is currently being kept in a storage area in case we need it in the future, although it could be sold for K$10,000. The racking's carrying amount on 31 May 2022 was K$14,200.

Reference Material Pre-seen

Write the notes requested by Ben Numa in the box below.

Paragraph

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) 28% (b) 36% (c) 36%
2	45	1	2	(a) 48% (b) 52%
3	45	1	2	(a) 64% (b) 36%
4	45	1	3	(a) 36% (b) 32% (c) 32%

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

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

Reference Material Pre-seen

Today is 1 December 2021. The Senior Management Team (SMT) has been reviewing the performance of the company's retail stores. As a result of this review and after market research, the SMT decided to upgrade the retail stores and to launch a specialist gait analysis service. A rolling programme of store upgrades has begun.

You receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Profit-volume chart, rolling budgets and Key Performance Indicators (KPIs)

The upgrading of the retail stores is in progress. A campaign to promote the new look retail stores and the new gait analysis service will start in January 2022. It is thought that the gait analysis will persuade some customers to move from our casual range to the performance range.

Sophia Grigg, Managing Director, is confident that the store upgrade, gait analysis and promotional campaign will increase retail store sales without affecting our online sales but is uncertain by how much. She has asked for an explanation of how all of this will potentially impact on the position of our retail stores for the period January to June 2022. Chart 1 (attached) is a profit-volume chart based on the original budget for that period.

Please prepare a briefing paper for Sophia which explains:

- The profit-volume chart and how the upgrade, gait analysis and promotional campaign will potentially change it, including the impact on breakeven volume and margin of safety.

(sub-task (a) = 28%)

Given the uncertainty surrounding the impact of the promotional campaign, Emily Queda, Finance Director, has suggested to Sophia that, starting from January, it might be a good idea to introduce rolling budgets rather than our current incremental approach.

Please include in your briefing paper for Sophia an explanation of:

- How rolling budgets differ from how we currently budget and whether it would be beneficial for the business to use rolling budgets.

(sub-task (b) = 36%)

To incentivise our retail store employees, Sophia is keen to introduce a bonus scheme. To do this though, she feels that we need a more formal system for monitoring their performance.

Please include in your briefing paper for Sophia:

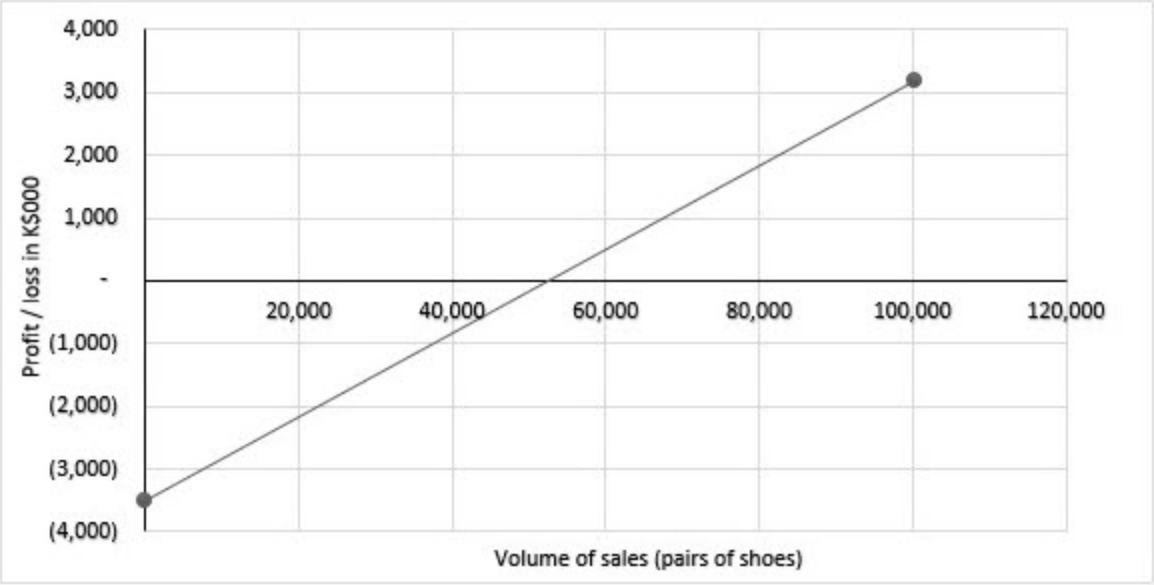
- Suggestions for three KPIs we can use to monitor the performance of retail store employees. For each KPI please explain how it would be calculated and why it would be appropriate.

(sub-task (c) = 36%)

Ben Numa
Finance Manager
TreadCushy

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

Chart 1: Multi-product profit-volume chart for the total of all retail stores for the period January to June 2022



Notes:

- The fixed costs shown in the chart are the originally budgeted store operating costs and a share of originally budgeted marketing costs for the period.
- The chart is based on the budgeted weighted average contribution to sales (c/s) ratio for all shoe ranges of 0.66. The individual budgeted c/s ratios are 0.68 for Flat, 0.66 for Hill, 0.65 for Wool and 0.62 for Wood.
- The original budget for January to June 2022 includes sales in retail stores of 100,400 pairs of shoes.

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa in the box below.

Reference Material Pre-seen

A week later you receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Choice of promotional campaign and costing of retail store service

A campaign promoting the new look retail stores and the gait analysis service will be launched in January 2022. Three different campaigns are being considered: social media only, magazine only and a mixed campaign which includes elements of both. Based on information provided by the marketing and advertising agency, I have prepared a payoff table and some statistics for each campaign. These are included in Table 1 which is attached.

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

- Using the figures in Table 1 whether you think choosing a promotional campaign based on expected value is the best approach. Please ensure that you also explain which campaign we would choose using a risk seeking and risk averse approach to decision making.

(sub-task (a) = 48%)

At a recent meeting of the SMT, it was suggested it might be informative to know more about the costs of the retail services we provide in our stores when selling a pair of each of our different types of shoes. Jack Tang, Sales & Distribution Director, has sent me some information (Table 2 attached) about some of the processes involved in the stores.

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

- The difficulties we would face when trying to determine the direct and indirect costs of the retail services in our stores, per pair of shoes sold.

(sub-task (b) = 52%)

Ben Numa
Finance Manager
TreadCushy

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

Table 1 | Table 2

Table 1: Payoff table, expected values and coefficient of variation for promotional campaigns

Market reaction	Probability	Social media only K$000	Magazine only K$000	Mixed campaign K$000
Poor	0.2	500	600	900
Moderate	0.5	1,025	1,100	1,000
Good	0.3	1,600	1,200	1,300
Expected value		**1,093**	**1,030**	**1,070**
Standard deviation		**387**	**219**	**155**
Coefficient of variation		**0.35**	**0.21**	**0.15**

The payoff table shows the additional profit generated for each campaign (after campaign costs) under each market reaction.

Table 2: Information about the different retail service processes in store

Process	Information
Gait analysis	Gait analysis will be available to all customers. Gait analysis involves the customer walking and then running on a specialist treadmill that scans the walking and running action. These specialist treadmills are connected wirelessly to tablets operated by retail store employees who interpret the scans and select the appropriate design for the customer to try on. Customers are given a paper copy of the results of their scan to take away with them. We expect that most customers using this service will purchase shoes from our Performance range.
Fitting	Fitting involves retail store employees fetching shoes from inventory, checking the fit of the shoes, and returning unsold items back into inventory. As part of the fitting service, customers will be given a pair of socks to wear while trying on shoes. If the customer purchases the shoes, they will be given the socks otherwise the socks will be recycled.
Purchase completion	Purchase completion involves the customer paying for their purchase (by cash or electronic card machine readers). All shoes are sold boxed and are placed in one of our distinctive TreadCushy paper carrier bags at the point of sale.

Reference Material Pre-seen

Write the report requested by Ben Numa in the box below.

Reference Material Pre-seen

It is now March 2022. The store upgrade programme is progressing well, and sales of running shoe ranges are increasing as a result.

You receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Sales variances and store upgrade expenditure

The upgrade of our two largest stores was completed by the end of January 2022. Store 1 is in Keyland and Store 8 is in Newland. The Senior Management Team (SMT) has asked for a report on the sales performance for running shoes for both stores in February 2022 to see the impact of the upgrade, the new gait analysis service and promotions that occurred (details of which are in the attached notes).

Because we have three distinct ranges for both our Hill and Flat running shoes (Basic, Regular and Elite), Emily Queda, Finance Director, has suggested that it would be useful to consider the variances on the basis of total sales of running shoes split across Basic, Regular and Elite. Attached are Table 1 and Table 2 showing the sales variances for Store 1 and Store 8 respectively, together with some notes.

Please prepare a report to the SMT which explains:

- What the variances shown in Table 1 and Table 2 tell us about the sales performance of Store 1 and Store 8 in February, giving possible reasons why the variances have occurred. Please ensure you include any possible impact that the recent changes may have had.

(sub-task (a) = 64%)

Also, Jack Tang, Sales & Distribution Director, has now sent me a list of the expected expenditure for the store upgrades (Table 3 attached).

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

- How the different items of expenditure in Table 3 will affect our financial statements for the year ended 30 June 2022.

(sub-task (b) = 36%)

Ben Numa
Finance Manager
TreadCushy

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

Reference Material

Table 1 and 2 | Table 3

	Basic K$	Regular K$	Elite K$	Total K$
Sales price	1,200 A	4,950 A	3,500 F	2,650 A
Sales mix profit	3,867 A	5,777 A	16,128 F	6,484 F
Sales quantity profit				16,637 F

Table 2: Sales variances for all running shoe ranges for Store 8 for February 2022

	Basic K$	Regular K$	Elite K$	Total K$
Sales price	390 A	940 A	600 A	1,930 A
Sales mix profit	5,941 F	5,160 A	4,368 A	3,587 A
Sales quantity profit				5,546 F

Notes:

1. The sales mix profit and sales quantity profit variances have been calculated using the individual units method. The variances were calculated using the same standard selling prices, costs and profits per pair of shoes in each store. The Basic range has the lowest profit per pair and the Elite range the highest profit per pair.
2. Store 1 and Store 8 have the same budgeted quantity and sales mix for running shoes, as each other.
3. Store 1 is located in Keyland's capital city in an area close to offices. Store 8 is in the capital city of Newland and is located close to the city's university.
4. In the first 2 weeks of February 2022 an unplanned 10% discount was available on all purchases of running shoes. This was not included in the budget.
5. In January 2022, the fitness social influencer, Kieran Lim, posted a photograph of himself wearing a pair of our Basic running shoes. Kieran is from Newland and has over 2 million followers on social media.
6. As part of promoting the new in-store facilities, the world champion hill runner Tracy Robinson was launched as the new face of our Elite Hill running shoe range. Tracy is from Keyland and made a promotional appearance in Store 1 at the start of February. A new design of the Elite Hill running shoe, endorsed by Tracy, was launched at the same time.

Close

Table 3: Schedule of total expected expenditure for the retail store upgrades

Item	Explanation	K$
Installation of upgraded air conditioning systems	This new system is separately identifiable and replaces the existing air conditioning systems. The new systems are more powerful to accommodate the gait analysis areas. Amount includes installation costs of K$20,000.	124,000
Customer monitoring equipment	Hardware for electronic customer footfall monitoring system including K$5,000 import duty.	28,000
Training costs	Costs of training in-store retail employees and IT systems employees.	14,700
Marketing	Promotional campaign to launch upgraded stores.	140,000

Reference Material Pre-seen

Write the report requested by Ben Numa in the box below.

Paragraph

Reference Material Pre-seen

It is now June 2022. You receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Use of digital technology for budgeting, sale of Store 6 and investing cash

At the last Senior Management Team (SMT) meeting, concern was raised by Jack Tang, Sales & Distribution Director, about the accuracy of our sales budgets. Jack commented that the sales budget has several different purposes throughout the business. He feels that more use should be made of digital technology such as the cloud, big data, data visualisation via a dashboard and machine learning to enhance the preparation and use of our sales budgets.

Please prepare a briefing paper for the SMT which explains:

- How using digital technologies, such as those mentioned, in the preparation and use of our sales budget, could enhance planning, control, co-ordination and communication, within our business.

(sub-task (a) = 36%)

A few months ago, the SMT decided to close and sell Keyland Store 6 rather than upgrade it. Attached is an extract from the estate agent's report on the property sale (Table 1 and associated notes). The cost less accumulated depreciation for Store 6 on 30 June 2022 will be K$500,000 after depreciation for the year is deducted. We use the cost model for all our properties.

Please include in your briefing paper an explanation of:

- Whether Store 6 will be classified as a non-current asset held for sale on 30 June 2022. Please also explain how its carrying amount on 30 June 2022 will be determined.

(sub-task (b) = 32%)

The proceeds from selling Store 6 will be used to finance a new project that we expect to start in 6 months' time. Until then we are considering either a money market deposit or a certificate of deposit as a potential short-term investment for the sale proceeds.

Please include in your briefing paper an explanation of:

- The suitability, based on their relative risk, liquidity, and yield, of these two types of short-term investment.

(sub-task (c) = 32%)

Ben Numa
Finance Manager
TreadCushy

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

Table 1: Extract from estate agent's report of sale of Keyland Store 6

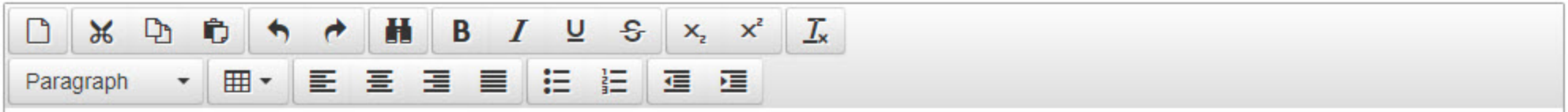
Property detail	Note	Store 6
Location		Sub prime retail
Cost of remedial works before sale	1	K$100,000
Selling costs		Currently unknown

Note:

1. Properties must comply with local building regulations before they can be marketed for sale. Store 6 will need remedial repairs before marketing can begin. We expect to be able to sell this property for K$525,000 after the remedial work. The remedial work will occur in July 2022.

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa 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) 36% (b) 32% (c) 32%
2	45	1	4	(a) 32% (b) 24% (c) 24% (d) 20%
3	45	1	3	(a) 52% (b) 32% (c) 16%
4	45	1	3	(a) 36% (b) 28% (c) 36%

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

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

Reference Material Pre-seen

Today is 1 December 2021. TreadCushy's sales are growing and to increase production capacity, the company has invested in new equipment and employed more direct labour. The Senior Management Team (SMT) is to meet shortly to discuss the performance of the Production Facility.

Ben Numa, Finance Manager, telephones you and says:

"I would like you to prepare commentary for a report to the SMT about the direct labour variances for both the Lasting & Finishing and Cutting & Stitching Departments for November. I will send you a schedule shortly which includes these variances (Table 1) and some notes about some of the decisions taken recently which have affected these departments (Table 2).

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

- What each of the variances in Table 1 mean and possible reasons for their occurrence with reference to the information in Table 2.

(sub-task (a) = 36%)

Because of the continued growth of the company, Sophia Grigg, Managing Director, is keen to make managers more accountable within the business and would like to discuss this at the next SMT meeting. She has suggested we introduce responsibility accounting and involve individual managers in setting standards and budgets.

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

- How a responsibility accounting system could be implemented in the Production Facility. Please illustrate your explanation with reference to the information shown in Tables 1 and 2.

(sub-task (b) = 32%)

- Two potential benefits and two potential drawbacks of allowing production managers to be involved in setting their own standards and budgets."

(sub-task (c) = 32%)

Ben sends you his schedule which can be found by clicking on the Reference Material button above.

Table 1: Direct labour variances for November 2021

Direct labour variance	Lasting & Finishing Department K$	Cutting & Stitching Department K$
Rate	3,700 A	19,200 F
Idle time	Nil	5,400 A
Efficiency	16,326 F	13,806 A

Table 2: Recent decisions

Decisions made by	Decisions
The SMT	• To increase the wage rate for all direct employees with effect from 1 November due to new guidance on the national living wage. • To recondition the lasting line which resulted in an increase in the batch size for the lasting process. This reconditioning was completed in October. The direct employees are responsible for operating and setting up the lasting equipment.
Terry Amos, Head of Production	• To employ 15 new trainees in the Cutting & Stitching Department as a result of the increased production levels. The trainees all started work on 1 November and were trained on the job. Trainees are paid at a lower hourly rate than experienced employees.
Ned Hills, Head of Maintenance	• To delay planned maintenance of sewing machines until 2022. This resulted in some existing sewing machines breaking down and requiring emergency repairs in the month.

Note: The impact of these decisions has yet to be reflected in the relevant standards.

Reference Material Pre-seen

Write the content for the report as requested by Ben Numa in the box below.

Paragraph

Reference Material Pre-seen

A week later, you receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Expenditure on production equipment and possible production constraints

To increase our production capacity there has been significant expenditure on new machinery and reconditioning old machinery. Table 1 (attached) gives details of the assets involved: new moulding machinery and the lasting line. I have had queries from Senior Management Team (SMT) members about these assets.

I would therefore like you to prepare a briefing paper for the SMT which explains:

- The impact of the expenditure on the new moulding machinery on our reported profit and tax payable for the year ending 30 June 2022.

(sub-task (a) = 32%)

- How the expenditure incurred on the lasting line will affect our financial statements for the year ended 30 June 2022.

(sub-task (b) = 24%)

Because of the increase in sales and despite the increase in production capacity, Oleg Scragg, Production Director, has identified potential production constraints for the next 2 weeks. He has identified that there will be a maximum of 1,700 kilogrammes of natural rubber and 275 cutting direct labour hours available to produce Hill and Flat running shoes in the 2-week period. Oleg has said that it could be possible to buy in natural rubber from an alternative supplier, but this would be at a higher cost per kilogramme. There are no options for expanding cutting direct labour hours during the period. I have prepared a linear programming graph (Graph 1 attached). Please include in the briefing paper an explanation of:

- How to use the linear programming graph to determine the production plan for Hill and Flat running shoes for the 2-week period that will optimise contribution. Please state what this optimal production plan is.

(sub-task (c) = 24%)

- How we would determine whether it is worthwhile buying additional natural rubber from the alternative supplier and how we could use the graph to determine the maximum quantity that we should order.

(sub-task (d) = 20%)

Ben Numa
Finance Manager
TreadCushy

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

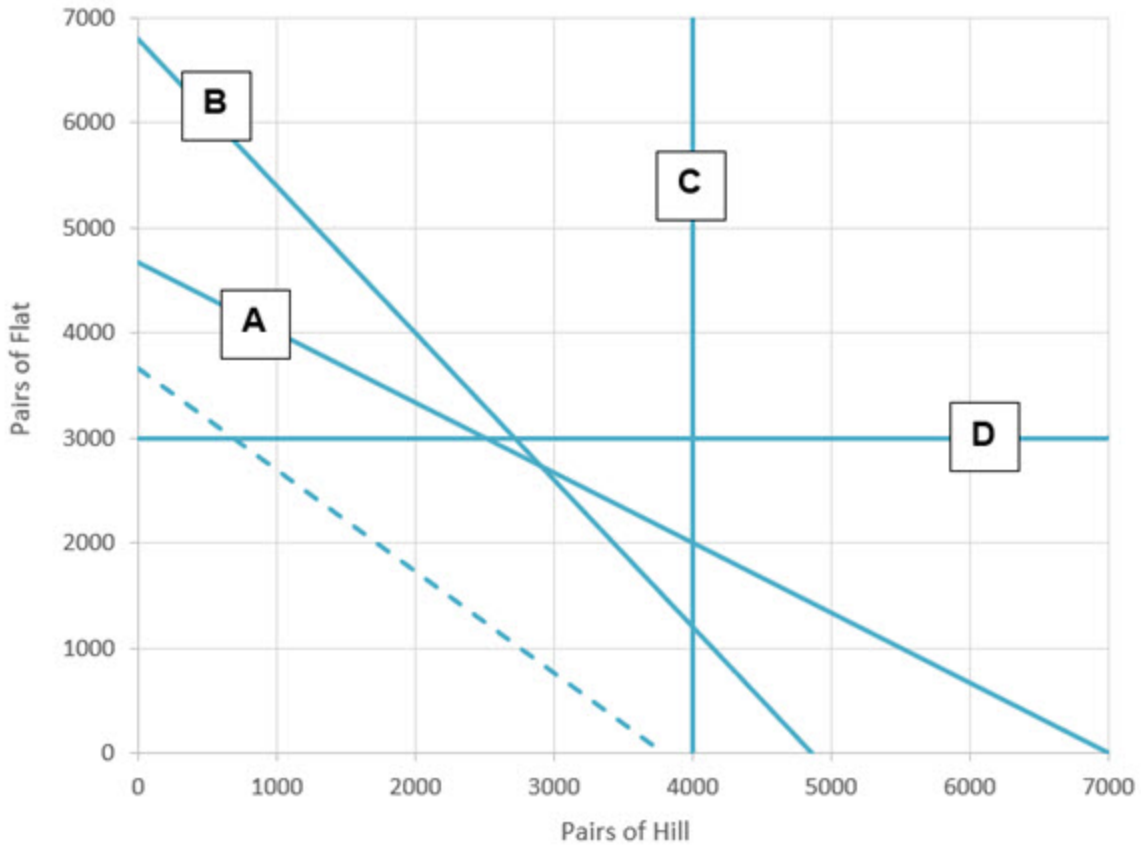
Table 1 | Graph 1

Table 1: Equipment expenditure

	Detail about the expenditure
New moulding machinery	The new moulding machinery was purchased on 1 November 2021 for K$150,000. It cost a further K$5,000 to install and K$1,000 to train our employees to use it. The machinery was brought into use on 1 December 2021 and we expect the machinery to have a useful life of 5 years.
Lasting line	The lasting line was reconditioned and extended in October 2021 at a cost of K$80,000. This work was completed and paid for on 31 October 2021 and has increased the speed at which the lasting line operates. It has also increased the number of shoes that can be lasted at the same time and increased the useful life of the lasting line to 5 years from 1 November 2021.

Table 1 | Graph 1

Graph 1: Linear programming graph



Key to the graph:

- Lines A and B are the constraint lines for cutting direct labour hours and natural rubber respectively.
- Lines C and D are the maximum quantities of Hill and Flat running shoes needed.
- The dotted line is an iso-contribution line.

Close

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa in the box below.

Reference Material Pre-seen

It is now late December 2021. Sales in the European market continue to grow at a higher rate than expected. The Senior Management Team (SMT) is considering investing in a cloud-based digital costing system. The SMT is also exploring opportunities to open up sales channels in Asia, including securing contracts with retailers.

You receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: New digital costing system and BJ Footwear contract

Harry Blanc, Product Development & IT Director, believes that a new digital costing system will be hugely beneficial for the company. Harry is aware that there is some concern within the SMT about the significant costs associated with setting up and maintaining such a system and so wants to discuss the benefits at its next meeting.

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

- How a digital costing system would change the way that we gather information to cost our shoes. Please also explain the benefits of using such a system for our business.

(sub-task (a) = 52%)

Jack Tang, Sales & Distribution Director, has been negotiating with a retailer based in Asia. The retailer, which is called BJ Footwear, has offered us a 12-month contract to supply it with a full range of our shoes. If we allow BJ Footwear to return unsold inventory at the end of the contract, it has agreed to pay a higher price per pair of shoes. BJ Footwear has also offered to take a higher pre-determined volume if we fund an advertising campaign whether we allow returns or not. I have drawn up a decision tree (Schedule 1 attached) to show these potential arrangements with BJ Footwear.

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

- The decision tree and how it should be used to make a decision on the arrangements for the BJ Footwear contract.

(sub-task (b) = 32%)

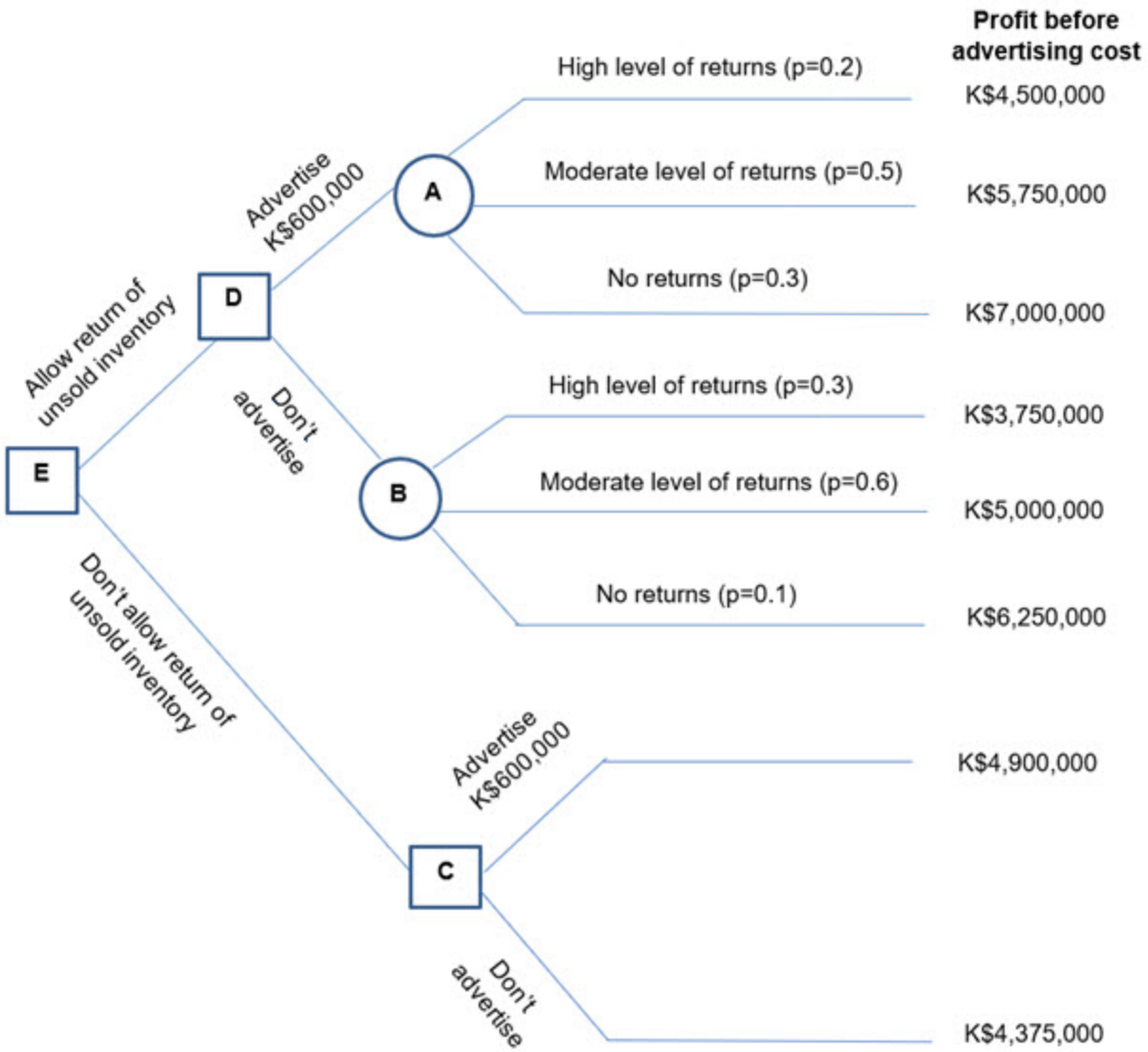
- How having risk seeking and risk averse attitudes would change how we approached the decision. Please state what the decision would be for each of these attitudes.

(sub-task (c) = 16%)

Ben Numa
Finance Manager
TreadCushy

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

Schedule 1: Decision tree of the potential arrangements for the BJ Footwear contract



Notes:

1. The profit in the right-hand column represents the profit (before any advertising costs) that would be earned by TreadCushy on the contract over the 12-month period.
2. Advertising is expected to increase the volumes sold and reduce the chance of a high level of inventory returns.
3. The expected value at point A is K$5,875,000 and at point B is K$4,750,000.

Reference Material Pre-seen

Write the content for the report to the SMT in the box below.

Paragraph

Pre-seen

It is now early April 2022. As a result of the new IT systems, the Senior Management Team (SMT) agreed to set up a new internal IT Support Services Department. Previously this function had been largely outsourced. Gaby Hopkins has just been appointed as the new IT Support Services Manager.

Ben Numa, Finance Manager, telephones you and says:

"I have just been talking to Gaby about the new internal IT Support Services Department that she is setting up. The department will be responsible for logging and resolving internal user issues. It will also be responsible for setting up IT training programmes for our employees and will control its own budget. The department will have the authority to outsource some of the training provision.

Emily Queda, Finance Director, is keen that a set of key performance indicators (KPIs) is established to monitor the performance of the new IT Support Services Department.

Please prepare a briefing paper for the SMT which suggests:

- Three KPIs that could be used to monitor the performance of the new IT Support Services Department, explaining how each KPI would be calculated and why each would be appropriate.

(sub-task (a) = 36%)

Emily Queda, Finance Director has suggested using a zero based budgeting approach to create the budget for the new IT Support Services Department. She would like an explanation of how decision packages could be developed as the first stage of the budgeting process.

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

- How decision packages would be developed as the first stage of the budgeting process in respect of the training function of the new IT Support Services Department.

(sub-task (b) = 28%)

Sophia Grigg, Managing Director, wants to avoid any possibility of us facing a cash deficit given future plans. She wants to explore the possibility of changing the way we manage our inventory and payables. Currently raw materials and finished goods inventory days are 60 and 102 respectively and payable days are 81.

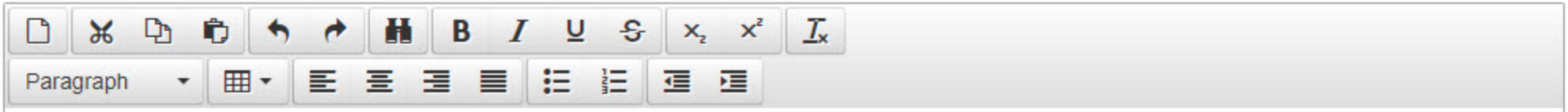
Please include in your briefing paper to the SMT an explanation of:

- How we could change the way that we manage our inventory and payables to reduce the risk of a cash deficit occurring, including an explanation of the potential implications resulting from these changes."

(sub-task (c) = 36%)

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa 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) 16% (c) 44%
2	45	1	3	(a) 52% (b) 24% (c) 24%
3	45	1	3	(a) 44% (b) 28% (c) 28%
4	45	1	3	(a) 40% (b) 32% (c) 28%

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

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

Reference Material Pre-seen

Today is 1 December 2021. A new range of smart running shoes is currently being developed by TreadCushy. These smart running shoes have tech in the sole which connects to an app to monitor metrics such as run speed, distance and terrain. It is expected that the range will launch in the first half of 2022.

You receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: Forecasting sales and lease for new laptops

I had a meeting with Harry Blanc, Product Development & IT Director, yesterday. He wants to understand more about the size of the potential market for smart running shoes in Europe for the first 2 quarters of 2022. He has found some information based on past sales volumes (Chart 1 and Table 1 attached) but would like to know how this could be used.

Please prepare a briefing note for Harry which explains:

- What the three trend lines and seasonal variation information shown in Chart 1 and Table 1 indicate about historic sales of smart running shoes in Europe and how this information could be used to determine a forecast of sales volumes for our new range for the first 2 quarters of 2022.

(sub-task (a) = 40%)

- Two factors that will limit the accuracy of this forecast.

(sub-task (b) = 16%)

Harry also told me at our meeting that he is arranging a lease for a laptop that can be used by a member of the shoe development team for homeworking. I mentioned to him that, because of the nature of the underlying asset, there are two ways that this lease could be treated in the financial statements. I didn't have time to explain any further though. The details of the lease are attached (Table 2).

Please include in your briefing note an explanation of:

- The two ways in which the laptop lease could be reflected in our financial statements for the year ending 30 June 2022.

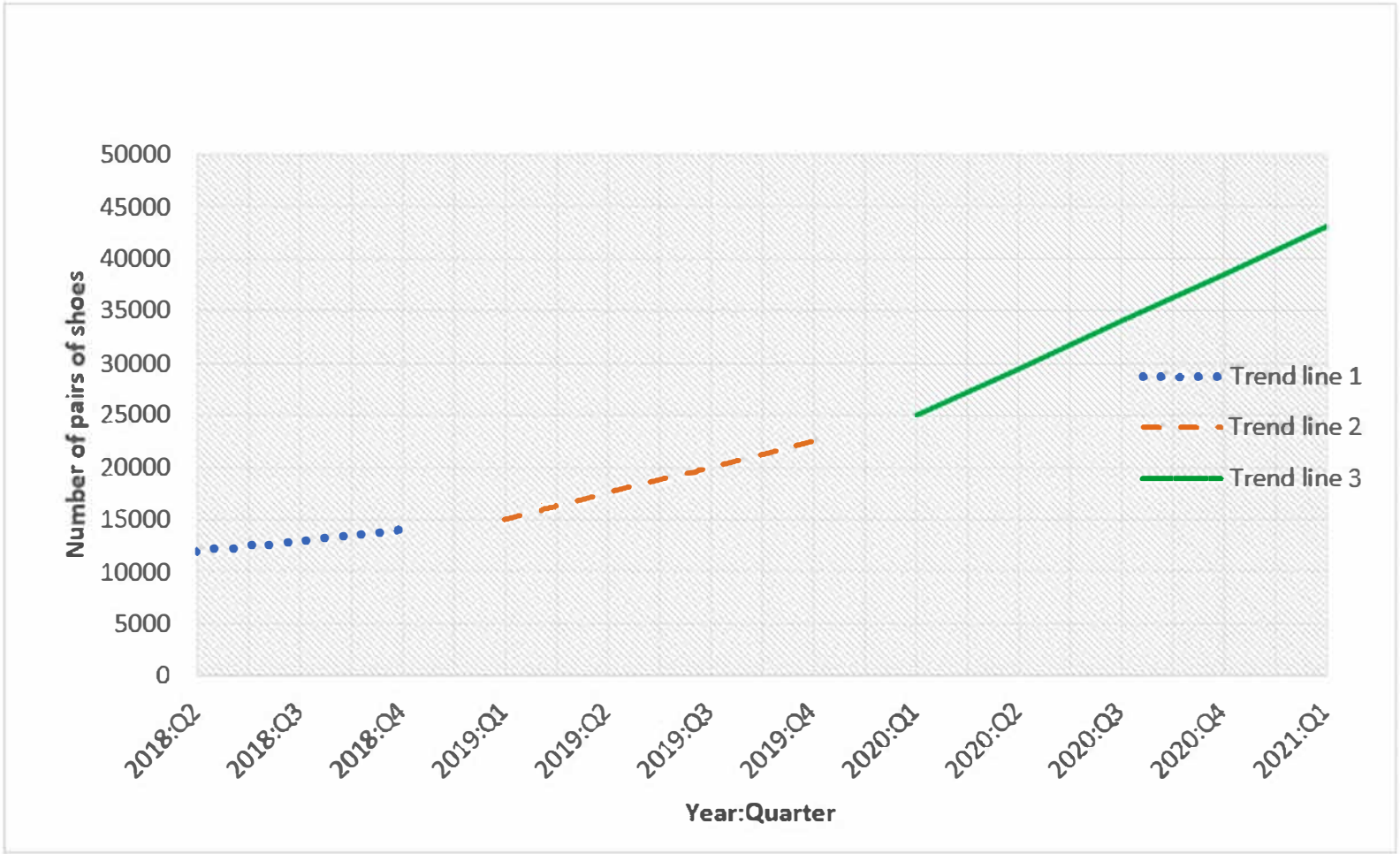
(sub-task (c) = 44%)

Ben Numa
Finance Manager
TreadCushy

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

Chart 1 and Table 1 | Table 2

Chart 1: Trend lines*



*The chart shows the last three trend lines for sales of digital smart running shoes in Europe. Q1 each year is the period January to March.

Table 1: Average seasonal variations

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Average seasonal variations	-10%	+35%	-40%	+15%

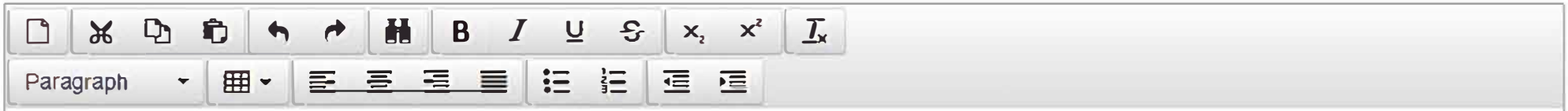
Close

Table 2: Information about the lease

Underlying asset	Laptop
Useful life of underlying asset	4 years
Commencement date of lease	1 January 2022
First lease payment	1 January 2022
Annual lease payment	K$600
Number of lease payments	3
Lease term	3 years
Interest rate implicit in the lease	10%
Ownership at the end of the lease term	Lessor

Reference Material Pre-seen

Write the briefing note requested by Ben Numa in the box below.



Reference Material Pre-seen

It is now January 2022. The design of our smart running shoe, CushySmart, has been finalised. Each pair of CushySmart running shoes will come with a unique code to enable buyers to link the sensors in the shoes to the CushySmart app. This will allow runners to monitor their performance in real time through their smartphone or smartwatch. The app will provide regular information about running and monthly performance reports through push notifications, SMS messaging and emails. The app was developed by an external company which will provide on-going technical support. Our IT Department will provide on-going administrative support. The app will be hosted on our own servers.

Ben Numa, Finance Manager says to you:

"The Senior Management Team (SMT) is considering the price to charge for a pair of CushySmart shoes. The price per pair needs to reflect the cost of manufacturing the shoes and the costs of providing the app.

Please prepare a briefing paper to the SMT which explains:

- How the cost structure and timing of costs incurred providing an app compare to those for manufacturing the shoes. Please also explain the potential issues with determining a cost per unit of the app.

(sub-task (a) = 52%)

Each CushySmart shoe will include a sensor embedded into the outsole. Two potential suppliers of sensors are being considered. Both suppliers would expect a 12-month exclusive supply agreement.

I have drawn up a chart (Chart 1 on a schedule that I'll send you) which looks at the annual cost of each supplier at different total annual volumes of purchases. The total volume of sensors required for the first 12 months is not known at this stage. Therefore, included on my schedule (Table 1) is a probability distribution which is our best estimate of the likelihood of each volume of purchases.

Please include in your briefing paper an explanation of:

- What Chart 1 shows us about each supplier's price structure and based on the expected value of purchase volumes from Table 1, which supplier we should choose.

(sub-task (b) = 24%)

- The limitations of basing this decision on the expected value of purchase volumes.

(sub-task (c) = 24%)

Thank you."

The schedule that Ben sends you can be found by clicking on the Reference Material button above.

Chart 1: Annual cost of sensor purchases Supplier A versus Supplier B

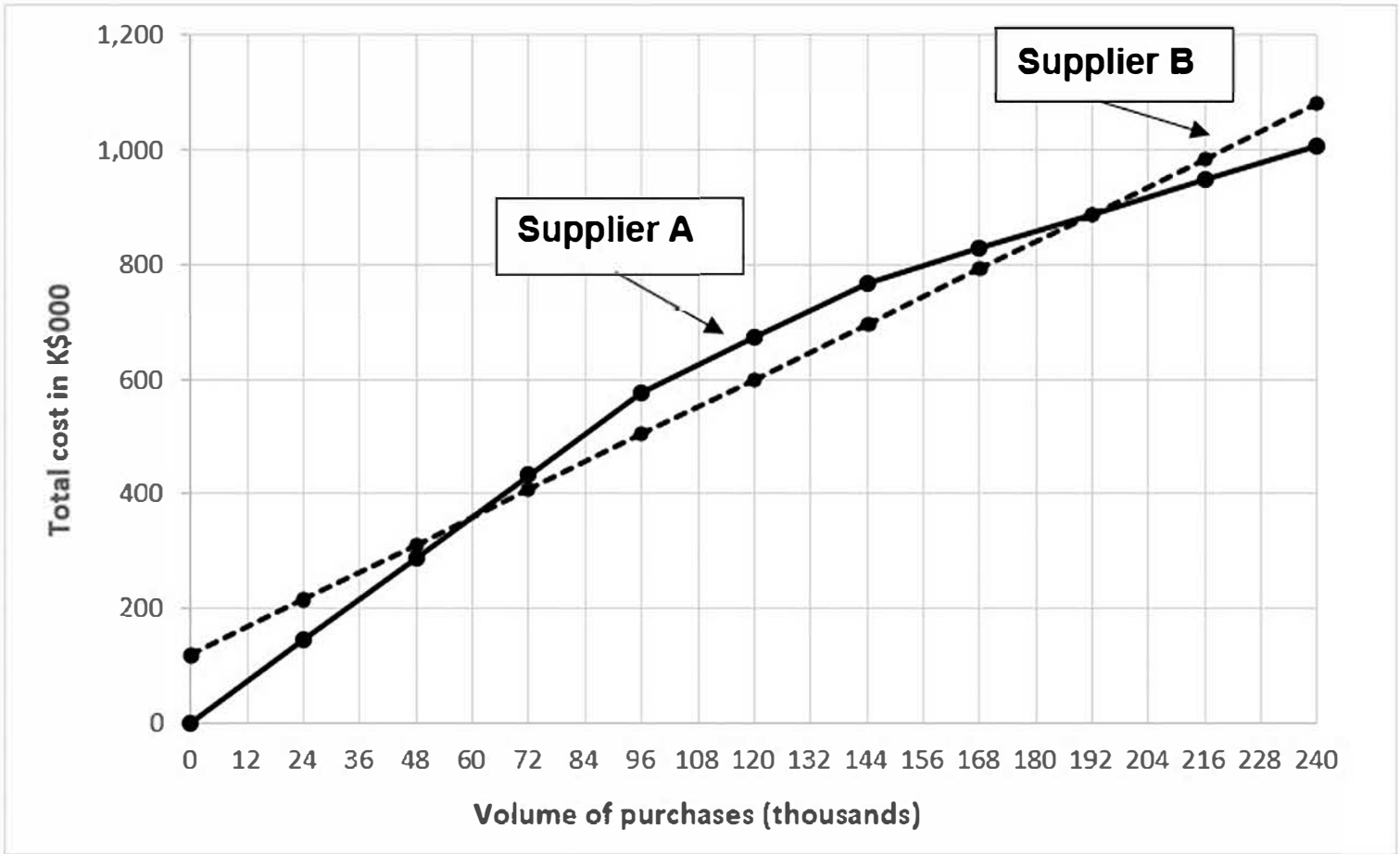
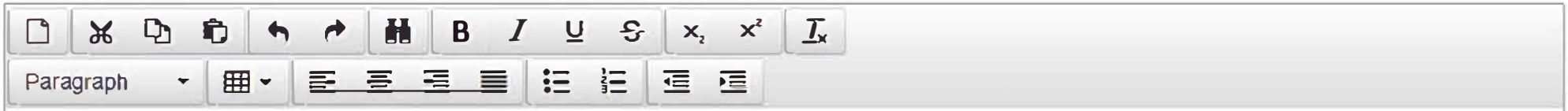


Table 1: Purchase probabilities

Annual purchase requirement for sensors	Probability	Expected value of purchase volumes
24,000	0.05	
48,000	0.05	
72,000	0.05	
96,000	0.05	
120,000	0.10	
144,000	0.10	
168,000	0.20	
192,000	0.20	
216,000	0.10	
240,000	0.10	
Total	**1.00**	**156,000**

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa in the box below.



Reference Material Pre-seen

It is now February 2022. Production of CushySmart will start next month, with the first sales in April. You receive the following email:

From: Ben Numa, Finance Manager
To: Finance Officer
Subject: What-if analysis and Moulding Department

The budget for CushySmart shoes for the period April to June 2022 has been prepared based on a selling price of K$150 per pair. Sophia Grigg, Managing Director, would like to consider the impact of reducing this selling price by either 5% or 10%. I have prepared a what-if analysis (Table 1 attached) based on her views of how the changes would impact sales volumes and fixed costs.

Please draft a report to the Senior Management Team (SMT) which explains:

- The impacts of the changes to selling price on budgeted revenues, contributions and profits for CushySmart and the factors we should consider before either of the changes are implemented.

(sub-task (a) = 44%)

Oleg Scragg, Production Director, has informed me that moulding machine hours are going to be constrained for March to June 2022. This is because of increased production volumes and equipment in the Moulding Department being recently damaged. It is possible to buy in all types of outsoles in sufficient quantities to make up the shortfall. Oleg would like to discuss the decision about which models to buy in at the SMT meeting and I have therefore prepared some information (Table 2 attached) to assist with this.

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

- How the information shown in Table 2 would be used to decide which of the outsole models we should buy in and which we should make in-house.

(sub-task (b) = 28%)

New machinery for the Moulding Department is on order and is due to be installed during June. We expect the new machinery to be in use from 1 July 2022 and have a useful life of 15 years. Table 3 (attached) includes information about the expenditure related to the new machinery.

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

- The impacts that the items of expenditure shown in Table 3 will have on our financial statements for the year ending 30 June 2022.

(sub-task (c) = 28%)

Ben Numa
Finance Manager
TreadCushy

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

Table 1 | Table 2 | Table 3

Table 1: What-if analysis: impact of decreases to selling prices on the budget for CushySmart for April to June 2022

	Original Budget K$000	Reduce selling price by 5%		Reduce selling price by 10%	
		Revised budget K$000	Impact	Revised budget K$000	Impact
Sales revenue	3,000	3,135	+4.5%	3,105	+3.5%
Variable cost*	(1,208)	(1,329)	+10.0%	(1,389)	+15.0%
Contribution	**1,792**	**1,806**	**+0.8%**	**1,716**	**-4.2%**
Fixed cost	(1,000)	(1,000)	+0.0%	(1,060)	+6.0%
Profit	**792**	**806**	**+1.8%**	**656**	**-17.2%**

*It is assumed that the variable cost per unit will not change.

Reference Material

Table 1 | Table 2 | Table 3

Table 2: Information for make or buy decision for outsoles

Per unit	Outsoles for			
	Casual	Performance: Hill	Performance: Flat	Performance: CushySmart
Moulding machine hours	0.060	0.075	0.070	0.100
	K$	K$	K$	K$
Variable production cost	6.36	9.74	8.33	11.12
Fixed production cost	1.90	2.37	2.21	3.16
Total production cost*	**8.26**	**12.11**	**10.54**	**14.28**
Buy-in purchase price	7.00	10.50	8.20	13.80

*Total production cost is based on our standards for the Moulding Department.

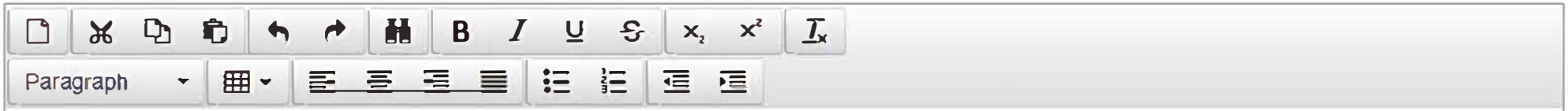
Close

Table 3: Expenditure on the new moulding machinery

	K$000
Purchase price	820
Import duties	24
Installation costs	32
Safety inspection costs	10
12-month maintenance contract effective from 1 July 2022	6

Reference Material Pre-seen

Write the draft report requested by Ben Numa in the box below.



Reference Material Pre-seen

It is now July 2022. The CushySmart range of running shoes was launched on 1 April 2022 after a significant digital promotional campaign.

Ben Numa says the following to you:

"The Senior Management Team (SMT) has asked for a detailed review of the online sales performance for all of our running shoe ranges (CushySmart, Hill and Flat) for April to June 2022. Jack Tang, Sales & Distribution Director, told me that in April there was an unbudgeted 10% online discount for Hill and Flat ranges which was heavily promoted through social media marketing.

I have prepared two tables: Table 1 includes the relevant sales variances and Table 2 shows key performance indicators (KPIs) related to online sales. I will send these tables to you shortly.

Please prepare a briefing paper to the SMT which explains:

- What the sales price, sales mix profit and sales quantity profit variances measure and what the variances shown in Table 1 indicate about the online sales performance of our running shoe ranges for the period April to June 2022.

(sub-task (a) = 40%)

- What the KPIs shown in Table 2 indicate about our online sales for the period April to June 2022.

(sub-task (b) = 32%)

Looking ahead, the SMT has decided to expand our sales channels for our running shoes and to start selling all our running shoe ranges through specialist sports retailers. Jack recently sent me some information about two such retailers (which I have included in Table 3 which I shall send you shortly).

Please include in your briefing paper an explanation of:

- The factors to be considered when setting credit limits for the two specialist sports retailers, using the information in Table 3."

(sub-task (c) = 28%)

Ben Numa sends you Tables 1, 2 and 3 which can be found by clicking on the Reference Material button above

Table 1: Sales variances for running shoes for the period April to June 2022

Variance	CushySmart K$	Hill K$	Flat K$	Total K$
Sales price	Nil	76,500 A	78,000 A	**154,500 A**
Sales mix profit	17,347 F	834 A	2,791 F	**19,304 F**
Sales quantity profit				**278,811 F**

Notes:

- The budgeted and actual sales volumes for pairs of shoes for the period were:

	CushySmart	Hill	Flat	Total
Budgeted	14,000	14,000	21,000	**49,000**
Actual	18,100	15,300	19,500	**52,900**

- The sales mix and quantity profit variances are calculated using the weighted average method and standard gross profit per pair. The standard weighted average gross profit per pair is K$71.49. The standard selling price and gross profit per pair of shoes are:

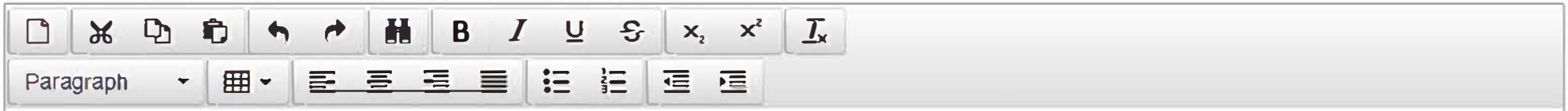
	CushySmart K$	Hill K$	Flat K$
Standard selling price per pair	150.00	120.00	120.00
Standard gross profit per pair	77.30	67.00	70.61

Table 2: Key Performance Indicators (KPIs) related to online sales

KPI	Target	Actuals		
		June	May	April
Number of online orders received per month	**24,500**	22,000	24,800	30,500
Conversion rate (percentage of visits to the website converted to an order)	**65%**	67%	68%	82%
Shopping cart abandonment rate (percentage of potential customers abandoning transaction after goods added to shopping cart)	**5%**	7%	7%	9%
Percentage of orders processed and despatched within 2 working days	**95%**	96%	95%	87%

Reference Material Pre-seen

Write the briefing paper requested by Ben Numa 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

NOVEMBER 21 & FEBRUARY 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

Variances for the Weaving Department for November 2021

Raw material variances

The raw material price variance is K$15,620 favourable which means that the average price actually paid per kilogramme for yarn in the month was lower than our standard average price. A new wool yarn supplier has been used in the month and this favourable variance indicates that this supplier charged less than our usual supplier given that the average price of yarn has fallen.

However, the raw material usage variance is K$21,300 adverse which means that we used more yarn than we should have based on our standard to create enough fabric for 71,000 pairs of shoes. We know that there were issues with yarn breaking and jamming in the weaving machinery and presumably this led to yarn wastage.

Indeed, the KPI dashboard shows that yarn wastage was significantly above target for most of the month. It could be that the yarn from the new supplier is of lower quality than our usual supplier (which is potentially why it is cheaper) and was therefore more problematic to work with. The KPI dashboard indicates though that wastage has improved significantly at the end of the month which suggests that maybe the issues with yarn breakages and jamming have been resolved (perhaps because of the maintenance work on the machinery).

Direct labour variances

The direct labour rate variance is K$3,510 adverse which means that on average we paid more per hour than we expected to, based on our standard. We employed additional temporary employees during the month and it would appear that we had to pay these employees at a higher rate than our standard rate.

The direct labour idle time variance is K$2,045 adverse which means that we paid our direct employees for hours where they were not being productive. There could be two reasons for this. Firstly, the temporary workers will have needed training to familiarise themselves with the weaving processes. This will have required time but was necessary to ensure that they knew how to operate the machinery properly. Secondly, machinery downtime to deal with jamming and yarn breakages is likely to have resulted in employees having to be idle. The KPI dashboard shows that machinery downtime was 7.6% in the month, with 70% of this relating to the yarn breakages and jams.

The direct labour efficiency variance is K$1,534 favourable which means that our direct employees took less productive time than we expected them to, based on our standard, to complete production of enough fabric for 71,000 pairs of shoes. It's possible that the temporary employees were experienced (as borne out by paying them at a higher rate) and hence were more efficient. It is also possible that as a result of pressure brought about by the machinery issues and the increased level of production required, that production was rushed, in which case we would need to ensure that the quality of the fabric produced has not been affected. Alternatively direct employees working at a faster rate than standard may have instead caused some of the machinery issues, which then led to the labour idle time and additional overtime premium being incurred.

Variable overhead variances

The variable overhead expenditure variance is K$5,943 adverse which means that we spent more on variable production overhead than we should have for the machinery hours worked. The main reason for this is that there were problems with the solar panels supplying electricity to the Weaving Department, which meant that we had to buy in power from the grid. This is illustrated in the KPI dashboard in that the percentage of self-generated electricity used in production ended the month at under 40% compared to the target of 60%. The fact that week 4 has the lowest percentage, could indicate that the problem with the solar panels is on-going and still needs to be resolved. In addition, overtime premium is included as part of variable overhead, and we know from Oleg that more overtime was worked than planned during the month because of the need to produce more than budgeted. Additional overtime premium may also have been incurred as a result of the machinery issues arising from the use of the new yarn or even the employees working at a faster rate than they should have.

The variable overhead efficiency variance is K$4,043 adverse which means that it took more machinery hours than standard to produce enough fabric for 71,000 pairs of shoes. As shown in the KPI dashboard there was significant machinery

downtime during the month, and this will be included in this variance as there is no separate machinery idle time variance. There are a range of reasons why this might be the case: the delay in scheduled maintenance, the fact that employees worked at a quicker rate which then caused jamming issues and the fact that the quality of yarn from the new yarn supplier caused issues with the machinery.

Benefits of a real-time KPI dashboard

A key benefit of a KPI dashboard like that prepared for the Weaving Department is that is visualises the data. It allows large volumes of data to be displayed in a visually appealing and accessible way that facilitates the understanding and use of that data. Traditional spreadsheets and financial reports can be both difficult to understand and unappealing to look at. The use of graphics in a KPI dashboard is more user friendly and intuitive and therefore easier for non-financial people to interpret and understand.

A benefit of a dashboard such as this being real time is that it allows immediate understanding of current performance and gives managers the opportunity to take action to correct or amend performance accordingly. For example, had the Weaving Manager had the KPIs in real time, he or she might have been able to deal with the machinery issues more quickly or may have known about the solar panel issues more quickly. Synchronising real time data with data visualisation gives live up to date information in a clear, informative style and allows quicker response to issues rather than waiting for weekly or monthly reports.

The real time nature and clarity of the information being displayed supports better decision making, as well as proactive and efficient utilisation of resources because issues are identified promptly. Combining data and visualising it in this way can lead to improved understanding and fresh insights about the cause-and-effect relationships that underpin performance.

SECTION 2

Time series

What Graph 1 shows us

Graph 1 shows us quarterly sales volumes of athletic shoes made from recycled materials in Europe since the first quarter of 2018 (so nearly four years). This is therefore a graphical representation of a time series, that is a series of data recorded over a period of time. From the graph we can establish two things: the trend in sales over the period and the level of seasonality in sales. The trend is clearly upward over the period of the time series, which is to be expected given increasing consumer demands for sustainability and ethical credentials in footwear and apparel. It would appear that the rate of growth has increased slightly over the period. There are also clear seasonal variations shown by the data. In each year, quarter 2 (April to June which equates to our quarter 4) and quarter 4 (October to December, which equates to our quarter 2) have the highest sales. This is consistent with the pattern of sales for our current shoes and is linked to when new designs are launched.

Determining a sales forecast

The first step in creating the sales volume forecast for Cushy-R is to determine the underlying trend in sales shown by the data. Using a four-point moving averages approach, we would firstly calculate the average volumes for quarter 1 to quarter 4 of 2018, then for quarter 2 2018 to quarter 1 2019 and so on. Because this gives us an average between the second and third quarter in each average, we then need to centre this. This is achieved by averaging the first and second moving averages, which will then give us our first data point for the quarter 3 2018. The last data point will be for quarter 1 2021.

After all data points are calculated the trend line is established. One method to do this is to draw a line of best fit on a graph of the data points and determine a linear equation from this. Another method is to use least squares regression analysis where mathematical formulae are used to establish the equation of the line of best fit.

We also need to calculate any seasonal variations which can be determined by comparing the actual time series data with the trend. For each quarter the seasonal variation is the difference between the trend line value and the actual historical value for the same period.

Using the trend line, we can forecast sales volumes in Europe beyond the time series by extrapolating onwards. The trend line will be represented by $y = a + bx$ where y is the forecast sales volume, a is the sales in the base period, b is the constant amount that sales increase or decrease by each quarter and x is the period number. Given that the trend data starts at quarter 3 in 2018 (July to September 2018) this will be quarter 1 in the equation. This means that our first quarter to forecast (April to June 2022) will be quarter number 16. The seasonal variations would either be added or subtracted from the trend line forecast.

We will also need to consider whether there are any cyclical or random factors that will have affected the historical time series, such as general economic factors or one-off events (such as a health emergency or a major natural disaster) and make adjustments for these. Finally, after we have a forecast for sales in Europe, we can then determine our sales forecast based on the percentage market share we would expect to capture depending on the price point that we decide on.

New weaving machinery

The new weaving machinery will be recognised as a tangible non-current asset in accordance with IAS 16: Property, Plant and Equipment, because it is probable that future economic benefit will flow into our business and because the asset can be reliably measured. It is also tangible in nature, and we expect to use it for more than 12-months. The amount that the asset is initially recorded at will be its purchase price (K$825,000) plus associated import duties (K$20,000) plus any expenditure which is directly attributable to bringing the asset to its location and condition necessary for it to be ready for its intended use. Thus, the K$14,000 to be spent on installation and testing can be capitalised as this is required to get the asset ready for its intended use.

The new weaving machinery will need to be depreciated over its useful life from the date that it is available for use, which will be 1 April 2022 rather than the date of initial purchase. Therefore, for the year ending 30 June 2022, three months of depreciation on this asset will be recorded. Where an asset has elements that have different useful lives, IAS 16 states that the initial carrying amount of the asset should be split into its elements and depreciated separately. In this instance the weaving machinery has a useful life of 15 years, however the motors within it will need to be replaced every 5 years. This means that the motors have a useful life of 5 years rather than 15 years. Therefore, we need to establish how much of the total cost of the weaving machinery relates to the motors and treat this as a separate asset depreciated over 5 years. The remaining cost will be depreciated over 15 years.

Sale of existing weaving machinery

We expect to sell the existing weaving machinery in September or October 2022, which means that at our year-end of 30 June 2022 we will still own the asset. We therefore need to consider whether it should be reclassified as an asset held for sale. For this to happen 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 are committed to sell the asset; there is an active programme to find a buyer; the asset is marketed at a reasonable price; the sale is expected to take place within 12 months; and it is unlikely that the plan to sell the asset will change.
The weaving machinery will cease to be used on 1 April 2022 but will not be available for immediate sale in its present condition until it has been dismantled which will be on 30 April 2022. Management will advertise it for sale as soon as

it is dismantled and there is a good second-hand market for this type of machinery. Therefore, we can assume that a sale is highly probable at a reasonable price. In addition, we expect the sale to happen in September or October 2022 which is within 12 months of the asset being reclassified. Therefore, the weaving machinery becomes an asset held for sale on 30 April 2022 and depreciation of the asset should cease from that date.

In the statement of financial position at 30 June 2022 the existing weaving machinery will be recorded as an asset held for sale within current assets. It will be recorded at the lower of its carrying amount at the date that it is reclassified as held for sale (K$185,000 less 10 months of depreciation at K$2,500 per month) and fair value less costs to sell (which is K$200,000 less the costs of dismantling of K$6,400).

SECTION 3

Decision about supplier of specialised sewing machines

The three decision criteria used under conditions of uncertainty are known as maximax, maximin and minimax regret.

Maximax criterion
A decision maker that uses the maximax criterion is an optimist. Such a decision maker would consider the payoff table and would optimistically expect that demand for Cushy-R would be high. They would then select the option which based on this optimistic view of demand gives us the maximum result. Given this is about cost, this would be where the cost is the lowest at a high level of demand. Therefore, under this criterion we would choose Supplier 3 as this gives us the lowest possible cost for the sewing machines when demand for Cushy-R is high.

Maximin criterion
A decision maker that uses the maximin criterion is a pessimist. Such a decision maker would consider the payoff table and would pessimistically expect that demand for Cushy-R is low. They would then select the option which gives the best result in this worst-case position, which will be where the costs are lowest. Therefore, under this criterion we would choose Supplier 1 as this has the lowest cost when demand is low.

Minimax regret criterion
A decision maker that uses the minimax regret criterion is often referred to as a "bad loser". The decision is made by firstly identifying the supplier that minimises the cost at each level of demand. The cost differential between this supplier and the other two represents the "regret" of having made a bad choice shown in Table 2. For example, at a medium level of demand, Supplier 3 has the minimum cost of K$57,500 and so the regret for Supplier 3 is K$0 while Supplier 1 has a regret of K$625 (= K$58,125 - K$57,500).

From the regret table we choose the supplier that minimises the maximum regret, in other words, the best of the worst. So, the maximum regret for each supplier is: K$7,500 for Supplier 1, K$5,000 for Supplier 2 and K$6,250 for Supplier 3. Therefore, we would choose Supplier 2 as this offers the minimum maximum regret of the three suppliers available.

MRT Consultancy

If we obtain the probabilities from MRT Consultancy we can calculate the expected value of the cost of each supplier. This will represent the weighted average of the possible outcomes weighted by the probability of the outcome occurring. For example, if the probabilities of low, medium and high demand were 25%, 50% and 25% respectively, we would calculate the expected value of cost for supplier 1 as 25% x K$48,750 + 50% x K$58,125 and 25% x K$67,500. Using a risk neutral approach to decision making we would select the supplier with the lowest expected value of cost.

MRT Consultancy is offering a 100% accurate prediction of whether demand for the Cushy-R range will be low, medium or high for an additional fee. This effectively would give us perfect information about the future level of demand and would allow us to identify which supplier would give us the lowest cost. The maximum amount that we would pay for this information would be the difference between the expected value of the decision without the information and the expected value of the decision with the perfect information.

To calculate the expected value of the decision with perfect information we firstly determine the correct decision at each level of demand. So, looking at Table 1, if demand was low then Supplier 1 would be best, if demand was either medium or high, Supplier 3 would be best, because the costs are lowest here. Each of these correct decision outcomes is then multiplied by the associated probability and summed to arrive at the expected value of the decision with perfect information. The difference between this and expected value without the additional information will represent the maximum additional amount we should be prepared to pay MRT Consultancy.

ReYarnage working capital position

The information in Table 3 shows that the working capital position of ReYarnage progressively worsened (as demonstrated by the lengthening operating cycle) over the period 2018 to 2020 but has improved in 2021.

Looking at each element of working capital in turn:

- ReYarnage's inventory days are reasonably consistent with that of the industry, although did increase in 2019 and 2020. Perhaps ReYarnage increased its range of yarn or perhaps it failed to manage its level of inventory appropriately during this period.
- Receivable days grew across the three-year period to 2020 but have since fallen in 2021. In all years, receivable days are higher than the industry average and significantly higher than ReYarnage's standard credit terms of 30 days. Therefore, it would appear that ReYarnage is not as efficient at credit control as it should be. There has been significant growth in revenue over the same period and therefore it is possible that extended credit terms have been offered to attract new business which will have lengthened receivable days.
- Payable days also grew across the three years to 2020 but fell in 2021. As for receivables, payable days are higher than both credit terms and the industry average. This could indicate that the company had struggled to make payments, especially given the reliance on the overdraft up until 2021.

There are indications that this business was overtrading in the period 2018 to 2020: significant and quick growth in revenue, an increasing level of overdraft, paying suppliers later and a worsening of credit control. The business appears not to have had enough resources to manage the rapid growth and as a consequence cash flow suffered.

However, the information in Table 3 shows that during 2021 ReYarnage took on additional long-term finance which has possibly helped the business to invest in better credit control and to improve its short-term liquidity so that suppliers can be paid more quickly. Therefore, it would appear that as a young business, ReYarnage has turned a corner regarding its management of working capital.

SECTION 4

Activity based costing (ABC)

Supporting the use of ABC

Our current costing system uses a fixed production overhead absorption rate (OAR) based on machine hours for the Weaving Department. The OAR is calculated as the budgeted fixed overheads for the department divided by the budgeted machine hours. Using our current system, the fixed overheads will be absorbed by the three types of fabric based on the number of machine hours it takes to produce each type. Table 1 indicates that each type of fabric takes the same time of 0.025 hours per m^2 and therefore will absorb the same amount of fixed overhead per m^2. This is unfair given the differing complexities of producing the different fabrics and it also hides inefficiencies with the production schedule.

The use of a time-based absorption rate implies that there is a link between the machine hours and the cause of the fixed production overheads. The information in the tables shows that activities other than machine running time cause the overheads to be incurred, for example, spindle changes and inspections. For spindle changes, significant cost is incurred each time a spindle is changed, likewise a cost is incurred each time there is an inspection. For inspection, both the number of and time taken to complete the inspection is higher for recycled yarn compared to wool or wood. Therefore, it is appropriate that each m^2 of fabric made from recycled yarn has a higher amount for inspection cost than other fabrics. This will be achieved if ABC is used.

Production scheduling

Currently production runs are for 100 m^2 of a particular colour of yarn. Each run will involve stopping the machinery to change the spindle which is transported to and from the storage area as needed. It seems that a lot of work and downtime (and therefore cost) is caused by changing a spindle, which currently happens after each production run of 100 m^2 of a particular colour of yarn. Given that for wool we need 1,000 m^2 of each colour this equates to 100 spindle changes a month just for wool fabric (10 spindle changes for each of 10 colours).

An alternative would be to schedule production runs by yarn colour and in each run to produce all of the requirements for that month of a particular yarn and colour combination. This will mean that we only need 10 spindle changes a month for wool fabrics, and only 20 spindle changes per month across all types of fabric. This will result in a significant saving in overhead costs and downtime relating to the movement of spindles.

Currently 100 m^2 of a colour would absorb 2.5 times the OAR. This would be the same for any type of yarn or colour. This would change by using ABC. Based on the suggested change to production scheduling, a production run of 1,000 m^2 of any colour wool fabric would incur the same spindle change cost as 600 m^2 of

any colour wood fabric. And this would be the same cost for 400 m^2 of any colour of recycled fabric.

However, we must also consider other issues. We would need to hold inventory of fabric spanning production periods to ensure that there is always sufficient holding of a particular colour when needed. To offset the increased holding of fabric inventory we could reduce the number of spindles held in inventory by arranging for a specific colour and type of yarn to be delivered as and when needed rather than always having 20 spindles on site. We would need to schedule our deliveries of yarn to ensure that the spindles are available when needed.

By increasing the length of the production runs it might be necessary to increase the number of inspections. But the cost of doing this would be more than offset by the cost savings resulting from fewer spindle changes.

Cost drivers

Cost pool 1: An appropriate cost driver for this cost pool will be spindle change. Each time that there is a spindle change on the weaving machinery, cost will be incurred. Given that the spindle change process is the same for each type of yarn, we can assume that the cost incurred for each spindle change is the same regardless of the type or colour of yarn. Therefore, the cost driver for the costs associated with spindle change on the weaving machinery will be the number of spindle changes

Cost pool 2: An appropriate cost driver for this cost pool will be inspection time. Every time an inspection occurs, cost will be incurred in the form of labour cost. However, not all inspections take the same amount of time and therefore an appropriate cost driver will be inspection time rather than number of inspections.

Sensitivity analysis on the Cushy-R budget

The sensitivities

In this case the sensitivities are measures of how much each of the budget variables could change before we start to make a budgeted loss. The lower the percentage the greater the sensitivity of profit to a change in that variable. Table 3 shows that selling price would need to drop by only 5.5% to change the budgeted profit to a budgeted loss. However, marketing costs would need to increase by a significant 31.6% before this happened. This data shows that selling price is the most sensitive and marketing costs the least sensitive.

There are two main reasons why the level of sensitivity differs amongst the variables: how each variable impacts contribution and the absolute value of the variable in relation to the budget as a whole. If we consider selling price, reducing this will reduce revenue and contribution in absolute terms and will also decrease the contribution margin. A reduction in sales volume will reduce revenue, but will also reduce variable costs, leading to a smaller reduction in contribution in

absolute terms and no change in contribution margin. Therefore, the sensitivity of selling price (5.5%) is greater than the sensitivity of sales volume (11.2%).

The sensitivity of variable cost per unit is also less than selling price, because selling price per unit is higher than variable cost per unit in absolute terms. Therefore, a smaller percentage reduction in selling price (which is a bigger value than variable cost per unit) is needed to change budgeted profit to budgeted loss. Similarly, the fixed costs have the least sensitivity because the value of fixed costs in absolute terms is less than the value of either revenue or total variable costs.

The benefits and limitations of this analysis

Sensitivity analysis allows us to see the degree to which each of the variables in our budget could change before it turns our budgeted profit into a loss. Given the fact that this is a new range and that there is still some uncertainty regarding each of the budget variables, this is therefore useful information. For example, there is still a question mark over how much to spend on marketing, although the sensitivity analysis does tell us that it could be 31.6% higher than K$500,000 before we turn a budgeted profit to a budgeted loss (ignoring all other factors).

Sensitivity analysis gives us an idea about which budget variables are most sensitive and therefore are the riskiest. For example, selling price only needs to fall by 5.5% before the Cushy-R range would be budgeted to make a loss: this is the most sensitive budget variable. Knowing this means that we can focus on maintaining selling price.

However, in this analysis we change only one variable at a time which limits its usefulness because the inter-relationships between budget variables are ignored. In reality, for example, it is likely that a reduction in selling price will increase volumes sold. Similarly, a change in variable cost per unit may change the pricing decision. Also, increasing marketing spend, increases volumes or allows us to charge higher prices, the effects of either of which will reduce the impact of the higher marketing cost on the budget.

The analysis in Table 3 is also skewed because this is the period for which the new range is being launched. The impact of the first marketing campaign for this range is likely to extend beyond the first three months of sales. Alternatively, it's likely that we're budgeting for lower sales in the first few months given the newness of the range. This therefore limits the usefulness of this analysis for application to future budget periods.

OPERATIONAL CASE STUDY

NOVEMBER 21 & FEBRUARY 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

The decision under different risk approaches

Using a risk seeking approach to this decision, we would choose the campaign which would give us the best outcome no matter how small the likelihood of it occurring. We would choose the campaign which would give us the highest additional profit, which is Campaign 2 at K$1,000,000. A risk seeking decision maker would ignore the fact that with this campaign there is a 20% probability of making a loss of K$50,000.

Using a risk neutral approach to this decision, we would choose the campaign which would give us the highest expected value. A risk neutral decision maker would ignore both the standard deviation and coefficient of variation and would choose Campaign 2 which has the highest expected value of K$540,000.

Using a risk averse approach to this decision, we would choose the campaign which, given the same level of return, has the lowest level of risk. We would use the coefficient of variation and choose the option with the lowest measure because this represents the amount of risk for each K$1 of return. A risk averse decision maker would therefore choose Campaign 1.

Perfect information

The value of perfect information of K$20,000 is higher than its cost of K$15,000 and therefore it would be potentially worthwhile buying this information, although the additional benefit is relatively small given the scale of the potential outcomes.

If we had a risk neutral approach to the decision, we would select Campaign 2 on the basis of expected value. This would give us the best outcome if the market reaction is either good or average. Therefore, if either of these outcomes arise, it would not have been worthwhile buying the perfect information, because we would have paid K$15,000 but achieved the best outcomes anyway. If market conditions are poor, Campaign 2 would result in K$100,000 less profit than would be achieved in the best outcome here (which would have been to select Campaign 1). The perfect information would protect us from making a loss and therefore we would need to consider if it is worth paying K$15,000 for this protection, when experience tells us that there is only a 20% chance of this occurring.

However, with a risk seeking approach, the decision maker is unlikely to be interested in perfect information because they would be prepared to take the risk of the market conditions being poor. If we had a risk averse approach to the decision, we are likely to be happy to pay for the perfect information because this would eliminate risk from the decision.

CushyFit app costings

Determining the cost of a 1-month subscription to the CushyFit app

In order to determine the cost of a 1-month subscription we will need to consider both the ongoing monthly costs of providing and streaming the fitness classes and the costs that relate to the app (which are a mixture of upfront and lifetime costs).

The monthly costs include the cost associated with production of the fitness classes and the platform hosting costs for streaming the live classes. Presumably, both of these will have a set fee per class (given that each class is 45 minutes) and therefore the cost each month will be these set fees multiplied by 80. To determine the cost of providing and live streaming the fitness classes for a 1-month subscription, we will need to divide the total cost for the month by the average number of subscribers that we expect each month.

Regarding the costs associated with the app, these can be broken down into two types: the costs which are specifically and directly related to the app, and therefore direct costs, and the costs which relate to more than one app and are therefore indirect costs. In both cases we will determine the cost of a 1-month subscription as the total cost over the lifetime of the app divided by the number of 1-month subscriptions that we expect to sell over the app's lifetime.

The direct costs associated with the CushyFit app include:

- The development and technical support costs for the app. A significant portion of this cost is the up-front cost of K$1,500,000 payable to FirstApps for development and testing. FirstApps will also be responsible

for the future technical support for the app in terms of upgrades and bug fixing and these costs will need to be estimated.

- The upfront platform hosting costs, which presumably have already been established with each of the three platforms being used.

The indirect costs associated with the CushyFit app include the costs associated with administrative services and marketing. Administration services will be provided by our own IT Department who will administer our other apps as well as all of our internal IT. Therefore we will need to establish how much of the IT Department's costs relate to the CushyFit app. Regarding marketing costs, a major campaign is being undertaken, but this is for the TreadCushy brand as a whole rather than specific to the app and therefore again we will need to establish how much of this cost relates to CushyFit.

The difficulties of determining the cost of a 1-month subscription to the CushyFit app

A key difficulty will be estimating the number of 1-month subscriptions we will sell over the lifetime of the app. This will depend on how many years that the app is operational, how many people will download the app and how many months that these people then subscribe for. This is a new venture for us and therefore this is untested territory. Whilst we have a strong brand as an ethical athletic shoe manufacturer, there is significant uncertainty regarding how well the app will do.

Many of the costs associated with the app subscription service will be incurred over a number of periods and hence it can be difficult to establish at this stage what these costs are. For example, future technical support costs will be based on the number of hours that FirstApps requires for upgrading and debugging. It is very difficult at this stage to estimate what work will be needed in the future and therefore how many hours may be required.

The indirect costs need to be shared on an appropriate basis. For example, the total cost of the marketing campaign will need to be shared between the app, the new CushyStyle range and our existing TreadCushy shoe ranges. It is potentially difficult to determine what an appropriate share might be. Any method of apportioning such costs, for example using methods based on revenue or profits, is likely to be subjective.

SECTION 2

Multi-product profit-volume chart

The chart and what it indicates about the new clothing range

The multi-product profit-volume chart is a graphical representation of budgeted revenue in relation to budgeted profit or loss assuming that we either sell the new products in order of their c/s ratio (the line ABCDEFG) or sell the products in the budgeted mix (the straight-line AG). From the chart we can determine that budgeted fixed costs associated with the new range (which are the costs of operating the new Distribution Centre) will be K$300,000 for the 6-month period. This is shown at point A on the chart. At point G, we can determine that our budgeted revenue is approximately K$1,475,000 and budgeted profit approximately K$320,000 for the period.

Assuming that we sell our products in the budgeted mix, the chart indicates that we will break-even (that is make enough contribution to cover all of our fixed costs) at revenue of approximately K$710,000. The margin of safety is therefore relatively high, because total revenue in the period would need to fall from approximately K$1,475,000 to K$710,000 before a loss is made. This is a margin of safety of 52%.

If we look at line ABCDEFG, AB represents sales of sweatshirts, BC sales of sweatpants, CD sales of T-shirts, DE sales of shorts, EF sales of hats and FG sales of socks. With this assumption, break-even is reached earlier (at revenue of approximately K$610,000) and therefore the margin of safety is even larger at around 59%. 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 T-shirts and the least from sweatshirts and sweatpants.

Factors to consider when interpreting this chart

The chart is useful because it tells us breakeven sales revenue and gives us an indication of the margin of safety. Whilst this is a new market for us and our budget estimates may be over optimistic, the chart indicates that there is a significant margin of safety. However, the following are factors that need to be considered when interpreting this chart.

- The chart assumes that either we sell the products in the order of c/s margin or in a constant budgeted sales mix. The first assumption is highly unrealistic, especially given that our products complement each other. In addition, such an assumption, in this case, is not advisable given that, as noted above, the products with the highest c/s ratios are expected to generate the lowest total revenue. Equally, it is unlikely that we will sell our products at a constant sales mix, given that this is the first clothing range that we have sold. If we were to sell more hats and socks and less sweatshirts and trousers than budgeted, this would reduce the weighted

average contribution to sales ratio. This would move the line to the right to give a higher breakeven point and lower margin of safety.

- The figures used are based on our initial budget for the range and many of the estimates used are subject to uncertainty. For example, selling prices are untested and it could be that we pitch them too high resulting in a lower volume of sales.
- It also assumes that selling prices and variable costs per unit and fixed costs are constant over the period and over the range of sales. This might not be the case if we give promotional discounts, suppliers change, or further expansion of the Distribution Centre is required.

Implications of extending credit to retailers

Selling to retailers will increase the amount of revenue (and therefore profit) that we generate, assuming that there is little or no impact on the amount of revenue currently generated from our own on-line and retail sales.

However, selling to retailers on credit will mean that rather than receiving the cash straight away we will receive it at least 30 days later than we would do with direct selling. This gap between sales and receipt of cash is likely to be greatest for the large retailers as they will have significant buying power. Therefore, our working capital cycle will lengthen, because we will have trade receivables rather than cash on our statement of financial position. The investment required in working capital will increase, which will need to be financed.

Selling to retailers on credit means that we will be subject to recoverability risk in respect of the receivables. This is the risk that the retailers do not pay us for goods that we have sold them. Ultimately this would lead to receivable balances being written off and therefore a reduction in our profit. The level of recoverability risk will be unique for each retailer, although we would expect the risk in respect of small independent retailers to be higher than that of the large national chains.

Selling to retailers on credit also increases the administrative burden on the business. A sales function will need to be set up to build and manage relationships with the retailers. There will also potentially be a significant increase in the workload of the Finance Department, both in terms of checking the creditworthiness of retailers before trading with them, raising invoices and chasing for payment if invoices are not paid on time: this will require the setting up of a dedicated credit control function within the department. All of this has cost implications for the business.

Suitability of introducing a prompt payment discount

Offering a prompt payment discount to our retailers involves offering a discount of say 1% or 2% on the value of the invoice to pay within say 10 days. Such a discount might encourage at least some of the retailers to pay earlier than they would under normal credit terms, however not all retailers would take it up. The

impact of a discount is that cash would come into the business more quickly, improving our cash flow and reducing the investment required in working capital. It might also mean that some retailers end up paying before they run into difficulties and the debt becomes irrecoverable, although this is likely to apply in only a small number of cases. We would need to consider the benefits to be gained against the cost of giving away the discount (which at even 1% of invoice value could be significant and would be a direct reduction in our gross margin).

SECTION 3

Activity based budgeting (ABB) for online sales packing hub employee costs

ABB is the process of determining the amount of resource required in a period for a particular activity. With respect to the online sales packing hub employee cost budget, the resource required is employee hours and the budget will be the hours needed for the level of activity expected in the budget period multiplied by the rate of pay per hour.

To start with, all of the separate activities that the packing employees are expected to do (and which therefore drive the number of hours required) need to be identified. In the packing hub, two main activities have been identified (as shown in Table 1) which are checking the goods to order and packing of the goods into a single box for despatch. The number of hours required for each separate activity is then established. With respect to the two activities for packing hub employees:

- **Checking goods to order**: Each order is checked to ensure that the correct goods and sizes have been picked and therefore employee time is required each time this happens. The amount of time required per order will vary by the number of items on the order as well as the type of items in the order. It is likely that checking a pair of shoes will take more time than checking an item of clothing because the process is more involved. Different items of clothing are likely to take the same amount of time to check because the labels are easily visible and accessible. The type of item checked (shoes or clothing) will drive the number of hours required and is therefore the cost driver for this activity. Therefore we would need to identify how much time is required to check a pair of shoes and how much time is required to check an item of clothing The total number of hours required to check orders for a period will be the number of each type of item checked multiplied by the time taken to check each type of item.
- **Packing:** Each order is packed into a single box. Actions such as selecting a box, adding the protective padding and sealing a box are likely to take the same amount of time per box packed, irrespective of the number of items included. Indeed, we know that the number of items in the order has a negligible impact on the time taken to complete the packing process. Therefore, an appropriate cost driver here will be number of boxes packed. The total number of hours required for packing will be the number of boxes packed multiplied by the time taken to pack a box.

After all of the activities have been considered, the hours required are accumulated to calculate the total number of hours required for the budget period. This can then be used to establish how many staff are required based on the number of hours each staff member would be available for work during the budget period. This would need to include any hours needed for training and allowances for sickness and employee holidays. Finally, this is quantified as a cost by applying the appropriate hourly rate for the employees required.

Benefits and drawbacks of using ABB for the total Distribution Centre operating cost budget

A benefit of using ABB for the Distribution Centre budget, or indeed any budget, is that it is based on a detailed analysis of the activities that have to happen, rather than being based on the same budget as last year adjusted for changes in volume and known cost changes. An ABB approach identifies the amount of resource required to complete the activities, which for the Distribution Centre include receipt of inventory from the Production Facility, inventory storage, sales order processing, picking and packing of goods as well as despatch. If done well, this will help to eliminate any budget inefficiencies and slack that is built into the current budget.

Another benefit is that ABB, because of the detailed focus on activities, helps us to improve cost control. By looking in detail at the activities involved in all aspects of the Distribution Centre, we may identify opportunities to streamline those activities and possibly even eliminate some activities. For example, as long as our products are uniquely coded for different sizes and colours, checking back to orders could be built into the picking process rather than carried out as a separate activity.

A major drawback of using ABB is that it is time consuming and therefore expensive to implement. There is also an element of subjectivity in terms of determining the level of detail to go to and the cost drivers to use.

The leased robots

Lease liability

The lease liability will initially be measured and recorded at the present value of the lease payments that have not yet been paid. One difference between the two lease options is that for option1 payments are in advance and for option 2 payments are in arrears. Therefore, for option 1, only the two payments of K$10,000 to be made in the future will be included in the calculation of present value. For option 2, all four lease payments will be included as these are all future payments. The discount rate used to calculate the present value should be the interest rate implicit in the lease, which is 10% in both cases. Another difference between the options is scale. Option 2 has a longer lease term (4 years compared to 3) and also has higher annual payments. This, together with the

timing of the payments, means that the option 2 lease will be recorded at a significantly higher value than option 1.

For both options, the lease liability will be increased each year by an interest charge based on the 10% interest rate implicit in the lease and decreased by any payments made. The interest charge will also be charged to profit or loss. For the year ending 30 June 2022, in both cases, 6-months' worth of interest will be added to the lease liability and there will be no reduction for payments made. Under option 2 the interest charge to profit or loss will be higher than for option 1.

Right-of-use asset

The right-of-use asset will initially be measured at cost, which will include the initial measurement value of the liability, plus lease payments made at the start of the lease term (which will only apply to option 1), plus any costs incurred in setting up the lease. Whilst the value of the right-of-use asset will be larger for option 2, than for option 1, the difference will be smaller than for the liabilities because of the inclusion of the initial payment in option 1.

The right-of-use asset will be depreciated. If the lessor retains ownership at the end of the lease term, depreciation will be over the lower of the lease term and the useful life of the underlying asset (the robots). This is the case for option 1 and means if this option is used, depreciation of the right-of-use asset would be over 3 years. If ownership of the underlying asset is transferred to the lessee at the end of the lease term, depreciation will be over the useful life of that underlying asset, that is the robots. Therefore, for option 2 depreciation will be over 5 years. The depreciation will be charged to profit or loss and for the year ending 30 June 2022 this will be 6-months' worth.

SECTION 4

Sales variances

Sales price variances: The sales price variance measures the difference between the actual price achieved and the standard price for the actual volumes sold. There is no variance for small retailers, which means that actual and budgeted sales prices were the same. There are however adverse variances for large retailers and for sales from website & own stores, meaning that selling prices for these groups were lower than we expected. The variance for website & own store sales can be directly linked to the decision by Jack Tang to authorise a 25% discount. It should be noted that sales volumes for website & own stores were actually 500 units lower than budget, which indicates that this discount, whilst perhaps helping to improve customer goodwill, did not lead to additional volumes above budget. The variance for large retailers indicates that in order to secure more business with large retailers, the Sales Department negotiated larger discounts for these retailers.

Sales mix profit variances: The sales mix profit variance measures the change in profit as a result of a change in the mix of sales channels. Our website & own stores sales channel gives us the highest profit per T-shirt (because we are selling directly to consumers at our own retail prices) and therefore the adverse mix variance means that we sold proportionately less in this, our most profitable sales channel. The large retailers' variance is also adverse, but because this sales channel has the lowest profit per T-shirt (because large retailers have greater bargaining power than small retailers), this means that we sold proportionately more to this sales channel. Small retailers have a budgeted profit per T-shirt of K$4.70 which is lower than the weighted average of K$9.01 and therefore the favourable variance means that proportionately less has been sold via this sales channel.

There are several reasons why the sale channel mix might have changed. It's possible that the Sales Department managers focused on securing large retailers, rather than small retailers, because they earn commission on sales volumes rather than sales values, and large retailers will purchase in greater bulk than small retailers. The commission policy needs to be reconsidered to discourage this type of bias given that large retailers have the lowest profit per T-shirt. It's also possible that the change in mix away from own sales to retailers may have resulted from the issues in the Distribution Centre. The 25% discount offered does not seem to have been effective at drawing customers back to us and is a concern given that the profit per T-shirt generated from retailers is significantly lower than sales through our own website and stores. However, this is a new range and the first time that we have sold to retailers and therefore it could be that our initial estimates of the mix were incorrect.

Sales quantity profit variances: The sales quantity profit variance measures the change in profit as a result of selling more or less at the standard mix. This variance is best considered in total and means that profit is increased by K$28,827 as a result of selling more T-shirts in standard mix than we expected

to. As noted above, this is a new range, and it could be that our original estimates of how many T-shirts we would sell has been understated. Maybe the CushyStyle range is more popular than we expected. It should be noted that whilst this variance tells us that we have more profit than expected as a result of selling 3,200 more T-shirts, the impact of discounts and selling proportionately more to retailers means that overall, there has been a reduction in profit as the adverse price and mix variances outweigh the favourable quantity variance.

KPIs for digital marketing dashboard

Rate of growth in followers for social media accounts: This would be calculated as the increase or decrease in followers for each social media account in a week or month divided by the number of followers at the start of the week or month, measured as a percentage. Social media marketing involves posting content about the company, it's ethos, products and marketing campaigns and promotions in order to reach as wide an audience as possible. A key feature of all social media platforms is the number of followers: the greater the number of followers, the wider the exposure of our messages to potential customers. Therefore, a measure of how effective the content of our social media accounts is at drawing people in will be the number of followers. Reviewing the number of followers as an absolute number would be one approach but viewed in isolation this has little meaning. More appropriate is considering the rate of growth. Any negative growth rates should start to raise alarm bells about the effectiveness of the communication.

Click through rate from email marketing: This would be calculated as the number of people clicking through to our online shop divided by the number of emails sent in that campaign, measured as a percentage. Email marketing is more targeted than social media marketing but does still involve reaching as wide an audience as possible. It's important that the content of the email is engaging enough to encourage potential customers to click the link through to our online shop. This measure would give us an idea of how often this is happening and therefore how engaging email content is.

Conversion rate from email marketing: This would be calculated as the total number of people making a purchase divided by the number of people clicking through from email marketing, measured as a percentage. It's one thing for people to be curious and visit our online shop, it's another for them to make a purchase. A low conversion rate could indicate the need to make changes to our website to provide more product details to customers. A falling conversion rate could indicate that our prices are uncompetitive and that potential customers are purchasing from our competitors.

Legal settlement and inventory

Settlement of legal case: The settlement of the legal case against the supplier on 5 July 2022 represents an adjusting event in accordance with IAS 10 Events after the reporting period. It is adjusting because the settlement of the case is an event which gives evidence of a condition that existed at the reporting date of 30

June 2022. The case was initially taken out in April and therefore was outstanding at the reporting date. Because this is an adjusting event, the K$10,000 received from the supplier should be credited to profit or loss for the year ended 30 June 2022, which will increase profit.

Inventory: In accordance with IAS 2 Inventory, at the year end inventory should be valued at the lower of cost and net realisable value. In this instance the cost of the inventory is K$6,000. Net realisable value is calculated as the proceeds from selling the inventory less any costs incurred to make that sale. In this case, net realisable value is K$5,900 (=K$6,100 – K$200). Therefore, the value of this inventory should be reflected at its net realisable value of K$5,900 in our statement of financial position, which will result in an inventory write off of K$100 to profit or loss.

OPERATIONAL CASE STUDY

NOVEMBER 21 & FEBRUARY 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

Fixed production overhead variances for the Cutting & Stitching Department in November

Expenditure variance: The expenditure variance is the difference between actual fixed production overhead incurred of K$181,000 and the amount that should have been incurred of K$159,960 (which is the budgeted amount). This variance is adverse for November because we incurred more overhead than budgeted. One reason for this is that new sewing machines were purchased and installed at the start of the month, which will have increased the depreciation charge. The additional cost of resetting the machines will also have contributed to this variance as additional expenditure which had not been budgeted for. Additionally, the wages of the new production supervisor will be part of fixed production overhead and therefore this will have also contributed towards this adverse variance.

Efficiency variance: The efficiency variance is the difference between the direct labour hours that should have been worked for the actual level of production (24,320 hours) and the number of hours actually worked (25,100 hours) multiplied by the fixed production overhead absorption rate. For November, this variance is adverse because direct employees took more hours than they should have for actual production. New direct employees were taken on during the month, and because these employees were inexperienced, it is likely that they took longer than they should have. In addition, we know that there were issues with the new sewing machines, which could have resulted in more time being required than anticipated. It is possible that this adverse variance is a one-off,

rather than an indication of general inefficiency given that the machines have been reset and the new employees should be getting used to our processes.

Capacity variance: The capacity variance is the difference between the budgeted hours of work (20,640 hours) and actual hours worked (25,100 hours) multiplied by the fixed production overhead absorption rate. For November this variance is favourable because actual direct labour hours worked were higher than we had originally budgeted. This reflects an increase in the production capacity of our direct employees and is a direct result of the additional employees and equipment.

Currently the efficiency and capacity variances are based on direct labour hours. A totally different view of this split of the volume variance might arise if machine hours had been used as the base for the overhead absorption rate.

Responsibility accounting

Responsibility accounting is about holding managers to account for the performance of their area of responsibility. This includes being held accountable for differences between planned performance (the budget) and actual performance, these differences being reflected in variances. However, it is important that managers should only be held accountable for variances over which they have influence or control.

Viewing each of the fixed production overhead variances in isolation, we might consider that the Cutting & Stitching Department Manager should not be held accountable for all of the fixed production overhead expenditure variance in November. This is because the expansion will have resulted in significant expenditure, and this was a decision outside of the manager's control. The manager should only be held responsible for operational issues that the manager can control.

However, it is important that variances are not considered in isolation. This adverse fixed production overhead expenditure variance is countered by a favourable capacity variance reflecting the impact of the expansion on the department's output capabilities. Effectively the additional expenditure results in extra capacity. How the Cutting & Stitching Manager uses this extra capacity is potentially within their control in terms of utilising this capacity to meet the desired level of output and ensuring that the absorption base (in this case direct labour hours) is working efficiently.

For November, we know that the fixed production overhead efficiency variance is adverse, and this is driven in part by the decision of the manager to employ new inexperienced workers. Clearly the Cutting & Stitching Manager is responsible for this part of the variance, although again this needs to be considered alongside the other production variances for the department as it's likely that inexperienced workers are cheaper to employ. The other reason for the adverse efficiency variance is the issues with the new equipment, which may

well have been out of their control. It may therefore be appropriate that the manager is not held accountable for the effect of this issue.

The efficiency and capacity variances are monetary amounts that are calculated using the overhead absorption rate (OAR) which is based on direct labour hours. It is how the labour hours are used that is the responsibility of the manager. The involvement in choosing the base for the OAR and setting the budgets for output and labour hours capacity, should also be considered when investigating the responsibility of the manager.

Rolling budgets

How a rolling budgets approach differs

Currently we prepare annual budgets once a year on an incremental basis. After the budgets have been approved, they remain in place until the next years' budgets have been prepared and no changes are made as the budget year progresses.

A rolling budgets approach, on the other hand, involves a continuous process where the budgets are updated throughout the budget period and always extends to a fixed period (often 12 months ahead). As one month or quarter passes, that month or quarter is removed, and a new month or quarter added to the end of the period. As each month or quarter is added, management can take the opportunity to review and, if necessary, update earlier months or quarters where there have been significant changes, such as changes to capacity.

The benefits of a rolling budgets approach

A rolling budgets approach is particularly beneficial where there is uncertainty or where there are changes in the environment that impact the business. For example, we have recently seen significant and unforeseen increases in demand which have resulted in unbudgeted expenditure in our Production Facility to increase capacity. With our annual budgets approach, these sorts of changes can manifest as significant variances, which may give the impression that costs are not being controlled. In fact, the expansion was necessary in order to meet sales demand (and indeed the adverse fixed production overhead expenditure variance will have been compensated for by a favourable capacity variance). With a rolling budget approach, we could have foreseen this and amended the budget accordingly. This would mean that variances are more meaningful because they will reflect deviations from more up-to-date budgets based on current operating conditions.

A rolling budgets approach forces management to continually consider the appropriateness of the budgets, rather than view budget setting as a once-a-year activity. It also means that budget targets are continually moving, rather than being static for a whole year and should therefore encourage innovation and continuous improvement. For example, currently our actual sales are significantly higher than budgeted and therefore there is little incentive for Retail

Store and Online Sales Managers to increase sales even further as they are already more than surpassing expectation. However, with rolling budgets, sales targets could be continually updated.

The drawbacks of a rolling budgets approach

One drawback of using a rolling budgets approach compared to what we currently do is the amount of work involved. This additional work is in preparing, checking and also in communicating the revised plans. All of this takes time and can be seen by management as drawing them away from other important tasks. It is important that the rolling budgets process is not seen as too onerous.

In addition, it's possible that constantly changing the budget or increasing the challenge in its targets could have a demotivating impact on managers. For example, if we continually increase the sales targets for Retail Store and Online Sales Managers, without recognition of achievements, this could make them feel demotivated.

SECTION 2

Absorption costing versus marginal costing

With absorption costing, fixed production overhead is included in the cost of each pair of shoes as it is treated as a product cost. However, with marginal costing, all fixed production overheads are treated as period costs and are therefore not included as part of the cost per pair of shoes. The opening inventory, production cost and closing inventory values shown in the profit calculations are all higher with absorption costing than the equivalent month for marginal costing because they contain fixed production overhead.

When absorption costing is used, fixed production overheads are absorbed by actual production using a predetermined absorption rate. At the end of the period, we need to adjust for the difference between the actual expenditure on fixed overheads and the amount that we absorbed. This is because the absorption rate is based on estimates of the expenditure and the level of activity. Obviously, we cannot have estimates in our financial statements. To correct the amounts absorbed to be the actual figure we must calculate the amount of fixed overhead that we have over or under absorbed. This is done by comparing the amount absorbed to the actual expenditure. With marginal costing none of this procedure occurs: we do not use fixed overhead absorption rates and hence there is no need for any of the calculations or adjustments: the actual fixed overheads are a period cost that is deducted from contribution.

The final difference to consider is the difference in the profit values each month under each approach. In January the inventory level is decreasing, and this means that with absorption costing less fixed overhead is being carried forward in closing finished goods inventory valuation than is being brought forward in opening finished goods inventory. This results in a higher cost of sales and a lower profit than under marginal costing. In February the opposite happens because inventory levels are increasing.

Whether it would be beneficial to adopt marginal costing

A key benefit of marginal costing over absorption costing is the fact that it is simpler to operate as there is no need to establish fixed overhead absorption rates, which can be time consuming, and no need to adjust for over or under absorption of overheads each month.

Marginal costing treats all fixed costs as period costs, whilst absorption costing effectively establishes a fixed cost per unit. Given that fixed costs do not change with the level of activity it could be argued that the concept of fixed cost per unit makes little sense and hence marginal costing is more appropriate. This is especially relevant for short term decision making, where information about changes in the level of activity need only reflect changes in variable cost rather than total costs.

Additionally, although we do calculate overhead absorption rates by department, these are an arbitrary approximation and therefore not necessarily an accurate reflection of full cost based on the drivers of the cost.

However, a key argument for using absorption costing over marginal costing is that it gives us an idea of the full cost of making a pair of shoes and therefore keeps all costs visible and potentially easier to control. Knowing full cost also helps when pricing products. Looking at the standard cost for casual wool trainers (which is a typical product) 24% of total cost is fixed production overhead, which, although not the largest element of cost, is relatively significant.

Overall, there are arguments for and against adopting marginal costing. We need to assess how important it is to us as a business to have an understanding of the full cost of our products against the ease of marginal costing. It should be noted that for financial reporting purposes we need to record inventory at full cost and therefore even if we did adopt marginal costing, we would still need to establish a full cost.

Relevant costing for one-off contract

The relevant costs for this one-off contract will be any future change in cash flow arising as a direct consequence of undertaking the contract.

Fabric: If we accept the KNSO contract we will use fabric that is already in inventory. The cost of weaving this fabric of K$15,000 is not the relevant cost because the production happened in the past and the cost is therefore sunk. We had planned to sell the fabric for K$5,000, but clearly if we accept this contract this cannot happen and hence there is an opportunity cost. Therefore, the relevant cost of the fabric will be the revenue forgone from this sale of K$5,000.

Other raw materials: The other raw materials required are used in our everyday production and therefore we will need to replace any inventory that we utilise for this order. The relevant cost of this will be replacement cost rather than standard cost. Given prices have increased this is likely to be higher than standard cost.

Packaging: We will have to buy in special packaging boxes for this contract and therefore this is a future incremental cost. There is a minimum order requirement of 2,500 boxes. The relevant cost will be the cost of all 2,500 boxes at K$0.70 a box, unless we could use the extra 500 boxes for our normal production (in which case we would only include the cost of 2,000 boxes).

Direct labour: All of this order will be produced during the normal working week and therefore the cost of K$26,585 is not relevant because these are hours that will be paid regardless of whether this contract happens. However, as a result of the contract, an additional weekend shift will be worked for normal production and therefore the cost of these hours is incremental and therefore relevant. The cost will be the number of extra hours worked multiplied by the rate of pay including the overtime premium.

Embroidery: We have already committed to purchasing the embroidery machine and even though it is not yet paid for, this is a committed cost and therefore not relevant. This assumes that using the machine for this contract has no impact on the machine's ability to complete the embroidery for the new range of shoes.

Other factors to consider

We need to consider whether there are any production overheads that will arise as a result of the contract. For example, there are likely to be variable overheads (such as energy to run the machinery used in production). Given that this order is for a relatively small number of shoes it is unlikely that there will be any additional fixed overheads that would need to be included.

If we accept this contract, our shoes will be worn by our National Sports Team at a global event. Depending on how widely published our involvement and how widely seen our shoes are, there is potentially a significant opportunity for future sales and therefore profit. This opportunity gain should be reflected in the analysis. Indeed, it could be possible that this outweighs all the costs of production to the point that it might be worth offering to honour the contract for free.

SECTION 3

Linear programming graph

The optimum production plan can be found visually by moving an iso-contribution line (the dotted line which represents the relative contributions of each design) until it reaches the furthest point from the origin that is still within the feasible region. For this graph, because the gradient of the iso-contribution line appears to be almost the same as that of line D, it is difficult to see just by looking at the graph whether point 1 or point 2 is furthest away from the origin.

One way that we could determine the optimum production plan is to draw an iso-contribution line or a series of iso-contribution lines much closer to line D. This would give us a better visualisation of the relative gradients of the two lines, and therefore help us to identify whether Point 1 or Point 2 is furthest away from the origin.

Alternatively, we could calculate the contribution that would be generated at Point 1 and Point 2. For example, for Point 1 we would calculate the contribution to be generated from 3,500 pairs of Classic and 9,000 pairs of Special. The optimal production plan will be the point with the highest contribution. Another alternative would be to establish the gradient of our iso-contribution line and compare this to the gradient of line D. If the gradient of our iso-contribution line was steeper than the gradient of line D, Point 2 would be the optimum point.

Factors to consider

The optimal production plan will either be to produce 3,500 Classic and around 9,000 Special or to produce around 9,000 Classic and just under 5,000 Special. Either way, we meet Jack Tang's minimum requirement but fall quite a way short of his maximum requirement for one of the designs but are closer on the other. It will therefore be important to have a more detailed understanding of the potential sales requirements for the week from Jack. Given that the Special design has only just been launched, it might be preferable to have more of these produced than Classic.

We should consider if it would be worth buying in any additional resources. Assuming that it is possible to buy in more of each resource, we need to determine their shadow prices, which is the contribution gained from one more hour (of either cutting & stitching labour or moulding machine time). The amount that we should be prepared to pay for any additional resource will be the shadow price plus the normal cost of an hour.

We also need to consider whether the data used in the analysis is accurate. For example, are the amounts of resource available known with accuracy? If there is employee sickness or machine break-down this will reduce the time available.

Inventory management

The benefits of an aggressive approach to the management of inventory levels

An aggressive approach to inventory management would mean that we reduce the level of inventory we hold. The main benefits of this are:

- A reduction in our investment in working capital and in our working capital cycle. This means that we will have less cash tied up in working capital which results in lower financing costs and therefore an improvement to profit.
- A reduction in the costs of holding inventory. We have dedicated warehouses for storage of raw materials and finished goods and therefore much of our inventory holding is fixed in the short-term. However, in the long-term we could make significant savings here by perhaps repurposing the warehouses. Alternatively, it would mean that as we continue to grow, we don't need to expand the warehouses, which clearly saves cost in the future.
- A reduced risk of obsolescence or damage to inventory. For example, by increasing the rate that our finished goods inventory turns over, we reduce the chance that we are left with inventory that either we can't sell or need to discount because we have overestimated demand. With respect to our raw materials inventory, natural resources such as wool yarn and rubber pellets, whilst not perishable as such, may deteriorate over time. Being more aggressive with our inventory management will therefore reduce the need to write off inventory which is ultimately a cost to the business.

Just-In-Time (JIT) Purchasing and Production

JIT purchasing relates to how we would purchase our raw materials. Such an approach would involve timing orders so that raw materials were delivered and then used straight away in production. This would need good relationships with our suppliers, which we have. However, it would also need our suppliers to be able to satisfy our orders quickly, which could potentially be an issue for raw materials such as natural rubber and sugar cane composite which are sourced from Asia and South America. It could also be difficult for our yarn suppliers given that natural resources are used to make the yarn. We would also need good information about future production and therefore purchasing requirements, which may require investment in new systems. Adopting JIT purchasing is therefore not without its issues, but it might be possible to introduce the principles of the approach for some suppliers.

JIT production relates to production and finished goods inventory. Such an approach would mean moving towards a system of producing on the basis of sales orders or firm forecasts rather than for inventory. Given that we only sell

direct to the end-consumer and not through retailers, we do not have sales orders as such, although through our past sales history we may be able to produce sales forecasts. Whether JIT production is suitable for us will depend on how accurate we believe these forecasts to be. Our customers either expect to buy in our retail stores straight away or will expect quick delivery after an online order and therefore we may prefer to keep a certain level of inventory in order to ensure that we have inventory available.

SECTION 4

Inventory valuation

IAS 2 Inventories states that inventory should be valued at the lower of its cost and net realisable value (NRV). Cost includes the costs of purchase, costs of conversion and other costs incurred to bring the inventory to its present location and condition. NRV is the estimated selling price of the inventory less the estimated costs of completion and the estimated costs necessary to make the sale.

120 kg of pink yarn

This inventory is no longer used in production and therefore we need to consider whether its NRV is lower than its cost. As this is a raw material, the only costs that will have been incurred are costs of purchase which will include the purchase price, any import duties or other taxes, transport or handling costs and any trade discounts or rebates. Therefore, the cost per kilogramme is K$20.50 (the purchase price paid) less 10% to reflect the rebate earned and this will be used to value the 120 kilogrammes held. The NRV will be the calculated as 120 multiplied by K$12 per kilogramme (which is the estimated selling price) less the K$100 to be paid as a delivery cost. Even without the calculations it is clear that NRV will be lower than cost and therefore this inventory should be included in our statement of financial position at 30 June 2022 at NRV.

1,000 pairs of partially completed shoes

Work-in-progress at the year-end should be valued at the costs of conversion and other costs incurred to date. Costs of conversion include direct costs (direct materials and direct labour) plus fixed and variable overheads incurred to convert the materials into finished (or in this case partially finished) goods. IAS 2 Inventories allows us to use standard cost per unit as long as this is a good approximation of actual cost, which we can obviously assess based on the latest variances. Assuming standard cost is appropriate, given that these shoes are in the Lasting & Finishing Department, the value per pair of partially completed shoe will include (taken from the standard cost card for the design):

- All of the raw material costs except for packaging cost.
- The direct labour costs and variable overhead costs for all departments other than Lasting & Finishing.
- Fixed production overhead costs for all departments other than Lasting & Finishing. Given that sales and therefore production have been higher than expected this year, we will probably need to reduce the amount of fixed overhead per pair to reflect this, although if there have been significant adverse expenditure variances, like we saw earlier in the year, we would also need to adjust for this.

Accounting treatment of old equipment

Lifting equipment

The damage to the lifting equipment and subsequent repair has resulted in a reduction in the asset's useful life. Where there is a change in useful life, IAS 16 Property, Plant and Equipment, states that from the date of the change the carrying amount of the asset should be depreciated over its remaining useful life. In this case, the lifting equipment was purchased on 1 July 2020 and therefore will have been depreciated by 22 out of 120 months at 1 May 2022, meaning that 98 out of 120 months remained. Therefore, it's carrying amount at 1 May 2022 will be calculated as K$100,000 x 98/120. At 1 May 2022, the remaining useful life is assessed as 4 years (48 months) and therefore for the final two months of the financial year, depreciation will be the lifting equipment's carrying amount multiplied by 2/48. The K$5,000 paid to repair the lifting equipment will be written off to profit or loss for the year ended 30 June 2022 because IAS 16 states that such repairs and maintenance costs should be expensed when incurred.

Racking

The racking ceased to be used on 31 May 2022, but as there are no plans to sell the asset at the year-end it is not an asset held for sale in accordance with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations. Instead, we need to consider whether there is an impairment in the value of the asset. An impairment arises where the carrying amount of the asset is higher than the recoverable amount of the asset. The recoverable amount of an asset is the higher of its fair value less costs to sell and its value in use. In this case the carrying amount of the racking is K$14,200. Its recoverable amount is the higher of K$10,000 (less any costs of selling) and its value in use. Value in use is very hard to determine given that we don't know if we will need to use the racking again, although given the recent investment it is unlikely that its value in use will be higher than fair value. Therefore, this asset should be reflected at its fair value less costs of sell in the statement of financial position and the difference between this and the carrying amount of K$14,200 written off to profit or loss for the year ended 30 June 2022.

KPIs

Inventory holding period in days: This would be calculated by the system for each separate line of raw material inventory as inventory on hand divided by the average daily production requirement (which should be based on anticipated future production requirements rather than past requirements). For each line of raw material inventory a target should be set based on considerations such as delivery lead time from supplier and how volatile future production requirements might be. For example, natural rubber is in constant use therefore production requirements are probably reasonably stable. However, a specific yarn colour may not be in constant demand. Monitoring the inventory holding period on a detailed and daily basis would allow the Warehouse Manager to see where

perhaps an emergency order might be needed or action taken to reduce the inventory level.

Percentage of production time lost due to the raw material warehouse: This would be calculated as production time lost in the period (due to raw materials either not being delivered to the Production Facility on time or not being available on time or the wrong raw materials delivered) divided by total production time in the period, measured as a percentage. This information should be available from the production systems and in the dashboard could be shown as a % measure with a pie chart showing the reasons. A key function of the Raw Materials Warehouse is to provide the Production Facility with the correct raw materials at the correct time. Any production time lost is a cost to the business, especially now when we are operating at full capacity, therefore it needs to be monitored so that corrective actions can be taken.

Inventory write offs: This would be calculated as either an absolute value for a period or as a percentage of the total purchases of that raw material. If the latter this would be calculated as value of inventory written off in the period divided by total inventory purchases in the period, measured as a percentage. Other than inventory which is no longer used in production (such as maybe a specific colour of yarn), inventory write-offs in our Raw Materials Warehouse are likely to be the result of damage due to poor storage or damage due to poor movement of the inventory around the warehouse rather than because the inventory has become obsolete. Our yarn in particular will be susceptible to damage and an important measure of how well the Raw Materials Warehouse Manager manages inventory storage will be wastage.

OPERATIONAL CASE STUDY

NOVEMBER 2021 & FEBRUARY 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

Profit-volume chart

The line on the profit-volume chart shows the profit that will be earned at different sales volumes. The line starts at the y axis and shows the expected loss if there were no sales in the retail stores. This point represents the fixed costs and shows that in the original budget, store operating costs and a share of marketing are around K$3.5 million for the 6-month period. Given the expenditure on the store upgrades and the extra marketing campaign, fixed costs for the period will be higher than budget and therefore the start of the line will move further down the y axis.

The end point in relation to the x axis shows the volume of sales. The impact on the y axis is determined by the volume of shoes in budgeted mix and the weighted average c/s ratio. The line represents the originally budgeted sales in retail stores of 100,400 pairs of shoes and shows that at this volume of sales we were expecting to generate a profit from our retail stores of just over K$3 million. As a result of the stores being upgraded and the additional promotional campaign, we expect that sales volumes will increase, although there is no certainty of how much this could be. Therefore, the line is likely to extend out beyond its current position on the x axis.

The slope of the line is the weighted average c/s ratio of 0.66 and assumes that the different ranges of shoes are sold in the original budgeted mix. As a result of the upgrades and the new promotional campaign we might expect this mix of sales to change towards more Performance shoes compared to Casual shoes given the new gait analysis service for runners. Given that Performance shoes have the higher c/s ratios this will increase the weighted average c/s ratio and the line will be steeper. Given though that the c/s ratios of all shoe ranges are relatively close, the impact of this is likely to be minimal.

The point where the line crosses the x axis is the breakeven point. Based on the budgeted mix of sales and therefore the weighted average c/s ratio, the breakeven

point is at approximately 55,000 pairs of shoes. At this volume of sales, we will make neither a profit nor a loss in respect of our retail store sales. The margin of safety is the amount by which volume can fall from the expected volume before a loss is made. Based on the original budget, the margin of safety is around 45,400 units (100,400 – 55,000), which equates to around 45%.

As a result of the stores upgrade, new gait analysis service and the new promotional campaign, the breakeven point is likely to increase, because we would expect the effect of the increase in fixed costs to outweigh any increase in the c/s ratio (given how close the c/s ratios are). However, whether this results in a lower margin of safety will depend on whether the increased volumes arising are enough to compensate for the increase in break-even volume.

Rolling budgets

How rolling budgets differ from current budgets

Incremental budgets are prepared by uplifting previous years costs for items such as inflation or other specific known changes. However, unlike incremental budgets, which are updated annually, rolling budgets are updated during the current year, for example, on a monthly or quarterly basis. Therefore, whilst the figures in incremental budgets are fixed at the beginning of the period, rolling budget figures evolve over the period. So, in a rolling budget as a quarter is completed a further quarter is added to the budget so that it always covers the following 12-month period.

How using rolling budgets could be beneficial to the business

Incremental budgeting is a suitable method for stable environments and costs. However, we currently face a dynamic market which is dominated by global competitors, and where sales are affected biannually by new product launches. We are also introducing changes within our retail store in the form of store upgrades and introducing a new gait analysis service. All of these factors and changes increase uncertainty, and a system of rolling budgets will mean the budget can be reviewed and updated regularly to reflect these. This ensures better analysis by reducing uncertainty, ensuring managers are constantly looking forward and giving a more realistic comparison than with a fixed budget.

Where managers lack influence and involvement in the budgeting process, and have little responsibility for achieving targets, solely changing the budget processing from incremental to rolling will not help to positively influence management behaviours and motivation. Whilst the figures might be more up to date and reflect the current position more accurately, this does not automatically mean managers are included in the budgeting process. For any budget process to be successful, managers will need to be included in the process and be responsible for both their budget figures and their performance.

Where annual incremental budgets are used, the information produced is constantly out of date. Rolling budgets ensure managers are consistently looking ahead as well as providing them with a more realistic comparison between actual results and budget.

This should encourage quicker reactions from managers meaning poor performance is quickly recognised and remedial action taken.

However, rolling budgets do have some disadvantages as the regular updating of figures may be confusing and may require more time to monitor and understand as well as taking more time to produce.

KPIs

Conversion rate: This KPI is calculated by dividing the number of pairs of shoes purchased by the number of customers visiting each store during a period. Sales growth is fundamental to achieving our aim of selling over 1 million pairs of shoes by 2025. We must not only maximise footfall into the store but also ensure as many customers as possible who visit stores make purchases. This KPI measures the effectiveness of our retail employees' techniques and ties in with the requirement for training for staff. In addition, it will also indicate how well products appeal to customers.

Customer feedback monitoring: Generating good customer feedback is vital to ensure return sales. Measuring customer feedback using external social media and internal company methods for individual staff will allow us to differentiate those sales staff who can achieve high values of sales at the same time as producing high levels of customer satisfaction. This will then enable us to target staff training requirements more accurately to those staff whose customer feedback is not as high. There are several calculation methods which could be used, however feedback surveys at point of sale which score staff, for example with 1 as insufficient and 5 as excellent based on standardised criteria, would be timely and easily allocated to individual staff members.

Sales per employee: Sales per employee is calculated by allocating individual sales of shoes to individual employees. A total can then be generated and compared to other employee totals and to budget. This can ensure retail employees performance is monitored to ensure productivity is maximised as well as optimising employee costs. This measure will also be useful in setting sales goals for employees as well as translating into manager KPIs and can help determine seasonal employment requirements, for example for Christmas, as well as performance bonuses.

SECTION 2

Promotional campaign decision

Use of expected value

The expected value has been calculated for each marketing campaign and represents the weighted average of all the possible outcomes weighted by their probability. Based on expected value, we would choose the campaign that gives us the highest expected value for the additional profit to be generated. This is the social media only campaign which has an expected value of K$1,093,000.

Whether an expected value approach is best or not will depend on our attitude to risk because such an approach is only appropriate for a risk neutral decision maker. Basing a decision on expected value alone means that we are ignoring the variability of the returns and therefore ignoring risk as measured by the standard deviation and coefficient of variation.

There are also issues with using expected values in decision making, including:

- The expected value is not the most likely result and in fact in real life it may never occur, rather it is a single weighted average of all possible outcomes if the event was replicated thousands of times. Therefore, using expected values in 'one-off' decisions such as this is inappropriate as it is simply a weighted average.
- It should also be noted that, despite the work carried out by the marketing company, the probabilities used in the expected value calculated may be subjective and therefore inaccurate. There is also the potential for inaccuracies in the original profit estimation. All of which will reduce the usefulness of expected values in decision making.

Other risk attitudes

For a risk seeking attitude we would choose the highest profit level, irrespective of whether this is likely to be achieved. This is also the social media campaign which generates K$1,600,000 at a good result level. Expected value, standard deviation and coefficient of variation will all be ignored in this case.

A risk averse decision maker, however, would look to maximise the return for the lowest risk level. Therefore, they would use the coefficient of variation (COV) to decide as this shows us the level of additional risk incurred for each additional K$1 of expected value. In this case we would choose the mixed media campaign as it has the lowest COV at 0.15.

Cost of retail services in stores per pair of shoes sold

To determine the cost of retail service in store per pair of shoes sold, we will need to establish any direct costs and an appropriate share of the indirect costs (or overheads), associated with the retail service provided for each type of shoe.

Difficulties determining direct costs of the retail services in our stores per pair of shoes sold

Some direct costs, such as the cost of the paper carrier bag, will be easy to establish because we expect each sale to use one bag and we can easily identify the cost of each bag. We can also relatively easily establish that the selling costs of a pair of shoes should include the cost of the socks which are given away.

However, other direct costs will be more difficult to establish, such as the cost of the retail employee time taken making the sale. We would need to establish the amount of time taken per type of shoes sold and create a standard for this. The standard will need to include the time taken completing the gait analysis. However, given that this is a new service, it could be difficult to establish this up front.

Also, as we expect most customers using this new service to buy Performance shoes we will need to consider if this cost will only apply to Performance Shoes. Additionally, there are many factors that will influence the amount of time that a retail employee takes with an individual customer, which makes creating a standard time difficult. This will include for example, whether the customer tries on the shoes, how many pairs they try on or how long they take to decide.

Difficulties determining indirect costs of the retail services in our stores per pair of shoes sold

As well as the direct costs, there are considerable indirect or overhead costs associated with our retail stores. Some of these overheads may be attributed to a particular type of shoe. For example, we expect that most customers using the gait analysis service will buy Performance shoes, and therefore potentially all of the indirect costs associated with the gait analysis equipment will apply to this range. While others will relate to the retail store as a whole. Therefore, an initial difficulty will be to split out those overheads which relate to specific shoe types and those that relate to all shoe types.

There will also be a difficulty in identifying what total overhead costs will be. For example, we will need to estimate the costs of operating the new gait service in relation to electricity consumption and possible future maintenance costs for the equipment: which may be difficult to estimate at this stage because it’s a new service.

In addition, it will not necessarily be clear cut that a cost is direct or indirect. For example, it is unlikely that store employees will be engaged with customers 100% of their time. More likely, their roles will be split so that they spend part of their time dealing with customers (therefore direct) and the rest of their time maybe in the stockroom or organising displays (and therefore indirect).

There might also be times where employees are idle because there are no customers in store and therefore, we would need to consider how much time this might be and whether this is part of the direct labour standard or treated as an overhead.

Another example is the cost of socks. There are likely to be instances when socks are used by a potential customer who does not make a purchase. The cost of these socks is an indirect overhead cost but will be difficult to quantify how much this cost might be, especially as the new gait service means that past customer behaviour is not necessarily representative of what will happen in the future.

Establishing a suitable absorption base to use to absorb overhead into a cost per pair of shoes will also be difficult. There needs to be a cause-and-effect relationship between the overhead being absorbed and the absorption base and therefore we may need multiple bases.

For specific fixed costs, such as the gait analysis equipment costs, an appropriate absorption base may be machine hours because this is likely to have the greatest causal effect. For the non-specific store overheads an appropriate base may be volume of sales, although we would need more information about the various activities undertaken in the store to establish this. Whatever absorption base is used, there will be difficulties in determining an absorption rate, because this will depend on the total level of activity, which will need to be estimated.

SECTION 3

Sales variances

Sales price variances

The sales price variances for both stores (except for the sales price variance for the Elite range in Store 1) are adverse. These adverse variances indicate that average actual selling prices were lower than our average standard prices for the relevant range. This will be due to the 10% discount available on the entire range of running shoes available in both stores in the first two weeks of February.

Despite the discount (which applies to all ranges), the price variance for Elite is favourable for Store 1. A new design was launched at the start of the month, which was endorsed by Tracy Robinson, Keyland's world champion hill runner. The favourable price variance indicates that the new design was sold at a higher price than we originally planned. The high price of the new shoe and the large number of pairs sold in store 1 more than compensates for the 10% discount.

Sales mix variances

The sales mix variances for Store 1 indicate that proportionately more Elite range running shoes were sold, and proportionately less Regular and Basic range running shoes were sold compared to the standard mix. Overall, the variance is favourable, indicating an increase in profit compared to the budgeted mix of the actual quantities sold.

This change in mix for Store 1 has likely come about because of the influence of Tracey Robinson, who is from Keyland and therefore presumably well known. Her promotional visit to Store 1 is likely to have drawn people into the store and her endorsement of the new Elite design could have encouraged more people to buy that design.

The sales mix variances for Store 8 indicate that proportionately more of the Basic range was sold, and proportionately less of the Regular and Elite ranges were sold. Overall, the variance is adverse, indicating a decrease in profit compared to the budgeted mix of the actual quantities sold.

This change in mix for Store 8 is likely to be due to the social media influence of Kieran Lim who posted a photograph wearing one of our Basic designs. Kieran has 2 million followers, and given he is from Newland, is likely to have the greatest influence in that market.

Another factor that is likely to affect the sales mix in each store is its location. Both stores have the same standard sales mix. However, because each store has just been upgraded and because of the 10% instore discount, it is possible that local people may have been enticed into the store to make a purchase. Given that Store 1 is in an area with a lot of office buildings, whilst Store 8 is close to a university, the local population around each store will have different levels of disposable income. Hence, this initial

interest from local customers could have resulted in Store 8 selling proportionately more of the Basic range and Store 1 selling proportionately more of the Elite range.

Sales quantity variances

The sale quantity variances for Store 1 and Store 8 are both favourable. This indicates that overall, each store sold more pairs of running shoes in standard mix than expected compared to the original budget.

This will be due to the 10% discount, the promotional impact of Tracy Robinson and Kieran Lim as well as general interest in the store upgrades.

Success of the upgrade and promotions

Despite both Store 1 and Store 8 selling more pairs of running shoes than expected in the month, the overall impact on profit is very different.

Overall, Store 1's sales variances indicate a significant increase in profit compared to budget because the adverse sales price variance is more than compensated for by favourable mix and quantity variances. It appears that the promotion involving Tracy Robinson has been successful in drawing people to buy the Elite range within the store, which are our most profitable running shoes. It will be a good idea to ensure that she appears in person at all Keyland stores once they have been upgraded.

Overall, Store 8's sales variances indicate only a very small increase in profit compared to budget because the adverse price and mix variances together are almost as much as the favourable quantity variance. For Store 8, Kieran Lim posting a photograph of himself wearing our Basic range had a greater impact than our promotion with Tracy Robinson. This is perhaps not surprising given that Tracey is perhaps not that well known in Newland.

Expenditure on retail store upgrades

IAS 16: Property, Plant and Equipment (PPE) states that items need to be tangible assets held for use in production or supply of goods and are expected to be used for more than one period. Assets should be recognised under IAS 16 when it is probable economic benefits will flow to us and the cost can be measured reliably, which is the case here. IAS 16 also states that expenditure associated with an item of PPE can be capitalised if it is either part of the purchase price (including import duties) or directly attributable to getting the asset ready for its intended use. If none of the above apply, costs should be recognised as expenses in the statement of profit or loss as incurred.

Looking at the items in the schedule:

Property, plant and equipment

The upgraded air conditioning system is a replacement for an existing system but is eligible to be classified as PPE as subsequent expenditure as the original system was separately identifiable and therefore could be derecognised. The installation costs can

also be capitalised as they are required to enable the machines to be used. The total amount of K$124,000 will therefore be included as part of PPE.

The total purchase price of K$28,000 for the customer monitoring equipment, including the import duties, can be classified as PPE because this meets the recognition criteria in IAS 16 explained above.

Each item identified as PPE will be included in the financial statement of position. The appropriate amount of depreciation, in line with our depreciation policy which covers the assets useful life, will be charged to the statement of profit or loss.

Expensed to profit or loss

The K$14,700 training costs are likely to generate future economic benefit, however we do not have control over employees and therefore they might leave. So, it is not possible to capitalise these costs. Instead, all training costs are expensed to profit or loss as incurred.

The K$140,000 cost of marketing is not directly attributable to the store upgrades and therefore will be expensed to profit or loss over the period of the campaign. If the campaign extends beyond 30 June, which is our year end, part of the expenditure could be treated as a prepayment at the year end.

SECTION 4

Budget purposes and the use of digital technologies

Planning

Using machine learning, for example, coding when preparing sales budget information, can produce more accurate forecasts by recognising data patterns within big data not seen by individuals, such as increased online traffic about a particular shoe style. This analysis can then flow through to production in real time ensuring sufficient stock is available to take advantage of a sales upturn. Greater automation from integrated digital systems will reduce delays and human error compared to using the current spread sheet system.

Control

Moving from using servers at HQ to the cloud will make it easier to share information concurrently in multiple locations. Giving us more real time information than we currently have using weekly downloads and enabling us to react more quickly to new situations. It should also reduce the duplication of data entry and potential for human errors coming from legacy computer systems.

Co-ordination

Here cloud computing can enhance file sharing and system integration allowing more efficient resource use within production due to more accurate sales forecasts as well as allowing for real time distribution decisions to be made.

Communication

Data visualisation and graphics, compared to the current spread sheet system, will mean complex information can be more easily understood by non-financial managers, making it easier for them to see the bigger picture and adjust their behaviour towards achieving KPIs.

Sale of property

Where the value of non-current assets will be realised through sale rather than through trading, such an asset must be reclassified as an asset held for sale under IFRS 5: Non-current Assets Held for Sale and Discontinued Operations, as long as certain conditions are met.

To be treated as a non-current asset held for sale under IFRS 5 several criteria must all be met. Based on the current information available, management commitment to a sale has been met as we have instructed estate agents, however, to fulfil the requirements under IFRS 5 we would also need to be able to sell the property immediately and in its present condition. As the property requires remedial repairs to meet local building regulations before it can be sold, we have not met all the criteria, and therefore the property will not be disclosed as an asset held for sale in line with IFRS 5.

Due to this, the property remains under the rules included in IAS 16: Property, Plant and Equipment. Here the property should be recorded in the financial statements at cost less accumulated depreciation and impairment losses. The current carrying amount of the property in the financial statements is K$500,000. This is made up of its cost less accumulated depreciation. This carrying amount does not take account of the cost of repairs of K$100,000.

The issue of the repairs is indicative of an impairment in the non-current asset. The recoverable amount of the property is the higher of its value in use (which given that we are looking to sell the property is likely to be very small) and its realisable value (sales proceeds of K$525,000 less K$100,000 of costs required to get the property ready to sell less any selling costs (which are currently unknown)).

Under IAS 36: Impairment of Assets, where an asset's carrying amount exceeds its recoverable value an impairment loss should be recorded as an expense in the statement of profit or loss unless the asset has previously been revalued (which is not the case here). As such, an impairment expense will be calculated as current carrying value before impairment of K$500,000 less recoverable amount (likely to be realisable value) of K$525,000 sale proceeds less K$100,000 repair costs less selling costs.

Disclosure should include both the amount of impairment and the expense category where the amount has been included.

Short-term cash investments

Money market deposits (MMD) and certificates of deposit (CD) have been suggested as alternative short-term investments for the proceeds from the property sale.

Risk

Both investments are low risk compared to investments in equities and corporate debt. MMDs are low risk as, like CDs, they are administered through banks which, in turn, invest in low-risk vehicles such as government debt and commercial paper. Whilst CDs are based on a fixed-term bank deposit account with a specified interest rate.

Liquidity

We do not currently know when proceeds will be received or how long the investment period will be, therefore flexibility is key as we need to be able to liquidate investments when we are ready to use the money.

MMD's can have bespoke investment periods of between 1 and 365 days however, once deposited, funds often cannot be withdrawn until maturity.

Whilst CDs usually have a standard 90-day life they can be more flexible. This is because we could hold multiple consecutive CDs for longer periods, although this would incur fees. CDs are also negotiable and can be traded on the secondary market thereby allowing us to sell within a 90-day period.

Yield

The increased liquidity for CDs means they are considered more attractive than MMDs and therefore have a lower yield. However, return is only one factor in deciding which investment will suit our requirement and if the period of investment is expected to be short, MMDs should only be considered if a large amount is to be deposited due to the high fees involved.

OPERATIONAL CASE STUDY

NOVEMBER 2021 & FEBRUARY 2022

EXAM ANSWERS

Variant 5

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

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

SECTION 1

Direct labour variances

Rate variance: The Lasting & Finishing Department variance is adverse which means that in total we paid more for the actual hours worked by the actual grades of employees in the department than we should have done. This will be due to the increase in wage rates for all direct employees that took effect from 1 November. This was a decision taken by the SMT resulting from new guidance about the national living wage and therefore will not have been expected at the time the standards were set. The Cutting & Stitching Department variance is favourable which means that in total we paid less for the actual hours worked by the actual grades of employees in the department than we should have done. There are two opposing factors affecting this variance: the increase in the wage rate, which will have caused an adverse variance, and the impact of the new trainees. Trainees are paid less than experienced employees and therefore taking on this many trainees in one go will have led to a change in the grades of direct labour used in the department, resulting in an overall reduction in the total paid for the actual hours worked.

Idle time variance: There is no idle time variance for the Lasting & Finishing Department indicating that there was no unproductive time in the period. The variance for the Cutting & Stitching Department is adverse, which means that these employees were paid for hours where they were unproductive. There are two possible reasons for this. Firstly, the new trainees were trained on the job during the period in question and probably spent time watching rather than being productive. Secondly, some of the sewing machines broke down in the month and therefore it's likely that employees were idle whilst waiting for repairs. The lack of idle time in the Lasting & Finishing Department indicates that the delays experienced in the Cutting & Stitching Department did not have any knock-on impact to the rest of the business.

Efficiency variance: The variance for the Lasting & Finishing Department is favourable which means that it took less direct labour hours than standard to produce the number of pairs of shoes that we did in the month. In other words the employees were more efficient than we expected, based on our standards which were set probably more than 6 months ago. The reconditioned lasting line is likely to be the reason for this. Because of increased batch sizes, less direct labour hours are required for the same number of shoes. In this case, our standard is likely to now be out of date. The variance for the Cutting & Stitching Department is adverse which means that it took our direct employees more direct labour hours than standard and therefore the workforce took longer to produce each pair of shoes than expected. One reason for this is the new trainees who are likely to take longer than an experienced employee. Also, the trainees will have slowed down experienced employees as a result of the on-the-job training. It's also possible that the issues with the sewing machines also slowed down the rate at which stitching could be completed.

Responsibility accounting

Responsibility accounting is about making individual managers responsible and accountable for achieving targets. To implement such a system, we would need to break our business down into responsibility centres, each with its own manager who would be responsible for the performance of that centre. In the Production Facility, this could be done by direct production department (for example, weaving, moulding and so on) and by support department (for example, purchasing and maintenance). For some of the production departments we could even break this further, splitting cutting from stitching and lasting from finishing for example.

Each responsibility centre will have its own budget and standards and the responsible manager will be expected to achieve these. For example, the manager responsible for the Cutting & Stitching Department will have a standard for the amount of direct labour required to produce each pair of shoes (0.32 hours for a pair of casual wool, design TC210). If there is any adverse difference between actual performance and standard performance, we would expect the production manager responsible to take action. Therefore, under a responsibility accounting system we would expect the Cutting & Stitching Department Manager to act on the fact that trainees are taking longer than they should, possibly with better training.

However, it is important that managers are only held accountable for factors that they are able to control. If they are made 100% accountable for all of the variances between actual performance and expected performance this could damage motivation where some of these variances relate to factors that they have no influence or control over. It is therefore important in a responsibility accounting system that variances are split into those caused by factors controllable by the manager (identified as operational variances) and those that they cannot control (identified as planning variances). For example, neither the Cutting & Stitching nor the Lasting & Finishing Managers should be held accountable for the impact of the higher wage rate, given that this decision was made by the SMT.

Similarly, the Cutting & Stitching Manager should not be held accountable for the idle time variance for November if it can be shown that this was due to the sewing machines breaking down. Instead, the Maintenance Manager should be held accountable for this as the idle time is a result of his decision to delay routine maintenance and is therefore outside the control of the Cutting & Stitching Manager.

Benefits and drawbacks of involving production managers in setting standards and budgets

Two potential benefits of involving production managers are as follows:

- The production managers are all likely to have a much better understanding than senior management of factors affecting standards for time required or material usage because they are involved in the day-to-day operations. The Maintenance Manager will have a better idea about likely repair and maintenance costs based on their understanding of which equipment will need to be maintained or repaired and when. This potentially leads to more accurate targets.
- Assuming that a responsibility accounting system is established, as the managers will be given responsibility for their own production areas, participation in the budget setting process is likely to ensure a strong buy-in or ownership of the budget. For example, the Cutting & Stitching Manager may not have chosen to recruit only new trainees if they knew that they would be held accountable for the adverse efficiency variance.

Two potential drawbacks of involving production managers are as follows:

- A participative approach to budget setting (also known as a bottom-up approach) can take longer than a non-participative approach (also known as a top-down approach). This is because managers may not have the skills to build a budget or the time to coordinate with other managers to ensure that all aspects of the budget are considered properly. In addition, lower-level managers often lack the strategic vision that senior managers have and thus budgets can lack a clear purpose and direction.
- There may be a tendency to build slack into the budget as a margin for error and managers may deliberately overestimate time, usage or costs to give themselves targets that are easily achievable.

SECTION 2

Expenditure on new moulding machinery

Impact on reported profit for the year ending 30 June 2022

The expenditure on the moulding machinery will impact reported profit for the year in two ways: the charging of expenditure which cannot be capitalised, and the depreciation charge associated with the capitalised expenditure.

IAS 16: Property, Plant and Equipment states that the amount that we can capitalise as an asset will be the cost of purchase plus any costs directly attributable to getting the asset ready for its intended use. Therefore, the purchase cost of K$150,000 and installation costs of K$5,000 will be capitalised. However, the training costs of K$1,000 cannot be capitalised because these costs are not necessary for the moulding machinery to be ready for use. Instead training costs are associated with the employees being trained, who are free to leave the company and take that training know-how with them. Instead, the expenditure on training will be charged to profit for the year, which has the impact of reducing profit for the year by K$1,000.

The moulding machinery asset will be depreciated over its 5-year useful life. Using a straight-line approach, the depreciation charge for the year ending 30 June 2022 will be calculated as (K$150,000 + K$5,000 – any residual value) / 5 years x 7/12. The depreciation is pro-rated to represent the fact that we start depreciating the asset from the date that it is brought into use, which is 1 December 2021). This will reduce reported profit for the year.

Impact on tax payable for the year ending 30 June 2022

We will be able to claim tax depreciation allowances on the capital value of the moulding machinery asset. Currently tax depreciation allowances are 25% per year on a reducing balance basis and a full years' allowance can be claimed in the year that the qualifying asset is purchased. Therefore, the amount that can be claimed will be K$155,000 (asset cost) x 25%.

Tax payable is calculated as accounting profit + accounting depreciation - tax depreciation allowances. For the year ending 30 June 2022, the tax depreciation allowance for the moulding machinery will be higher than accounting depreciation because of both the difference in depreciation rate (25% compared to 20%) and the fact that the tax depreciation allowance is not pro-rated. As a result of this, taxable profit will be lower than accounting profit. This will reduce the amount of tax payable compared to what it would have been had the expenditure not been made.

Expenditure on lasting line

IAS 16: Property, Plant and Equipment normally requires expenditure on an asset that has previously been recognised to be charged to profit or loss as incurred. However, if that expenditure is expected to increase the future economic benefit of the asset in excess of the originally assessed level of performance, then it can be added to the carrying value of the asset. The lasting line is being reconditioned and extended which means that more shoes can be lasted at the same time and at a faster rate. This expenditure is therefore increasing our production capacity as well as speeding up the production process. In addition, this expenditure has increased the useful life of the lasting line. Therefore, the future economic benefit that will be derived from the lasting line has been increased and hence the subsequent expenditure on this asset can be capitalised.

Therefore, we will add the K$80,000 of expenditure to the carrying amount of the asset and will need to calculate a new depreciation charge with effect from 1 November 2021. The new annual depreciation charge will be calculated as the new carrying amount of the asset (which will include the K$80,000 of subsequent expenditure) divided by the remaining useful life of 5 years (assuming a residual value of nil). The impact of the K$80,000 of expenditure in the financial statements for the year ending 30 June 2022 is:

- To increase the depreciation charge for the year by K$80,000 divided by 5 years x 8/12. This will reduce profit for the year.
- To increase the property, plant and equipment balance on 30 June 2022 by K$80,000 less the additional depreciation for the period.

Linear programming graph

The optimal production plan

To find the optimal production plan from the graph we must first identify the feasible region, which is the area of the graph which includes the possible combinations of Hill and Flat running shoes that can be produced given the constraints and maximum production levels.

Lines A and B on the graph represent the different combinations of production of Hill and Flat which will utilise the available direct labour cutting hours and natural rubber respectively. These lines represent the maximum that can be produced and form a boundary for the feasible region which will be to the left of these lines. Lines C and D on the graph represent the maximum quantities required for production (4,000 Hill and 3,000 Flat). The feasible region will be to the left of line C and below line D.

The feasible region is the area of the graph from the origin that is contained by lines D, A, B and C. The optimal production plan can be found by moving the iso-contribution line until it reaches the furthest point from the origin that is still within the feasible region: this is where lines A and B intersect. Therefore, the optimal production plan for the next 2 weeks is to produce approximately 2.900 Hill and 2,800 Flat.

Purchase of additional natural rubber?

The optimal production plan is where lines A and B intersect and at this point both direct labour hours and natural rubber are binding constraints. Whilst we are unable to increase cutting direct labour hours for the period, it would potentially be worthwhile buying more natural rubber. However, only if the supplier's price is the same or lower than the total of our normal price per kilogram plus the shadow price of natural rubber. The shadow price is the increase in contribution from obtaining an additional kilogram of natural rubber.

Assuming that it is worthwhile buying additional natural rubber, we can determine the amount that we might purchase by moving line B out from the origin (because this is what will happen as more natural rubber is available). Given that we cannot increase the number of cutting direct labour hours, the furthest it would be worth moving line B is to the point where, on the current graph, lines A and C intersect. At this point the new optimum production plan would be exactly 4,000 Hill and approximately 2,000 Flat. We would therefore need to work out the amount of rubber needed to produce these quantities and compare it to the current requirement of 1,700 kilograms to determine the extra amount to order.

SECTION 3

Digital costing system

How a digital costing system would change the way we gather costing information

Currently we cost our shoes using standard absorption costing for which information about the standards is manually gathered once a year. These standards are our expectation of how much input is required to make a pair of shoes. For example, we expect that a pair of Wool Design TC210 will need 0.1 hours of Lasting & Finishing direct labour and will require K$17.80 of raw material. In addition to the direct costs, the standard cost for each pair of shoes includes a share of variable and fixed production overheads calculated on a production department basis. This share of overheads is based on the expected level of expenditure and the number of direct labour hours or machine hours required to make each pair of shoes.

A digital costing system would be dynamic and would involve linking our internal systems (from shoe design through to distribution and despatch) with those of our suppliers and the internet. In a digital costing system, data is gathered from these sources in real time to give up-to-date costing data which reflects current information. For example, our design system will include information about the pattern and the different raw material requirements for each shoe design which can link to our purchasing and production systems as well as the internet and supplier systems. These links can provide up-to-date information about raw material prices and sourcing opportunities. Similarly, production systems could give us up-to-date information about time for each stage in production.

The benefits of using a digital costing system for our business

Standards will be regularly updated. Currently standards are only changed once a year and are therefore out-of-date quite quickly. However, by using a digital costing system, standards can be updated to be appropriate for the time (that is, reflect ruling market prices and current operating conditions). Knowing these up-to-date standards, managers will be aware of the current environment and should act accordingly in terms of operating decisions.

Due to standards being real time, there should be no planning variances and any operational variances will arise because the manager is not acting in accordance with the current environment. For example, if sales continue to grow, to meet this growth it may be that additional production equipment is required leading to a step in fixed costs. If the absorption rates are not adjusted this would manifest in an adverse fixed overhead expenditure variance despite the fact that the expenditure was necessary for the increased growth of the company. Within our new responsibility accounting system, we can hold managers accountable for performance against the up-to-date standard.

In addition, a digital costing system will allow us to better understand the factors or activities that drive cost, particularly overheads. It will give us information that allows us to see where cost is being incurred and therefore where focus should be directed in managing cost.

Sourcing suppliers and supplies could be improved because we will be able to identify the best price or the best lead times available. We have traditionally taken a conservative approach to raw material management but having readily available information about prices and lead times will assist the procurement decision process and could allow us to take a more aggressive approach and to therefore reduce inventory holding costs.

Decision tree

The decision tree and how to use the decision tree to make a decision

The decision tree indicates that there are four possible arrangements with BJ Sports that emerge from two different decisions. The first decision (at point E on the decision tree) is whether to allow BJ Sports to return unsold shoes or not. The second decision is whether to fund an advertising campaign. Here there are two separate decision points (C and D on the decision tree), which arise because the advertising campaign is a possibility regardless of whether we allow returns.

If we follow the branch of the tree related to allowing returns, we can see that there is risk associated with the level of returns. Therefore, we need to calculate and compare the expected values for each option. The expected value is essentially the weighted average profit based on the probabilities of the possible outcomes. Using the decision tree to make this decision is a risk neutral approach.

To make our decision using the decision tree we need to work from right to left, starting with the decision at point C. This is the branch of the tree where returns are not allowed and therefore there is no risk associated with the outcomes, however the advertising cost needs to be factored into the decision. At point C we choose the option with the highest net profit after advertising costs: therefore, we compare K$4,375,000 with K$4,300,000 (K$4,900,000 – K$600,000) and will choose not to advertise.

Next, we need to consider the decision at point D. This is the branch of the tree where there is risk and therefore, we need to compare the expected values of points A and B. The expected value at point A is K$5,875,000 however the cost of the advertising campaign of K$600,000 needs to be deducted to give a net expected value of K$5,275,000. The expected value at point B is K$4,750,000. It is therefore clear that the highest expected value is at point A and therefore the decision at point D is to advertise.

We then work backwards to decision point E, which is whether to allow returns. Here we need to compare the expected values from decision points C and D and choose the highest. At decision point C, we know that not allowing returns and not advertising gives an expected net profit after advertising costs of K$4,375,000. At decision point D the expected value of allowing returns and advertising is K$5,275,000. Therefore, at decision point E we choose the higher of these which is therefore to allow returns and advertise because from a risk neutral and a financial perspective this is the best combination of decisions.

Risk seeking and risk averse approaches

If we take a risk seeking approach to this decision, we will choose the option which would give us the highest possible outcome, irrespective of the probability of that outcome occurring. We would choose the option that would give us the highest possible net profit after advertising costs. This would be to allow returns and to advertise because this gives an opportunity of a net profit of K$6,400,000 (K$7,000,000 less the advertising campaign costs).

If we take a risk averse approach to the decision, we will choose the option which has the lowest variability in possible outcomes. Clearly, using this approach we would choose to not allow returns because there is no risk with this option. We would also choose to not advertise because the net profit would be higher.

SECTION 4

KPIs to monitor the performance of the IT Support Services Department

First contact resolution rate each month: This will be calculated as the number of issues logged that are resolved on first contract divided by the total number of issues logged, expressed as a percentage. A key role of the department will be to log and then resolve issues raised by users as quickly as possible. The more issues that can be resolved straight away the better in terms of ensuring that our employees in all parts of the business can continue to work and are not frustrated by the IT systems.

Average time to resolve issues each month: Each issue raised that cannot be resolved straight away will need to be logged as a ticket. The system will record the time the ticket is initially logged and time that it is resolved and therefore closed and hence the time to resolve will be the difference. We can then calculate an average across all of the tickets in the month. A key role of the department will be to ensure that tickets are dealt with promptly. The quicker the resolution, the better for the business, especially where the issue creates either idle time or disruption to workflow.

Trainee satisfaction rating: One of the responsibilities of the IT Support Services Department is the provision of training and therefore it is important that the quality of this training is monitored. Donald Kirkpatrick suggests a four-level approach to this, level one of which includes obtaining feedback from those being trained. There are numerous ways that trainee satisfaction could be measured, but an example would be taking a satisfaction score out of five for every person trained in a training event and establishing an average of these scores. If the people being trained give a low satisfaction score, it is likely that the training will be ineffective, leading to issues in the future.

Decision packages

A key feature of zero based budgeting is the development of decision packages which are costings for different ways in which an activity or an objective can be achieved. Our new IT Support Services Department will be responsible for many activities, one of which is the provision of training to enable our employees to use our IT systems. The objective of this activity will be to ensure that all users within the business are competent to use the IT.

Decision packages can be mutually exclusive (different ways of achieving the objective) or incremental (different levels of service to achieve the objective but with slightly different outcomes). For IT training, mutually exclusive decision packages could be developed to either have the training carried out by our own internal IT Support Services employees or to outsource the training to an external IT specialist training provider.

With respect to both of these options (in-house or outsource), a series of incremental decision packages can also be developed. In both cases this will start with a base package which is the minimum training required to achieve the objective of competent use of the IT. For the base package 'competent' might refer to basic user understanding. From this base, incremental packages will then build and add additional training time and content which will increase the competence level of the user. For example, we could develop an incremental package linked to getting the best out of reports, or enhanced understanding of specific systems.

Each decision package will need to be fully costed with its associated benefits identified and quantified if possible. In respect of IT training, benefits will include reduction in the number of user issues as well as potential cost savings identified through the use of specific systems.

Changing our approach to managing working capital

We could improve cash flow and therefore reduce the risk of a cash deficit by taking a more aggressive approach to managing our inventory and payables. Such an approach involves reducing investment in inventory to as low as possible and getting the most finance that we can from our payables.

Our current raw material and finished goods days stand at 60 days and 102 days respectively. This fits with our current conservative policy of maintaining high raw materials and finished goods inventory levels to take advantage of bulk discounts and to ensure quick despatch to customers. We could significantly reduce this, therefore freeing up cash, by considering just-in-time purchasing for our raw materials. This would require accurate production scheduling (which our new systems should help us with) and good relationships with our suppliers (which we have). However, many of our suppliers are based in different countries and therefore JIT purchasing may not be possible. In addition, this would potentially lead to the loss of bulk purchase discounts and therefore we would need to balance the improved cash flow against the reduction in profit.

We could also reduce our finished goods inventory by ensuring that we only hold styles and sizes that we are confident of selling. We could use our integrated systems to prepare detailed and better forecasts of what will sell and base our production schedules on this. Given that most of our sales are direct to customers we do still need to ensure that we hold enough inventory to deal quickly with orders. If customers have to wait 2 weeks for their purchase, they are likely to buy from our competitors. Similarly, if we are continually 'out-of-stock' on our website, this could damage our reputation.

Our current payable days are 81 days, despite credit terms with suppliers ranging from 30 to 60 days. Therefore, it would appear that we already take an aggressive approach to the management of payables. Delaying payments to our suppliers even further would help us to extend the working capital cycle, although this could damage the good relationships that we have with them. Suppliers may reduce the service they give us, restrict supplies, increase prices to us in future or even stop our supplies altogether.

OPERATIONAL CASE STUDY

NOVEMBER 2021 & FEBRUARY 2022

EXAM ANSWERS

Variant 6

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

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

SECTION 1

Sales forecast

The trend lines and seasonal variations

Chart 1 and Table 1 are the results of carrying out analysis on a time series of quarterly sales volumes of smart running shoes in Europe. Chart 1 shows three different trend lines, which represent the underlying long-term movement in sales volumes over the period covered by the lines.

The chart indicates that this is an upward trend overall, which is in line with an increased popularity of tech in running shoes. Each of the three trend lines has a higher gradient than the previous line, indicating an increase in the rate of the growth in sales after quarter 4 in 2018 and again after quarter 4 2019. This may have been the result of a particular range of new and innovative smart running shoe being launched. Alternatively, it could be that some event, such as the Olympic Games, triggered an increased interest in smart running shoes.

Table 1 shows the average seasonal variations, which are the short-term fluctuations in sales volumes due to the season. This table indicates that in quarters 2 and 4 sales volumes are higher than the trend and in quarters 1 and 3 lower than the trend. This fits with the seasonal pattern of our own sales and is likely to be associated with new design launches. The multiplicative model has been used, which is appropriate given that there is significant growth shown by the trend.

How to use the information in Chart 1 and Table 1 to create a forecast

To create a forecast for sales of smart running shoes in Europe for January to June 2022 we first establish what we expect the trend volumes to be by extrapolating trend line 3 (the latest trend line) onwards from quarter 1 2021.

There are two ways that we could do this. The easiest way is to extend the trend line in Chart 1 into the future so that it covers quarters 1 and 2 for 2022. We would then read the trend sales volumes expected from the graph.

A slightly more involved way to establish trend sales volumes would be to determine the linear equation for trend line 3. The linear equation is expressed as $y = a + bx$ where y is the forecast sales volume, a represents a base level or starting point for sales, b is the constant amount that sales increase by each quarter and x is the period number. We can establish b (which is the gradient of the line) by calculating the difference in sales volumes from the start point (approximately 25,000) to the end point (approximately 43,000) and dividing this by the number of quarters this covers (four quarters). If we assume that the first quarter for the equation is quarter 1 2020, we can use it to determine forecast sales for quarters 1 and 2 of 2022, which would be periods 9 and 10.

After we have established the trend forecast for the two quarters, we need to adjust for seasonality in those quarters using the data in Table 1. So, for quarter 1 we would subtract 10% from the trend and for quarter 2 add 35%. This would give us a forecast for sales volumes of smart running shoes in Europe for the first 2 quarters of 2022. We would then need to decide how much of the total market we would expect to capture in this period to determine a sales forecast for our own range.

Two factors limiting the accuracy of this forecast

The forecast created will be based on the pattern of sales determined from historical data. By using this data, we are assuming that the historic trend and seasonal variations will continue in the future, however it's possible that events could influence this. For example, in late 2019, early 2020, we can see that the trend in sales was influenced by something (maybe a major athletics star endorsed a smart running shoe) and something like this could happen again. Alternatively, advances in technology might flatten or reduce the trend, or it could be that the rapid growth slows as smart running shoes enter a different phase of the product life cycle.

The data used to create the trend and seasonal variations is for the whole of Europe and for all smart running shoes. 60% of our sales are in Keyland (with the remaining 40% in the rest of Europe) and so it's possible that the past sales data used is not completely representative of our own sales market. Additionally, 'smart running' shoe is potentially a wide category. Our brand is focused on sustainability and using natural materials, which gives us a different position in the market.

Laptop lease

IFRS 16: Leases, states that a lessee may elect not to apply the usual lease initial recognition and subsequent measurement rules where the underlying asset in the lease is low value. There is no formal definition of low value, but the standard gives personal computer equipment such as laptops as an example.

Therefore, we could either elect to treat this as a lease of low value items, or we could choose to treat the lease in the same way as other assets that we lease.

The election to treat a lease as low value can be decided on a lease-by-lease basis and therefore it does not matter how any other computer equipment leases have been treated in the past. If we do make the election to treat this as a lease of low value items, the accounting treatment is relatively simple. We will record the lease payments as an expense over the lease term on either a straight-line basis or some other systematic basis. The total lease payments are K$600 x 3 and the total lease period is 36 months. This means that the expense in the statement of profit or loss for the year ending 30 June 2022 will represent 6/36ths of the total lease payment. Because the first payment will be made in advance, the difference between the first payment and the expense will be recorded as a prepayment within current assets.

If the election is not made, the lease should be treated in the same way as our other leases. An initial lease liability equivalent to the present value of the lease payments unpaid on 1 January 2022 (which is two payments of K$600) will be recognised. The rate used to calculate the present value will be the interest rate implicit in the lease of 10%. This lease liability will be increased by an interest expense for the 6-months to 30 June 2022 at 10% of the lease liability. This interest expense will reduce profit for the period. A right-of-use asset will also be initially recognised at the initial value of the lease liability plus the payment of K$600 made in advance. Because the laptop will be handed back to the lessor at the end of the 3-year lease term, the right-of-use asset will be depreciated over the lower of the lease term and the useful life of the asset, which is 3 years. For the year ending 30 June 2022, 6-months of depreciation will be charged to profit or loss and will reduce the carrying amount of the right-of-use asset.

SECTION 2

Costing of the CushySmart app

Cost structure and timing of costs incurred

Cost structure refers to the nature of the costs incurred. In other words, whether the costs are direct versus indirect, or variable versus fixed. If we treat a physical pair of shoes as a cost object, there will be significant direct costs incurred in manufacturing. These are raw material and direct labour costs: costs which can be directly traced to the cost object. However, if we treat a single CushySmart app download as a cost object, there are no direct costs: all of the costs are indirect (because they cannot be traced directly to a single download of the app).

Similarly, a significant portion of the costs associated with manufacturing the physical product will be variable, which means that they vary with the level of activity. We don't have a standard cost card for this design yet, but typically around 75% of our cost of production is variable. For provision of the app, most of the cost will be fixed in nature. There could be some elements of, for example, administration services which vary with the number of users, but the bulk of the cost will be fixed.

The timing of costs refers to when the costs are incurred. In other words, whether the costs are upfront or on-going future costs. The costs of providing an app are both upfront and future. The upfront costs are the costs incurred for development and launch and will include fees paid to the external company for development of the app, any upfront platform hosting costs and the cost of any upgrades required to our own servers for hosting the app. The on-going future costs will include any fees payable to the external company for technical support, internal IT costs for data storage and administrative support and on-going costs associated with functionalities such as push notifications and messaging. These on-going future costs are likely to be significant and will occur for as long as the app is active.

Timing of the costs for manufacturing shoes is different. As noted above much of the cost associated with manufacture is variable (raw materials, direct labour and variable overhead) and will be incurred at the point of manufacture. There will be some upfront costs in relation to design and for the provision of the Production Facility itself. However, once a pair of shoes has been manufactured, there are no on-going costs of manufacturing. This is a major difference compared to a digital app where on-going costs are significant.

Difficulties in determining a cost per unit of the app

The cost per unit of the app will be calculated as the total of the costs specific to this app (for example, development and platform costs) divided by the number of apps to be downloaded, plus an appropriate share of the costs associated with all of our apps (for example, shared IT internal services) divided by the number of apps to be downloaded.

Therefore, a key difficulty is determining how many apps are likely to be downloaded. This will depend on the number of years that we expect the app to operate and the number of people that will purchase a pair of CushySmart shoes. There is significant uncertainty surrounding this given that this is a brand-new product for us. There is also the risk that the technology is superseded.

Another difficulty is that some of the costs associated with the app will be incurred in the future over a number of years (infrastructure, functionality, administration and technical support costs) and hence it can be difficult to establish up-front what these costs are.

Additionally, some costs (for example, internal IT costs) will need to be shared between all of our apps and other IT services. 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.

Decision about sensor supplier

Chart 1 shows us that Supplier A is charging only a variable cost per sensor. This cost per sensor is initially high but falls after 96,000 units as shown by the change in the gradient of the line. There is a further reduction in the cost per sensor at demand of 144,000. This indicates that Supplier A is offering a bulk discount for sensors purchased in excess of 96,000 and then a further discount for any purchased above 144,000 units during the year.

Supplier B is charging a fixed cost plus a variable cost per sensor. The fixed cost is around K$120,000 for the year because this is the cost where purchases are nil. The variable cost per sensor is the same across the entire range as the gradient of the line does not change. It would appear that for the first 96,000 units, the variable cost per unit for Supplier B is lower than for Supplier A as indicated by the relative gradients of the lines up until that point. Between 96,000 and 144,000 units the gradients of the lines are similar, indicating that the variable costs per unit are roughly the same in this range. From 144,000 units, the variable cost per unit for Supplier A is lower than for Supplier B as a result of the bulk discount.

If purchases are lower than 60,000 for the year, Supplier A is the cheapest option. If purchases are between around 60,000 and 192,000 sensors, Supplier B is the cheapest option. After 192,000 sensors, Supplier A is again the cheapest supplier. Table 1 shows our best estimate of the probabilities associated with the level of purchases and indicates that the expected value of purchase volumes is 156,000. Therefore, based on this expected value of purchase volumes we would choose Supplier B because at this level of purchases, this supplier has the lowest total cost.

Limitations of basing the decision on the expected value of purchase volumes

Using expected value to make a decision is a risk neutral approach which ignores the spread of possible outcomes. From table 1 we can see that there is a 40% chance that purchase volumes will be 192,000 sensors or more for the year, which is the point at which Supplier A becomes cheaper than Supplier B.

The expected value is based on our own internal assessment of the likelihood of each level of purchases and is potentially over optimistic. This is a new market for us which is highly competitive and therefore we need to assess how sensible these estimates are.

Expected value ignores other non-financial factors that should be considered in the decision including the reliability of the supplier in terms of quality and lead time and factors such as the ease of the supplier relationship. In addition, we need to consider our inventory holding period. It might be financially beneficial to invest in additional storage to be able to take advantage of the bulk discounts available for Supplier A at high purchase levels. This of course assumes that we would continue to use these sensors beyond a year.

Finally, this is based on the expected value of purchase volumes. If we looked at the expected value of cost for each supplier, we would not necessarily make the same decision. This is because the cost at the expected value of purchase volumes is not always the same as the expected value of the cost where the cost structure is not linear across the range (which it is not here because of the bulk discount available for Supplier A).

SECTION 3

What-if analysis on the CushySmart budget

The impact of the changes to selling price

If selling prices are reduced by 5%, Table 1 shows that we expect this to lead to a 4.5% increase in sales revenue which indicates we expect sales volumes to increase by more than 5%. Total variable costs are expected to increase by 10% and given that variable cost per unit is not expected to change, this reflects a 10% increase in sales volumes. The 10% increase in volumes sold will increase both revenue and variable costs by 10%. However, the decrease in selling price has the effect of reducing our contribution margin per pair of shoes which is why contribution is expected to increase by only 0.8%. As there is no expected change to fixed cost, this results in 1.8% higher profit than the original budget.

If selling prices are reduced by 10%, Table 1 shows that we expect this to lead to a 15% increase in sales volumes (given that variable costs are expected to fall by 15%). Overall, contribution falls because the impact of the reduction in contribution per unit outweighs the impact of selling a higher volume. The analysis indicates that there is a step in fixed costs if we increase volumes by 15%. This together with the reduction in contribution would lead to a 17.2% reduction in profit.

Factors to consider

Based on this what-if analysis it would not make sense to reduce the selling price by 10% from the current price of K$150 because this is expected to reduce total profit. At a 5% reduction, sales volumes are expected to increase by 10%, whilst a 10% reduction is expected to increase volumes sold by 15%. Clearly, as the reduction in selling price grows, the impact on sales volumes declines. That, together with the step in fixed costs means that a 10% reduction in selling price would not be advisable. However, there are a number of factors that need to be considered before a decision is made about implementing a reduction in the selling price.

Whilst, because of the competitiveness of the market, modelling the inter-connection between selling price and sales volumes makes sense, there is likely to be significant uncertainty surrounding the scale of volume change as a result of price changes. The 10% and 15% increases in sales volumes are based on Sophia's estimates. Because this is a new type of product for us, it's difficult to determine the level of market penetration that we are likely to gain or how competitors will retaliate with their own price reductions after our range is launched. We might want to extend the analysis and model each change of selling price against different changes in volume. We might also want to model the effect of increasing the selling price.

We also need to consider whether the variable cost per unit will remain the same. We have a policy of taking advantage of bulk purchase discounts where available and hence at higher sales volumes, more of these could be available. Alternatively, if capacity is tight in some production areas, additional volumes could result in extra overtime or having to buy in for example soles from external suppliers. Both of which would change the variable cost per unit at higher sales volumes.

We also need to consider the impact on fixed costs. There could be unforeseen additional fixed costs that arise as a result of the need to expand capacity, even with a small change in sales volume. Expansion to cope with additional volumes, could potentially lead to control issues if management resources are not increased in line with the increase in capacity. It might, certainly initially, be better to set a selling price that will generate sales volumes that can be achieved within current capacity.

Make or buy decision

For the next 3 months we will have limited machinery hours available in our Moulding Department. We can outsource production of our outsoles and therefore, we need to decide which outsole models to buy in and which to make. From a financial perspective, this decision will be based on consideration of the relevant cost (that is the incremental cost) of both buying in and making each outsole model. The relevant cost of buying in is the buy-in purchase price from the supplier identified in the last row of Table 2. The relevant cost of making each model will be the variable costs of production (for example K$9.74 for Performance: Hill) on the assumption that our total fixed costs will remain unchanged whether we buy in or manufacture internally.

On the basis of variable production cost versus buy-in purchase price, only outsoles for Performance: Flat has a lower buy-in price compared to variable production cost (at K$8.20 buy in price against K$8.33 variable production cost). Therefore, we should outsource production of these outsoles. Regarding the other models, the buy-in purchase price is higher than variable production cost and therefore we still need to decide which of these models to buy-in.

To make this decision we must first calculate the difference between the buy-in purchase price and the variable cost per unit for each of the models, in other words we need to calculate the additional cost of buying in per unit. For example, Casual will be K$7.00 less K$6.36. On its own though, this fails to recognise that moulding machine hours is a scarce resource. We therefore need to calculate the additional cost of buying in per machine hour required to produce each model. For example, Casual will be (K$7.00 – K$6.36) divided by 0.060 hours. We would then rank from the highest additional cost per machine hour to the lowest. Our production plan for outsoles will then be based on producing in the order of this ranking.

Assuming we know how many machine hours are available for the period, we first allocate enough hours to cover production of all of the outsoles required for the first ranked model, then allocate enough machine hours to cover the second ranked model and so on until all of the hours have been utilised. What we cannot produce internally, will then need to be bought in from the supplier.

Expenditure on new moulding machinery

IAS 16: Property, Plant and Equipment, states that expenditure can be recognised as an item of property, plant or equipment if it is probable that future economic benefits associated with the asset will flow to the company and the cost of the asset can be reliably measured. The moulding machinery will enable us to manufacture one of the components of our shoes and therefore this is an asset from which we will generate future economic benefit. The cost of the expenditure can be reliably measured as the expenditure to be included will be incurred up-front. In addition, the moulding machinery is tangible in nature and will be used in the business for more than 12 months.

IAS 16 further states that the expenditure on an asset that should be capitalised includes its purchase price, import duties and any costs incurred which are directly attributable to getting the asset ready for its intended use. Therefore, the purchase price of K$820,000 and the import duties of K$24,000 will be included as part of the cost of the asset. Directly attributable costs include the installation costs of K$32,000 and the safety inspection costs of K$10,000, because both of these are necessary to enable the machinery to be used.

The cost of the maintenance contract will be treated as an expense rather than included in the cost of the asset. This is because maintenance is an activity that will happen in the future and is not part of getting the asset ready for its intended use. IAS 16 specifically states that repair and maintenance costs associated with an asset should be recognised as an expense when incurred.

Therefore, in the financial statements for the year ending 30 June 2022 we will include the moulding machinery within property, plant and equipment as its cost, which is explained above. There will be no adjustment for depreciation because the asset will not start to be used until 1 July 2022. With respect to the maintenance contract, if this has been paid by the end of the financial year, the full amount of the payment will be recorded as a prepayment, with no expense recorded. Therefore, for the year ending 30 June 2022 this expenditure will have no impact on profit or loss.

SECTION 4

Sales variances for online sales of running shoes for April to June 2022

Sales price variances: The sales price variance measures the difference between the actual price achieved and the standard price for the actual volumes sold. There is a nil variance for the CushySmart range, which indicates that the actual selling price per pair was K$150. This is not surprising given that this is our new range. There are adverse variances for Hill and Flat, indicating that selling prices for these ranges were lower than the budgeted K$120 per pair. This will be due to the 10% promotional online discount for these two ranges in April. It would appear that the discount was effective for the Hill range because actual sales volumes are higher than budgeted. However, it does not appear to have been successful regarding the Flat range, given that actual sales for this range are lower than budgeted.

Sales mix profit variances: The sales mix profit variance measures the change in profit as a result of the actual number of pairs of shoes sold not being in the same proportions as the standard mix. Our CushySmart range gives us the highest gross profit per pair (which is therefore higher than the weighted average of K$71.49) and this favourable mix variance indicates that we sold proportionately more of this, our most profitable range. The Hill mix variance is adverse, which indicates that, because this range has the lowest gross profit per pair (which is therefore lower than the weighted average of K$71.49), we sold proportionately more of this range. The Flat range has a budgeted gross profit per pair of K$70.61 which is lower than the weighted average of K$71.49 and therefore the favourable variance indicates that proportionately less has been sold of this range.

Overall, given that the mix variance for Hill is relatively small, it would appear that within the period the main change in sales mix has been from Flat to CushySmart. It's possible that our budgeted mix was incorrect and that we underestimated the popularity of CushySmart compared to our Flat range and that these two ranges are more of a direct substitute for each other than CushySmart and Hill. Alternatively, it could be that this change in mix is temporary and a factor of tech savvy consumers rushing to buy CushySmart.

Sales quantity profit variances: The sales quantity profit variance measures the change in gross profit as a result of selling more or less, in a standardised mix, than the budgeted volumes. This variance is best considered in total, and the favourable variance indicates that profit is increased by K$278,811 as a result of selling more running shoes in standard mix than we expected to. As noted above, CushySmart is a new type of running shoe, and it could be that our original estimates of how many we would sell has been understated. Or it could be that more consumers rushed to buy at launch, and we will see sales fall below our estimates in the next quarter.

Overall, when we consider all three variances together there is a favourable variance, which means that during the period, online sales of our running shoes generated more profit than we had budgeted. However, its possible that this is a short-term effect of the launch and the discounts given. We also need to consider sales at our retail stores, to get a total picture of sales performance for the range.

Review of KPIs for online sales

Table 2 clearly indicates that the level of online sales and therefore the level of activity for the online sales distribution team has not been even over the period of review. Significantly more online orders than expected were received in April and this will be due to the launch of CushySmart as well as the 10% discount given for the Hill and Flat ranges.

The fact that the conversion rate in April is significantly higher than target indicates that more customers than we would normally expect visited our website with the intention to purchase. It would appear that the digital marketing in respect of both the new CushySmart range and the 10% discount for the other ranges, was successful in drawing people to the website to purchase. In May and June, conversion rates are more in line with our target, indicating that the initial hype and interest around CushySmart was perhaps reducing. The fact that the conversion rates remain slightly above target indicates that there are no concerns about the content on our website. Clearly, if these were lower than target, this could indicate that customers are not finding our website informative or engaging enough to want to make a purchase.

The shopping cart abandonment rate is higher than target for all three months. This is an important measure of how easy it is to purchase through our website and a relatively high rate could indicate that there is friction in the process. The rate in April is higher than the other months and therefore this measure could be linked to the volume of transactions. Possibly our website couldn't cope with this volume and people either grew frustrated with how slow it was or the system crashed. Alternatively, there could be issues with the actual payment processing links. Further investigation is required to remove any friction and to ensure that the customer experience is a good one.

The percentage of orders processed within 2-days is a key measure of the performance of the online sales distribution team because the speed of processing has a direct bearing on customer satisfaction. Cleary, the more orders there are to process, the greater the risk that the 2-day processing target is not met. It is perhaps not surprising that in April, where the number of online orders received was significantly higher than expected, only 87% of orders could be processed within the target time. Given that the rates for May and June are in line with the target, there is no indication that the distribution team is not performing well.

Setting credit limits for new retailers

There are two aspects to setting credit limits for customers:

- Establishing the amount of credit to give (that is the maximum amount that can be owing at any one time).
- Establishing the length of time to allow before payment from the customer is expected.

To establish the amount of credit we need to consider factors such as the anticipated volume of sales (Elite Sports is clearly a larger business than Runners Life) as well as how much exposure to the risk of non-payment we are prepared to accept for each retailer. The risk of non-payment is also a factor to consider when establishing the length of the credit period. Clearly, we only want to sell goods to retailers that will ultimately pay us.

To assess the risk of non-payment for each retailer we need to consider their creditworthiness. The information in Table 3, shows that the two potential retailers are very different:

- Elite Sports is a business of a similar size to us, with stable growth and a positive cash balance. Its inventory days are in line with industry averages and it appears to pay its suppliers more quickly than the industry average.
- On the other hand, Runners Life is a small business with rapid growth and an overdraft. Inventory days are relatively low and payable days high, indicating perhaps that the business has been struggling, due to the lack of cash, to pay its suppliers on time and to maintain inventory levels.

Based on this analysis alone, we would agree a higher credit amount and longer credit terms to Elite Sports. Indeed, we may decide not to extend any credit to Runners Life, given that the above indicates that the company is potentially overtrading which increases the risk of business failure. However, before making a final decision we should also consider factors such as the age of the retailers. Runners Life could be a relatively new business as it has low revenue, but high growth. Assuming it can stabilise its finances, the risk of non-payment would reduce.

Operational Level Case Study November 21– February 2022

Marking Guidance

Variant 1

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2021-February 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, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes based on this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme. An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie.
- Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. **Read the candidate's response in full**

2. **Select the level**
   - For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
   - The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
   - If the work fits more than one level, judge which one provides the best match.
   - If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. **Select a mark within the level**

   - Once you have selected the level, you will need to choose the mark to apply.
   - A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
   - If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	C	Analyse performance using financial and non-financial information	80%
(b)			20%
Section 2			
(a)	B	Prepare budget information and assess its use for planning and control purposes	40%
(b)	D	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	32%
(c)			28%
Section 3			
(a)	E	Prepare information to support short-term decision making	36%
(b)			32%
(c)	F	Prepare information to manage working capital	32%
Section 4			
(a)	A	Prepare costing information for different purposes to meet the needs of management	40%
(b)	A		16%
(c)	B	Prepare budget information and assess its use for planning and control purposes	44%

SECTION 1			
Task (a) **Explain** what each of the variances shown in Table 1 means and possible reasons for their occurrence based on what Terry has told me and the KPI dashboard in Table 2.			
Trait			
Raw material variances	**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 variances	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates technical understanding of at least one of the variances, but the explanation lacks clarity and application to the scenario.	1 – 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

Variable overhead variances	**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
KPIs	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Provides some reference to the KPIs when explaining the variances, but this is limited and not necessarily related to the correct variance.	1 – 2
	Level 2	Provides a reasonable reference to the KPIs when explaining the variances, but this may not necessarily relate to the correct variance.	3 – 4
	Level 3	Provides a good reference to the KPIs when explaining the variances.	5 - 6

Task (b) Explain the benefits to the managers in the Weaving Department of using a real-time KPI dashboard, such as that shown in Table 2.			
Trait			
Benefits	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one benefit, but the explanation is likely to lack clarity, depth or application to the scenario.	1 – 2
	Level 2	Explains at least one benefit, but the explanation may lack clarity, depth or application to the scenario if more than one benefit is suggested.	3 – 4
	Level 3	Explains at least two benefits and the explanation is clear and applied to the scenario.	5

SECTION 2			
Task (a) **Explain** what Graph 1 shows us and how to use the data in the graph to determine a forecast of quarterly sales volumes for the new Cushy-R range, using a four-point moving average approach to determine a trend line.			
Trait			
Graph 1	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains what the graph shows in terms of sales volumes but there is little if any attempt to explain the trend or seasonal variations. The explanation lacks clarity and depth.	1
	Level 2	Explains what the graph shows in terms of sales volumes and does attempt to explain the trend and/or seasonal variations. The explanation may lack clarity and/or depth.	2 – 3
	Level 3	Explains what the graph shows in terms of sales volumes and does attempt to explain the trend and seasonal variations. The explanation is mostly clear.	4
Determine forecast	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of trend and seasonal variations in a general sense and some understanding of how to use the four-point moving average method to determine the trend. There is little attempt to explain how to determine a trend line and seasonal variations and how to use these to create the forecast. The explanation lacks clarity.	1 – 2
	Level 2	Demonstrates reasonable understanding of trend and seasonal variations in a general sense and reasonable understanding of how to use the four-point moving average method to determine the trend. There is some attempt to explain how to determine a trend line and seasonal variations and how to use these to create the forecast. The explanation may lack some clarity.	3 – 4

	Level 3	Demonstrates a good understanding of trend and seasonal variations in a general sense and a good understanding of how to use the four-point moving average method to determine the trend. There is a reasonable attempt to explain how to determine a trend line and seasonal variations and how to use these to create the forecast. The explanation is mostly clear.	5 - 6

Task (b) Explain how the expenditure associated with the new weaving machinery will be initially recorded in our financial statements. Please also explain how the weaving machinery asset will be depreciated in our financial statements for the year ended 30 June 2022.			
Trait			
Initially recorded	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains some of the recognition rules of IAS 16 but does not apply these to the scenario.	1
	Level 2	Explains the recognition rules of IAS16 and applies these to explain recognition of the weaving machinery as a non-current asset and/or how each type of expenditure will affect the amount capitalised. There may be a lack of clarity in the explanation.	2 - 3
	Level 3	Explains the recognition rules of IAS16 and applies these to clearly explain recognition of the weaving machinery as a non-current asset and how each type of expenditure will affect the amount capitalised.	4
Depreciation	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains the principle of depreciating over the UL of an asset but does not apply this to the scenario.	1
	Level 2	Explains the principle of depreciation and attempts to apply this to the scenario. An explanation of splitting the asset into its elements may be missing.	2 - 3
	Level 3	Explains the principle of depreciation and applies this to the scenario to clearly and fully explain the splitting of the asset into its elements.	4

Task (c) Explain how the existing weaving machinery that is to be sold will be treated in our financial statements for the year ended 30 June 2022.			
Trait			
Asset held for sale	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of some of the recognition criteria of IFRS 5 in respect of assets held for sale but these are not necessarily correctly applied to the asset disposal. The impact on the financial statements (classification and valuation) is likely to be missing or incorrectly explained.	1 – 2
	Level 2	Demonstrates understanding of most of the recognition criteria of IFRS 5 in respect of assets held for sale and attempts to apply these appropriately to the asset disposal. The impact on the financial statements (classification and valuation) is explained but the explanation lacks some detail or accuracy.	3 - 5
	Level 3	Demonstrates full understanding of the recognition criteria of IFRS 5 in respect of assets held for sale and applies these mostly correctly to the asset disposal. The impact on the financial statements (classification and valuation) is comprehensively explained.	6 - 7

SECTION 3			
Task (a) **Explain** the maximax, maximin and minimax regret decision criteria and how each of these can be applied to the information in Table 1 and Table 2 to decide which supplier to choose. Please state which supplier would be chosen for each criterion.			
Trait			
Decision criteria	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of at least one of the decision criteria but does not necessarily apply this correctly. The explanation of the criteria lacks clarity and/or depth.	1 – 3
	Level 2	Demonstrates understanding of at least two of the decision criteria. The explanation of the criteria either lacks clarity / depth or the candidate fails to apply the criteria correctly.	4 - 6
	Level 3	Demonstrates understanding of all three decision criteria and mostly applies each criterion correctly. The explanation of the criteria is clear.	7 - 9

Task (b) **Explain** how we would use probability information to make the decision about the supplier of sewing machines assuming a risk neutral approach to decision making. Please also explain, with reference to the information in Table 1, how we would determine the values to use when deciding whether it is worth paying the additional fee to MRT Consultancy for the accurate prediction of demand.			
Trait			
MRT Consultancy	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding that a risk neutral approach uses expected value, but the explanation lacks clarity and/or depth. There may be recognition that the 100% prediction is perfect information, but there is little attempt to explain how to determine the maximum to pay for this information.	1 – 3
	Level 2	Demonstrates understanding that a risk neutral approach uses expected value and the explanation of this is mostly clear. There is recognition that the 100% prediction is perfect information and there is some attempt to explain how to determine the maximum to pay for this information, although this lacks accuracy, clarity and/or depth.	4 – 6
	Level 3	Demonstrates understanding that a risk neutral approach uses expected value and the explanation of this is mostly clear. There is recognition that the 100% prediction is perfect information and there is a good attempt to explain how to determine the maximum to pay for this information, which is mostly clear and accurate.	7 – 8

Task (c) Explain ReYarnage's working capital position based on the information in Table 3.			
Trait			
WC position	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains, the supplier's working capital position with reference to some or all of the working capital days ratios. There is little or no reference to the cash or long-term finance position and no recognition that the company was potentially overtrading. The explanation lacks clarity.	1 – 3
	Level 2	Explains the supplier's working capital position with reference to the working capital days ratios and makes some reference to the cash or long-term finance position or the fact that this is a new company. There may be recognition that the company was potentially overtrading but unlikely to say that this has now improved. The explanation may lack some clarity.	4 – 6
	Level 3	Explains the supplier's working capital position with reference to the working capital days ratios and makes good reference to the fact that this is a new company and the cash or long-term finance position. There is recognition that the company was potentially overtrading, but that this has now improved. The explanation is mostly clear.	7 – 8

SECTION 4			
Task (a) **Explain** how the information in Table 1 and Table 2 supports the use of ABC instead of our current costing system. Please suggest how production runs should be scheduled in the Weaving Department and explain the benefits and potential issues to consider if your suggestion is implemented.			
Trait			
Supports the use	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of ABC and how it differs to the current costing system. Limited reference to the information in the tables to support the use of ABC. The explanation lacks clarity.	1 - 2
	Level 2	Demonstrates reasonable understanding of ABC and how it differs to the current costing system. There is a reference to the information in the tables to support the use of ABC, although the explanation may lack some clarity.	3 – 4
	Level 3	Demonstrates a good understanding of ABC and how it differs to the current costing system. There is a reference to the information in the tables to support the use of ABC and the explanation is mostly clear.	5
Production schedule	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Provides a suggestion of how the production schedule should be changed but makes little reference to benefits and issues to consider.	1 – 2
	Level 2	Provides a suggestion of how the production schedule should be changed. At least one benefit and/or issue to be considered is addressed.	3 - 4
	Level 3	Provides a suggestion of how the production schedule should be changed. There is at least one benefit and one issue to be considered addressed.	5

Task (b) Suggest, with supporting justification, appropriate cost drivers for each of the two cost pools identified in Table 2.			
Trait			
Cost drivers	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies one appropriate cost driver, which is not justified.	1
	Level 2	Identifies one or two appropriate cost drivers. The justification may be missing or lack clarity.	2 - 3
	Level 3	Identifies two appropriate cost drivers, which are both justified.	4
Task (c) Explain the sensitivity information shown in Table 4 and why the level of sensitivity differs depending on the budget variable. Please also explain the benefits and limitations of this analysis.			
Trait			
Sensitivities	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of what a sensitivity % represents. Makes little if any reference to the data in Table 4 or to why the level of sensitivity differs. The explanation lacks clarity.	1 – 2
	Level 2	Demonstrates understanding of what a sensitivity % represents. Makes some reference to the data in Table 4 and why the level of sensitivity differs. The explanation may lack some clarity and accuracy.	3 – 4
	Level 3	Demonstrates understanding of what a sensitivity % represents. Makes a good reference to the data in Table 4 and why the level of sensitivity differs. The explanation is mostly clear and accurate.	5

Usefulness	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one benefit or limitation of this analysis. The explanation is likely to lack clarity and/or depth.	1 – 2
	Level 2	Explains at least two points (either benefits or limitations or one of each) of this analysis. The explanation may lack some clarity and/or depth.	3 – 4
	Level 3	Explains at least three points (with at least one benefit and one limitation) of this analysis. The explanation is mostly clear.	5 – 6

Operational Level Case Study November 21– February 2022

Marking Guidance

Variant 2

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2021 - February 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, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes based on this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie.
  Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-Task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	**E**	Prepare information to support short-term decision making	24%
(b)	**E**		20%
(c)	**A**	Prepare costing information for different purposes to meet the needs of management	56%
Section 2			
(a)	**E**	Prepare information to support short-term decision making	52%
(b)	**F**	Prepare information to manage working capital	28%
(c)	**F**		20%
Section 3			
(a)	**B**	Prepare budget information and assess its use for planning and control purposes	40%
(b)	**B**		28%
(c)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	32%
Section 4			
(a)	**C**	Analyse performance using financial and non-financial information	40%
(b)	**C**		36%
(c)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	24%

SECTION 1			
Task (a) 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 made under each approach.			
Trait			
Risk approaches	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of how to make the decision for at least one of the risk approaches, although this may not be correctly applied to determine the decision.	1 – 2
	Level 2	Demonstrates understanding of how to make the decision for at least two of the risk approaches, although this may not always be correctly applied to determine the decision.	3 – 4
	Level 3	Demonstrates understanding of how to make the decision for all three risk approaches and this is most correctly applied to determine the decision.	5 - 6
Task (b) Explain, based on the information in Tables 1, 2 and 3, how the risk attitude of the SMT will impact on its willingness to pay for the perfect information.			
Trait			
Perfect information	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of what the value of PI means but makes little attempt to explain how different attitudes to risk will impact on the SMT's willingness to pay for the perfect information.	1 - 2
	Level 2	Demonstrates understanding of what the value of PI means and makes some attempt to explain how different attitudes to risk will impact on the SMT's willingness to pay for the perfect information. The explanation may lack some clarity.	3 – 4
	Level 3	Demonstrates understanding of what the value of PI means and makes a reasonable attempt to explain how different attitudes to risk will impact on the SMT's willingness to pay for the perfect information. The explanation is mostly clear.	5

Task (c) Explain how to determine the cost of providing a 1-month subscription to the CushyFit app and the difficulties associated with doing this.			
Trait			
1-month subscription	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates limited understanding of how to determine the cost of a 1-month subscription to the app. Unlikely to distinguish between direct and indirect costs and unlikely to refer to the information in the scenario. The explanation lacks clarity and/or depth.	1 – 3
	Level 2	Demonstrates some understanding of how to determine the cost of a 1-month subscription to the app. May not specifically mention the distinction between direct and indirect costs but does attempt to use the information in the scenario. The explanation lacks some clarity or depth.	4 – 6
	Level 3	Demonstrates a good understanding of how to determine the cost of a 1-month subscription to the app. Distinguishes between direct and indirect costs and does use the information in the scenario to illustrate the explanation which is clear and comprehensive.	7 – 8
Difficulties	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one difficulty of determining the cost of a 1-month subscription to the app. The explanation may lack clarity and/or may lack reference to the scenario.	1 – 2
	Level 2	Explains at least two difficulties of determining the cost of a 1-month subscription to the app. The explanation may lack some clarity or may lack reference to the scenario.	3 – 4
	Level 3	Explains at least three difficulties of determining the cost of a 1-month subscription to the app. The explanation is largely clear and references the scenario.	5 – 6

SECTION 2			
Task (a) **Explain** the multi-product profit-volume chart (Chart 1) and what it indicates about the new clothing range. Please also explain three factors that should be considered when interpreting this chart.			
Trait			
Chart 1	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains with technical accuracy limited information indicated in the P/V chart. The explanation lacks clarity and depth.	1 – 2
	Level 2	Explains with technical accuracy some of the information indicated in the P/V chart. The explanation may lack some clarity and/or depth.	3 – 5
	Level 3	Explains with technical accuracy most of the information indicated in the P/V chart. The explanation is mostly clear and comprehensive.	6 – 7
Factors to consider	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one factor to consider. The explanation is likely to lack clarity and/or application to the scenario.	1 – 2
	Level 2	Explains at least two factors to consider. The explanation may lack some clarity or application to the scenario.	3 – 4
	Level 3	Explains at least three factors to consider. The explanation is mostly clear with application to the scenario.	5 – 6

Task (b) Explain the implications to the business of allowing credit to retailers.			
Trait			
Implications	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates limited understanding of implications to the business of extending credit to retailers. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Demonstrates understanding of some implications to the business of extending credit to retailers. The explanation may lack some clarity, depth or application to the scenario.	3 – 5
	Level 3	Demonstrates understanding of a range of implications to the business of extending credit to retailers. The explanation is mostly clear with application to the scenario.	6 – 7
Task (c) Explain the suitability of us offering prompt discounts to the retailers.			
Trait			
Prompt payment discount	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of a prompt payment discount but explains little in respect of suitability. Any explanation lacks clarity and depth.	1 – 2
	Level 2	Demonstrates understanding of a prompt payment discount and does attempt to explain its suitability. The explanation may lack some clarity and/or depth.	3 – 4
	Level 3	Demonstrates understanding of a prompt payment discount and makes a good attempt to explain its suitability. The explanation is mostly clear and comprehensive.	5

SECTION 3			
Task (a) Explain how an ABB approach would be applied to determine a budget for employee costs in the online sales packing hub of our Distribution Centre.			
Trait			
ABB	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of the general principle of ABB. There is little if any attempt to explain how this will be applied to the packing hub and the explanation lacks clarity.	1 – 3
	Level 2	Demonstrates understanding of the general principle of ABB. There is a reasonable attempt to explain how this will be applied to the packing hub. The explanation may lack some clarity.	4 – 7
	Level 3	Demonstrates understanding of the general principle of ABB. There is a good attempt to explain how this will be applied to the packing hub. The explanation is mostly clear.	8 - 10
Task (b) Explain the benefits and drawbacks of using ABB to determine the overall operating cost budget for the Distribution Centre.			
Trait			
Benefits and drawbacks	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one benefit or drawback. The explanation lacks clarity, depth and application to the scenario.	1 – 2
	Level 2	Explains at least two benefits or drawbacks. The explanation may lack some clarity or application to the scenario.	3 – 5
	Level 3	Explains at least three benefits or drawbacks (with at least one of each). The explanation is mostly clear with application to the scenario.	6 - 7

Task (c) Explain how the initial and subsequent measurement of the lease liability and the right of use asset in our financial statements for the year ending 30 June 2022 will differ between option 1 and option 2 shown in Table 2.			
Trait			
Lease liability	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of how to determine the lease liability but makes no reference to how the different options will affect the way that the lease liability is either initially or subsequently measured. The explanation is very brief or lacks clarity.	1
	Level 2	Demonstrates understanding of how to determine the lease liability and does attempt to explain how the different options will affect the way that the lease liability is initially and/or subsequently measured. The explanation may lack some clarity.	2 - 3
	Level 3	Demonstrates understanding of how to determine the lease liability and does attempt to explain how the different options will affect the way that the lease liability is initially and subsequently measured. The explanation is mostly clear.	4
Right-of-use asset	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of how to determine the right-of-use asset but makes no reference to how the different options will affect the way that the right-of-use asset is either initially or subsequently measured. The explanation is very brief or lacks clarity.	1
	Level 2	Demonstrates understanding of how to determine the right-of-use asset and does attempt to explain how the different options will affect the way that the right-of-use asset is initially and/or subsequently measured. The explanation may lack some clarity.	2 – 3
	Level 3	Demonstrates understanding of how to determine the right-of-use asset and does attempt to explain how the different options will affect the way that the right-of-use asset is initially and subsequently measured. The explanation is mostly clear.	4

SECTION 4			
Task (a) **Explain** what the sales variances in Table 1 mean and reasons why they may have arisen.			
Trait			
Sales price	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates technical understanding of what a price variance represents but there is a limited attempt to explain the meaning of the price variances in Table 1 or the reasons why they have arisen.	1
	Level 2	Demonstrates technical understanding of what a price variance represents and makes a reasonable attempt to explain the meaning of the variances in Table 1 and the reasons why they have arisen.	2
	Level 3	Demonstrates technical understanding of what a price variance represents and makes a good attempt to explain the meaning of the variances in Table 1 and the reasons why they have arisen.	3
Sales mix	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates technical understanding of what a mix variance represents in a general sense, but there is a limited attempt to explain the meaning of the mix variances in Table 1 or the reasons why the mix may have changed.	1
	Level 2	Demonstrates technical understanding of what a mix variance based on the weighted average method represents and makes a reasonable attempt to explain the meaning of the mix variances in Table 1. Reasons may not be given.	2 – 3
	Level 3	Demonstrates technical understanding of what a mix variance based on the weighted average method represents and makes a good attempt to explain the meaning of the mix variances in Table 1 and the reasons why they have arisen.	4

Sales quantity	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates technical understanding of what a quantity variance represents but there is a limited attempt to explain the meaning of the quantity variance in Table 1 or the reasons why it has arisen.	1
	Level 2	Demonstrates technical understanding of what a quantity variance represents and makes a reasonable attempt to explain the meaning of the quantity variances in Table 1 and the reasons why it has arisen.	2
	Level 3	Demonstrates technical understanding of what a quantity variance represents and makes a good attempt to explain the meaning of the quantity variance in Table 1 and the reasons why it has arisen.	3
Task (b) Identifies three KPIs that could be included on the digital marketing dashboard, explaining how each would be calculated and why each would be appropriate.			
Trait			
KPIs	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies at least one appropriate KPI. The explanation of calculation and appropriateness may lack depth and/or clarity and the KPI(s) may not be expressed as a measure.	1 – 3
	Level 2	Identifies at least two appropriate KPIs. The explanation of calculation and appropriateness may lack some depth or clarity and the KPIs may not be expressed as a measure.	4 – 6
	Level 3	Identifies at least three appropriate KPIs. The explanation of calculation and appropriateness is mostly clear, and the KPIs are mostly expressed as measures.	7 - 9

Task (c) Explain how to reflect the case settlement and the 560 items of inventory in our financial statements for the year ended 30 June 2022.			
Trait			
Settlement	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding that this is an IAS 10 issue but does not identify this as an adjusting event. The explanation is brief, lacks clarity and does not consider the impact on the financial statements.	1
	Level 2	Demonstrates understanding that this is an IAS 10 issue and does identify this as an adjusting event. The explanation may be brief or lack clarity. The impact on the financial statements may not be considered.	2
	Level 3	Demonstrates understanding that this is an IAS 10 issue and does identify this as an adjusting event. The explanation is clear and the impact on the financial statements is considered.	3
Inventory	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of lower of cost and NRV but does not apply this correctly. The explanation is brief and lacks clarity and does not consider the impact on the financial statements.	1
	Level 2	Demonstrates understanding of lower of cost and NRV and does apply this correctly. The explanation may be brief or lack clarity. The impact on the financial statements may not be considered.	2
	Level 3	Demonstrates understanding of lower of cost and NRV and does apply this correctly. The explanation is clear and the impact on the financial statements is considered.	3

Operational Level Case Study November 2021– February 2022

Marking Guidance

Variant 3

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2021 - February 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, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes based on this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie.
  Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-Task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	**C**	Analyse performance using financial and non-financial information	32%
(b)	**B**	Prepare budget information and assess its use for planning and control purposes	24%
(c)			44%
Section 2			
(a)	**A**	Prepare costing information for different purposes to meet the needs of management	28%
(b)			24%
(c)	**E**	Prepare information to support short-term decision making	32%
(d)			16%
Section 3			
(a)	**E**	Prepare information to support short-term decision making	28%
(b)			24%
(c)	**F**	Prepare information to manage working capital	48%
Section 4			
(a)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	32%
(b)			32%
(c)	**C**	Analyse performance using financial and non-financial information	36%

SECTION 1			
Task (a) Explain how the fixed production overhead expenditure, efficiency and capacity variances for the Cutting & Stitching Department in November will be calculated based on the information in Table 1 and whether they will be adverse or favourable. Please also give possible reasons for each variance.			
Trait			
Variances	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains with technical accuracy how to calculate at least one of the variances and whether it is adverse or favourable. The reasons given for the variances may be generic rather than pulled from the scenario or relate to the wrong variance.	1 – 3
	Level 2	Explains with technical accuracy how to calculate at least one of the variances and whether it is adverse or favourable. The reasons given for the variances are mostly pulled from the scenario, although they may not always relate to the correct variance.	4 – 6
	Level 3	Explains with technical accuracy how to calculate at least one of the variances and whether it is adverse or favourable. The reasons given for the variances are pulled from the scenario and relate to the correct variance for the most part.	7 – 8
Task (b) Explain whether it is appropriate to hold the Cutting & Stitching Department Manager accountable for the fixed production overhead variances of their department in November.			
Trait			
Accountability	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates some understanding of responsibility accounting. The explanation lacks clarity and is unlikely to be applied to the scenario.	1 - 2
	Level 2	Demonstrates reasonable understanding of responsibility accounting. The explanation may lack some clarity but does attempt to apply to the scenario.	3 – 4

	Level 3	Demonstrates a good understanding of responsibility accounting. The explanation is mostly clear and applied to the scenario.	5 - 6
Task (c) **Explain** how a rolling budget approach differs to how we currently prepare our budgets. Please also explain the potential benefits and drawbacks of adopting a rolling budgets approach for our sales and production budgets.			
Trait			
How differs	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of how a rolling budget is prepared but does not consider how this differs to the current approach. The explanation is brief and lacks clarity.	1
	Level 2	Demonstrates understanding of how a rolling budget is prepared and does attempt to consider how this differs to the current approach. The explanation may lack clarity.	2
	Level 3	Demonstrates understanding of how a rolling budget is prepared and does consider how this differs to the current approach. The explanation is mostly clear.	3
Benefits	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains one benefit of using a rolling budget approach. There is a lack of application to the scenario and the explanation lacks clarity.	1
	Level 2	Explains at least one benefit of using a rolling budget approach. There may be a lack of application to the scenario and/or the explanation lacks clarity.	2 - 3
	Level 3	Explains at least two benefits of using a rolling budget approach. There is an application to the scenario and the explanation is mostly clear.	4

Drawbacks	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains one drawback of using a rolling budget approach. There is a lack of application to the scenario and the explanation lacks clarity.	1
	Level 2	Explains at least one drawback of using a rolling budget approach. There may be a lack of application to the scenario and/or the explanation lacks clarity.	2 - 3
	Level 3	Explains at least two drawbacks of using a rolling budget approach. There is an application to the scenario and the explanation is mostly clear.	4

SECTION 2			
Task (a) **Explain** why the calculation of profit is different using an absorption costing and a marginal costing approach, and why, using the attached gross profit calculations, the approaches can produce different gross profit figures.			
Trait			
Profit calcs differ	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of the basic principles of absorption costing and marginal costing, but there is little attempt to explain why the calculations differ and little if any reference to the reference material. The explanation lacks clarity and technical accuracy.	1 – 2
	Level 2	Demonstrates understanding of the basic principles of absorption costing and marginal costing and does attempt to explain why the calculations differ. There is some reference to the reference material, although the explanation may lack some clarity and /or technical accuracy.	3 – 5
	Level 3	Demonstrates understanding of the basic principles of absorption costing and marginal costing and makes a good attempt to explain why the calculations differ. There is a good reference to the reference material, and the explanation is mostly clear and technically accurate.	6 – 7

Task (b) Explain whether it would be beneficial to use marginal costing rather than absorption costing as our costing system.			
Trait			
Beneficial	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains generic benefit(s) and/or drawback(s) of marginal costing over absorption costing. There is little if any application to the scenario.	1 – 2
	Level 2	Explains benefit(s) and/or drawback(s) of marginal costing over absorption costing and there is an attempt to explain these in the context of the scenario.	3 – 4
	Level 3	Explains benefits and drawbacks of marginal costing over absorption costing, with a good attempt to explain these in the context of the scenario.	5 – 6

Task (c) **Explain** whether each of the cost items identified in Table 2 is relevant or irrelevant to the decision whether to accept the contract.			
Trait			
Relevant costs	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies correctly some of the relevant and irrelevant costs but fails to fully and clearly explain why these are relevant or irrelevant.	1 – 3
	Level 2	Identifies correctly most of the relevant and irrelevant costs but there is sometimes a lack of clarity in explaining why these are relevant or irrelevant.	4 – 6
	Level 3	Identifies correctly all of the relevant and irrelevant costs and the explanation of why these are relevant or irrelevant is mostly clear.	7 - 8
Task (d) **Explain** two other factors to consider before deciding whether to accept the contract.			
Trait			
Other factors	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains one other factor to consider. The explanation lacks depth and/or clarity.	1
	Level 2	Explains at least one other factor to consider. The explanation may lack depth or clarity.	2 – 3
	Level 3	Explains two other factors to consider. The explanation is mostly clear.	4

SECTION 3			
Task (a) **Explain** two ways, either using the graph or otherwise, to determine which of Point 1 or Point 2 is the financial optimum.			
Trait			
Optimum production plan	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates limited understanding of how to determine the optimum. The explanation lacks clarity and reference to the information in the graph.	1 – 2
	Level 2	Demonstrates reasonable understanding of how to determine the optimum. The explanation may lack some clarity or reference to information in the graph.	3 – 5
	Level 3	Demonstrates a good understanding of how to determine the optimum. The explanation is clear and makes a good reference to the information in the graph.	6 - 7
Task (b) **Explain** the factors to be considered before proceeding with the production plan identified from the graph as being optimum.			
Trait			
Factors to consider	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one factor to be considered. The explanation is likely to lack clarity and application to the scenario.	1 – 2
	Level 2	Explains at least two factors to be considered. The explanation may lack some clarity and/or application to the scenario.	3 – 4
	Level 3	Explains at least three factors to be considered. The explanation is mostly clear and applied to the scenario.	5 - 6

Task (c) Explain the benefits of taking an aggressive approach to the management of our inventory levels and whether adopting Just-In-Time purchasing and Just-In-Time production would be a suitable way for us to achieve this.			
Trait			
Benefits	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Explains at least one benefit but the explanation lacks clarity and depth.	1 – 2
	Level 2	Explains at least two benefits. The explanation may lack some clarity and/or application to the scenario.	3 – 4
	Level 3	Explains at least three benefits. The explanation is mostly clear with application to the scenario.	5 - 6
JIT	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of JIT purchasing and/or JIT production but explains little about the suitability of either for the business.	1 – 2
	Level 2	Demonstrates understanding of JIT purchasing and JIT production and does attempt to explain whether these are suitable for the business. The explanation may lack some clarity and application to the scenario.	3 – 4
	Level 3	Demonstrates understanding of JIT purchasing and JIT production and makes a good attempt to explain whether these are suitable for the business. The explanation is mostly clear and applied to the scenario.	5 - 6

SECTION 4			
Task (a) **Explain** how to value the inventory identified in Table 1 in our financial statements for the year ended 30 June 2022.			
Trait			
Inventory	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of some of the relevant principles of IAS 2. There is a limited attempt to apply these principles to the two inventory items, although this may not be accurate. The explanation lacks clarity and depth.	1 – 3
	Level 2	Demonstrates understanding of most of the relevant principles of IAS 2. There is a reasonable attempt to apply these principles to the two inventory items, although the application may not always be accurate. The explanation lacks some clarity and/or depth.	4 – 6
	Level 3	Demonstrates understanding of the relevant principles of IAS 2. There is a good attempt to apply these principles to the two inventory items which is largely accurate. The explanation is mostly clear.	7 - 8

Task (b) **Explains** how to account for the items of old equipment identified in Table 2 in our financial statements for the year ended 30 June 2022.			
Trait			
Old Equipment	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Demonstrates understanding of some of the relevant principles of IAS 16, IFRS 5 and or IAS 36. There is a limited attempt to apply these principles to the two assets, although this may not be accurate. The explanation lacks clarity and depth.	1 – 3
	Level 2	Demonstrates understanding of most of the relevant principles of IAS 16, IFRS 5 and /or IAS 36. There is a reasonable attempt to apply these principles to the two assets, although the application may not always be accurate. The explanation lacks some clarity and/or depth.	4 – 6
	Level 3	Demonstrates understanding of the relevant principles of IAS 16, IFRS and IAS 36. There is a good attempt to apply these principles to the two assets which is largely accurate. The explanation is mostly clear.	7 - 8
Task (c) **Suggest** three KPIs to include in the Raw Materials Warehouse dashboard with an explanation of how these would be calculated and why they would be appropriate.			
Trait			
KPIs	**Level**	**Descriptor**	**Marks**
		No rewardable material	0
	Level 1	Identifies at least one appropriate KPI. The explanation of calculation and appropriateness may lack depth and/or clarity and the KPI(s) may not be expressed as a measure.	1 – 3
	Level 2	Identifies at least two appropriate KPIs. The explanation of calculation and appropriateness may lack some depth or clarity and the KPIs may not be expressed as a measure.	4 – 6
	Level 3	Identifies at least three appropriate KPIs. The explanation of calculation and appropriateness is mostly clear, and the KPIs are mostly expressed as measures.	7 - 9

Operational Level Case Study November 2021–February 2022

Marking Guidance

Variant 4

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2021 – February 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, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes based on this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie.
  Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	**E**	Prepare information to support short-term decision-making	**28%**
(b)	**B**	Prepare budget information and assess its use for planning and control purposes	**36%**
(c)	**C**	Analyse performance using financial and non-financial information	**36%**
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	**64%**
(b)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	**36%**
Section 4			
(a)	**B**	Prepare budget information and assess its use for planning and control purposes	**36%**
(b)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	**32%**
(c)	**F**	Prepare information to manage working capital	**32%**

SECTION 1			
Task (a) Explain the profit-volume chart and how the upgrade, gait analysis and promotional campaign will potentially change it, including the impact on breakeven volume and margin of safety.			
Trait			
The chart	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates understanding of some of the elements of the profit-volume chart but does not necessarily explain the chart in the context of the information given. Explanation of how the chart will change may be missing or inaccurate.	**1 - 2**
	Level 2	Demonstrates understanding of most of the elements of the profit-volume chart and does attempt to explain these in the context of the information given. Explanation of how the chart will change may be brief and/or contain some inaccuracies.	**3 - 5**
	Level 3	Demonstrates understanding of all the elements of the profit-volume chart and does explain these in the context of the information given. Explanation of how the chart will change is mostly accurate.	**6 - 7**

Task (b) Explain how rolling budgets differ from how we currently budget and whether it would be beneficial for the business to use rolling budgets.			
Trait			
Rolling budgets	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of the difference between rolling and incremental budgets but the difference is only partly or incorrectly explained.	**1**
	Level 2	Demonstrates reasonable understanding of the difference between rolling and incremental budgets. The explanation lacks some detail or accuracy.	**2 - 3**
	Level 3	Demonstrates a good understanding of the difference between rolling and incremental budgets with a clear and comprehensive explanation.	**4**
Benefits	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains at least one benefit of using rolling budgets. The explanation is likely to lack clarity and application to the scenario.	**1 - 2**
	Level 2	Explains at least two benefits of using rolling budgets. The explanation may lack some clarity or application to the scenario.	**3 - 4**
	Level 3	Explains at least three benefits of using rolling budgets. The explanation is mostly clear and there is an application to the scenario.	**5**

Task (c) **Suggest** three KPIs we can use to monitor the performance of retail store employees. For each KPI please explain how it would be calculated and why it would be appropriate.			
Trait			
KPIs	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Identifies one or two KPIs which are relevant for measuring the performance of retail staff, but the explanation is missing or not clear.	**1 - 3**
	Level 2	Identifies two or three KPIs which are relevant for measuring the performance of retail staff, but the explanation lacks some clarity.	**4 - 6**
	Level 3	Identifies three KPIs which are wholly appropriate for measuring the performance of retail staff which are well explained.	**7 - 9**

SECTION 2			
Task (a) Explain using the figures in Table 1 whether you think choosing a promotional campaign based on expected value is the best approach. Please ensure that you explain which campaign we would choose using a risk seeking and risk averse approach to decision making.			
Trait			
Use of EV	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates understanding of the expected value and explains at least one reason why the use of EV is suitable or not suitable in this situation. The explanation is likely to lack clarity and application to the scenario.	**1 - 3**
	Level 2	Demonstrates understanding of the expected value and explains at least two reasons why the use of EV is suitable or not suitable in this situation. The explanation may lack some clarity and application to the scenario.	**4 - 6**
	Level 3	Demonstrates understanding of the expected value and explains at least three reasons why the use of EV is suitable or not suitable in this situation. The explanation is clear and applied to the scenario.	**7 - 8**
Risk attitudes	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains which campaign would be chosen for one of the risk attitudes, but either the explanation lacks clarity, or the incorrect campaign has been chosen.	**1**
	Level 2	Explains which campaign would be chosen for at least one of the risk attitudes, but the explanation may lack clarity, or an incorrect campaign has been chosen.	**2 - 3**
	Level 3	Explains which campaign would be chosen for both risk attitudes. The explanation is clear, and the correct campaigns have been chosen in each case.	**4**

Task (b) Explain the difficulties we would face when trying to determine the direct and indirect costs of the retail services in our stores per pair of shoes sold.			
Trait			
Direct & indirect	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of the distinction between direct and indirect costs. Is unlikely to provide any examples of such costs based on the scenario.	**1 - 2**
	Level 2	Demonstrates reasonable understanding of the distinction between direct and indirect costs. Provides at least one example of either a direct or indirect cost based on this scenario.	**3 - 4**
	Level 3	Demonstrates a good understanding of the distinction between direct and indirect costs in the context of this scenario. Provides at least one example of a direct and one example of an indirect cost based on the scenario.	**5**
Difficulties	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains at least one difficulty of determining the cost of retail services per pair of shoes sold. The explanation lacks clarity and application to the scenario.	**1 - 3**
	Level 2	Explains at least two difficulties of determining the cost of retail services per pair of shoes sold. The explanation may lack some clarity and application to the scenario.	**4 - 6**
	Level 3	Explains at least three difficulties of determining the cost of retail services per pair of shoes sold. The explanation is mostly clear and applied to the scenario.	**7 - 8**

SECTION 3			
Task (a) **Explain** what the variances shown in Table 1 and Table 2 tell us about the sales performance of Store 1 and Store 8 in February, giving reasons why the variances have occurred. Please ensure you include any possible impact that the recent changes may have had.			
Trait			
Sales price	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some technical understanding of what a price variance represents but there is a limited 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 and makes a reasonable attempt to explain the meaning of the price variances given and the reasons why they have arisen.	**2 - 3**
	Level 3	Demonstrates technical understanding of what a price variance represents and makes a good attempt to explain the meaning of the price variances given and the reasons why they have occurred.	**4**
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 represents but there is a limited attempt to explain the meaning of the mix variances given or the reasons why they have occurred.	**1 - 2**
	Level 2	Demonstrates technical understanding of what a mix variance based on the individual units method represents and makes a reasonable attempt to explain the meaning of the mix variances given and the reasons why they have occurred	**3 - 4**
	Level 3	Demonstrates technical understanding of what a mix variance based on the individual units method represents and makes a good attempt to explain the meaning of the mix variances given and the reasons why they have occurred.	**5**

Trait			
Sales Quantity	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates technical understanding of what a quantity variance represents but there is a limited 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 and 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 and 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	Explains little about each store's overall sales performance and does not make any comparison between the two stores.	**1**
	Level 2	Explains some aspects of either the store's overall performance or makes comparisons between the two stores.	**2 - 3**
	Level 3	Explains fully each store's overall performance or makes good comparisons between the two stores.	**4**

Task (b) Explain how the different items of expenditure in Table 3 will affect our financial statements for the year ended 30 June 2022.			
Trait	**Level**	**Descriptor**	**Marks**
Upgrade expenditure		No rewardable material	**0**
	Level 1	Demonstrates some understanding of the recognition criteria in IAS 16 for capitalising expenditure. This is poorly applied to the scenario. The explanation of how each element of expenditure will affect the financial statements lacks clarity, depth and/or accuracy.	**1 - 3**
	Level 2	Demonstrates reasonable understanding of the recognition criteria in IAS 16 for capitalising expenditure. There is a reasonable attempt to apply this to the scenario. The explanation of how each element of expenditure will affect the financial statements may lack some clarity, depth of accuracy.	**4 - 6**
	Level 3	Demonstrates a good understanding of the recognition criteria in IAS 16 for capitalising expenditure. This is well applied to the scenario. The explanation of how each element of expenditure will affect the financial statements is mostly clear, comprehensive and accurate.	**7 - 9**

SECTION 4			
Task (a) Explain how using digital technologies, such as those mentioned, in the preparation and use of our sales budget could enhance planning, control, coordination and communication, within our business.			
Trait			
Planning and Control	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates understanding of the planning and/or control purposes of budgeting but makes little attempt to explain how using digital technologies could enhance this. The explanation lacks clarity, depth and application to the scenario.	**1 - 2**
	Level 2	Demonstrates understanding of the planning and control purposes of budgeting and makes some attempt to explain how using digital technologies could enhance this. The explanation may lack some clarity and application to the scenario.	**3 - 4**
	Level 3	Demonstrates understanding of the planning and control purposes of budgeting and makes a reasonable attempt to explain how using digital technologies could enhance this. The explanation is mostly clear and there is an application to the scenario.	**5**
Coordination and communication	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates understanding of the coordination and/or communication purposes of budgeting but makes little attempt to explain how using digital technologies could enhance this. The explanation lacks clarity, depth and application to the scenario.	**1**
	Level 2	Demonstrates understanding of the coordination and communication purposes of budgeting and makes some attempt to explain how using digital technologies could enhance this. The explanation may lack some clarity and application to the scenario.	**2 - 3**
	Level 3	Demonstrates understanding of the coordination and communication purposes of budgeting and makes a reasonable attempt to explain how using digital technologies could enhance this. The explanation is mostly clear and there is an application to the scenario.	**4**

Task (b) Explain whether Store 6, will be classified as a non-current asset held for sale on 30 June 2022. Please also explain how its carrying amount on 30 June 2022 will be determined.			
Trait			
IFRS 5	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates understanding of at least one of the key rules in IFRS 5 (recovery of value through sale, the asset must be available for immediate sale in current condition and sale highly probable). There is no or an inaccurate attempt to apply these to the scenario.	**1**
	Level 2	Demonstrates understanding of at least one of the key rules in IFRS 5 (recovery of value through sale, the asset must be available for immediate sale in current condition and sale highly probable). There is some attempt to apply this correctly to the scenario.	**2 - 3**
	Level 3	Demonstrates good understanding of at least two of the key rules in IFRS 5 (recovery of value through sale, the asset must be available for immediate sale in current condition and sale highly probable). There is a good attempt to apply these to the scenario.	**4**
Carrying amount	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Recognises that there is a potential impairment but fails to explain how to determine the new carrying amount. There is little if any application to the scenario.	**1**
	Level 2	Recognises that there is a potential impairment and attempts to explain how to determine the new carrying amount. There is some application to the scenario, although the explanation is likely to lack clarity.	**2 - 3**
	Level 3	Recognises that there is a potential impairment and explains accurately how to determine the new carrying amount, with good application to the scenario.	**4**

Task (c): Explain the suitability, based on their relative risk, liquidity, and yield, of these two types of short-term investment.			
Trait			
Investing surplus cash	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of the nature of money market deposits and certificates of deposit but the explanation of the relative risk, liquidity and yield lacks clarity, detail and accuracy.	**1 - 3**
	Level 2	Demonstrates reasonable understanding of the nature of money market deposits and certificates of deposit. The explanation of the relative risk, liquidity and yield lacks some clarity and there may be some inaccuracies.	**4 - 6**
	Level 3	Demonstrate full understanding of the nature of money market deposits and certificates of deposit with a comprehensive explanation of the relative risk, liquidity and yield of both.	**7 - 8**

Operational Level Case Study November 2021–February 2022

Marking Guidance

Variant 5

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2021 – February 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, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes on the basis of this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie.
  Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	**C**	Analyse performance using financial and non-financial information	**36%**
(b)	**B**	Prepare budget information and assess its use for planning and control purposes	**32%**
(c)			**32%**
Section 2			
(a)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	**32%**
(b)			**24%**
(c)	**E**	Prepare information to support short-term decision-making	**24%**
(d)			**20%**
Section 3			
(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	**32%**
(c)			**16%**
Section 4			
(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)	**F**	Prepare information to manage working capital	**36%**

SECTION 1

Task (a) Explain what each of the variances in Table 1 mean and the possible reasons for their occurrence with reference to the information in Table 2.			
Trait			
Rate	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates technical understanding of the meaning of a rate variance but does not give appropriate reasons for the occurrence of either of the variances given. The explanation lacks clarity.	**1**
	Level 2	Demonstrates technical understanding of the meaning of a rate variance and gives an appropriate reason for one of the two variances given. The explanation may lack some clarity.	**2**
	Level 3	Demonstrates technical understanding of the meaning of a rate variance and gives an appropriate reason for each of the two variances given. The explanation is clear.	**3**
Idle time	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates technical understanding of the meaning of an idle time variance but does not give appropriate reasons for the occurrence of either of the variances given. The explanation lacks clarity.	**1**
	Level 2	Demonstrates technical understanding of the meaning of an idle time variance and gives at least one appropriate reason for the variance given. The explanation may lack some clarity.	**2**
	Level 3	Demonstrates technical understanding of the meaning of an idle time variance and gives two appropriate reasons for the variance given. The explanation is clear.	**3**

Efficiency	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates technical understanding of the meaning of an efficiency variance but does not give appropriate reasons for occurrence of either of the variances given. The explanation lacks clarity.	**1**
	Level 2	Demonstrates technical understanding of the meaning of an efficiency variance and gives an appropriate reason for one of the two variances given. The explanation may lack some clarity.	**2**
	Level 3	Demonstrates technical understanding of the meaning of an efficiency variance and gives an appropriate reason for each of the two variances given. The explanation is clear.	**3**
Task (b) Explain how a responsibility accounting system could be implemented in the Production Facility. Please illustrate your explanation with reference to the information shown in Tables 1 & 2.			
Trait			
Responsibility accounting	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of responsibility accounting and the concept of controllability. The explanation lacks clarity and application to the scenario in respect of the information in Tables 1 and 2.	**1 - 3**
	Level 2	Demonstrates reasonable understanding of responsibility accounting and the concept of controllability. The explanation may lack some clarity or application to the scenario in respect of the information in Tables 1 and 2.	**4 - 6**
	Level 3	Demonstrates good understanding of responsibility accounting and the concept of controllability. The explanation is mostly clear and well applied to the scenario in respect of the information in Tables 1 and 2.	**7 - 8**

Task (c) Explain two potential benefits and two potential drawbacks of allowing production managers to be involved in setting their own standards and budgets.			
Benefits	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains at least one potential benefit, but the explanation lacks clarity and application to the scenario.	**1**
	Level 2	Explains at least one potential benefit. The explanation may lack some clarity or application to the scenario.	**2 - 3**
	Level 3	Explains clearly two potential benefits with reference to the scenario.	**4**
Drawbacks	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains at least one potential drawback, but the explanation lacks clarity and application to the scenario.	**1**
	Level 2	Explains at least one potential drawback. The explanation may lack some clarity or application to the scenario.	**2 - 3**
	Level 3	Explains clearly two potential drawbacks with reference to the scenario.	**4**

SECTION 2			
Task (a) **Explain** the impact of the expenditure on the new moulding machinery on our reported profit and tax payable for the year ending 30 June 2022			
Trait			
Reported profit	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some technical understanding of the relevant provisions of IAS 16 on initial recognition and depreciation. The explanation lacks clarity and technical accuracy and makes no or very limited reference to the scenario information. There is no attempt to explain the impact on reported profit.	**1**
	Level 2	Demonstrates reasonable technical understanding of the relevant provisions of IAS 16 on initial recognition and depreciation. The explanation may lack some clarity and technical accuracy but does make some reference to the scenario information. The impact on reported profit may be missing or limited.	**2 - 3**
	Level 3	Demonstrates a good technical understanding of the relevant provisions of IAS 16. The explanation is mostly clear and technically accurate and makes reference to the scenario information. There is a reasonable attempt to focus on the impact on reported profit.	**4**
Tax payable	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of the difference between taxable and accounting profit in respect of the impact on tax payable. The explanation lacks clarity, technical accuracy and makes no or very limited reference to the scenario information.	**1**
	Level 2	Demonstrates reasonable understanding of the difference between taxable and accounting profit in respect of the impact on tax payable. The explanation may lack some clarity and technical accuracy but does make some reference to the scenario information.	**2 – 3**
	Level 3	Demonstrates good understanding of the difference between taxable and accounting profit in respect of the impact on tax payable. The explanation is mostly clear and technically accurate and makes reference to the scenario information.	**4**

Task (b) Explain how the expenditure incurred on the lasting line will affect our financial statements for the year ended 30 June 2022.			
Trait			
Lasting Line	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some technical understanding of the provisions of IAS 16 on subsequent expenditure and extended useful life. The explanation lacks clarity, technical accuracy and makes no or very limited reference to the scenario information. The effect on the financial statements is likely to be missing.	**1 – 2**
	Level 2	Demonstrates reasonable technical understanding of the provisions of IAS 16 on subsequent expenditure and extended useful life. The explanation may lack some clarity and technical accuracy but does make some reference to the scenario information. The effect on the financial statements may be incomplete or contain inaccuracies.	**3 – 4**
	Level 3	Demonstrates good technical understanding of the provisions of IAS 16 on subsequent expenditure and extended useful life. The explanation is mostly clear and technically accurate and makes reference to the scenario information. The effect on the financial statements is mostly complete and accurate.	**5 - 6**

Task (c) Explain how to use the linear programming graph to determine the production plan for Hill and Flat running shoes for the 2-week period that will optimise contribution. Please state what this optimal production plan is.			
Trait			
Production plan	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains with some technical accuracy how to determine the optimal production plan, but the explanation lacks clarity. The optimal production plan might not have been stated, but if it has, is likely to be incorrect.	**1 - 2**
	Level 2	Explains with reasonable technical accuracy how to determine the optimal production plan, but the explanation may lack some clarity. The optimal production plan is stated but may be incorrect.	**3 – 4**
	Level 3	Explains with good technical accuracy how to determine the optimal production plan and the explanation is mostly clear. The optimal production plan is correctly stated.	**5 - 6**
Task (d) Explain how we would determine whether it is worthwhile buying additional natural rubber from the alternative supplier and how we could use the graph to determine the maximum quantity that we should order.			
Trait			
Additional rubber?	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of binding constraints and shadow price but fails to apply this to the scenario. No or little attempt to explain how to use the graph to determine the maximum quantity.	**1 – 2**
	Level 2	Demonstrates reasonable understanding of binding constraints and shadow price. Does attempt to explain how to use the graph to determine how much to buy.	**3 – 4**
	Level 3	Demonstrates good understanding of binding constraints and shadow price. Makes a reasonable attempt to explain how to use the graph to determine how much to buy.	**5**

SECTION 3			
Task (a) **Explain** how a digital costing system would change the way that we gather information to cost our shoes. Please also explain the benefits of using such a system for our business.			
Trait			
Costing of Shoes	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of how a digital costing system would change the way that costing data was gathered. The explanation lacks clarity, depth and application to the scenario.	**1 – 2**
	Level 2	Demonstrates understanding of how a digital costing system would change the way that costing data was gathered. The explanation may lack some clarity, depth or application to the scenario.	**3 – 4**
	Level 3	Demonstrates understanding of how a digital costing system would change the way that costing data was gathered. The explanation is mostly clear, comprehensive and is applied to the scenario.	**5 - 6**
Benefits	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains at least one appropriate benefit. The explanation may lack clarity, depth and/or application to the scenario.	**1 – 2**
	Level 2	Explains at least two appropriate benefits. The explanation may lack some clarity, depth and/or application to the scenario.	**3 – 5**
	Level 3	Explains at least three appropriate benefits. The explanation is mostly clear, comprehensive and is applied to the scenario.	**6 – 7**

Task (b) Explain the decision tree and how it should be used to make a decision on the arrangements for the BJ Foorwear contract.			
Trait			
Decision tree	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates understanding of what the decision tree is illustrating but makes little attempt to explain how it should be used to make the decision. The explanation lacks clarity and makes little use of the data in the tree.	**1 – 3**
	Level 2	Demonstrates understanding of what the decision tree is illustrating and makes some attempt to explain how it should be used to make the decision. The explanation may lack some clarity but does make some use of the data in the tree to aid the explanation.	**4 – 6**
	Level 3	Demonstrates understanding of what the decision tree is illustrating and makes a good attempt to explain how it should be used to make the decision. The explanation is mostly clear with good use of the data in the tree to aid the explanation.	**7 - 8**
Task (b) Explain how having risk seeking and risk averse attitudes would change how we approached the decision. Please state what the decision would be for each of these attitudes.			
Trait			
Risk Attitude	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains accurately how the approach would change for one of the risk attitudes, but fails to determine what the decision would be.	**1**
	Level 2	Explains accurately how the approach would change for at least one of the risk attitudes. The correct decision(s) may not be identified.	**2 – 3**
	Level 3	Explains accurately how the approach would change for both risk attitudes and correctly identifies the decisions for both.	**4**

SECTION 4			
Task (a) Suggest three KPIs that could be used to monitor the performance of the new IT Support Services Department, explaining how each KPI would be calculated and why each would be appropriate			
Trait			
KPIs	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Identifies at least one appropriate KPI. The explanation of calculation and appropriateness may lack depth and/or clarity and the KPI(s) may not be expressed as a measure.	**1 - 3**
	Level 2	Identifies at least two appropriate KPIs. The explanation of calculation and appropriateness may lack some depth or clarity and the KPIs may not be expressed as a measure.	**4 - 6**
	Level 3	Identifies at least three appropriate KPIs. The explanation of calculation and appropriateness is mostly clear, and the KPIs are mostly expressed as measures.	**7 - 9**
Task (b) Explain how decision packages would be developed in respect of the training function of the new IT Support Services Department.			
Trait			
Decision packages	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some technical understanding of decision packages. The explanation lacks clarity, depth and application to the scenario.	**1 - 2**
	Level 2	Demonstrates reasonable technical understanding of decision packages. The explanation may lack some clarity, depth and/or application to the scenario	**3 - 5**
	Level 3	Demonstrates a good technical understanding of decision packages. The explanation is mostly clear, comprehensive and applied to the scenario	**6 - 7**

Task (c) Explain how we could change the way that we manage our inventory and payables to reduce the risk of a cash deficit occurring, including an explanation of the potential implications resulting from these changes.			
Trait			
Working capital management	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains how to improve cash flow by managing inventory and/or payables in a general sense. The explanation lacks clarity, depth and application to the scenario. The potential implications are unlikely to be considered.	**1 – 3**
	Level 2	Explains how to improve cash flow by managing inventory and payables, with an attempt at applying this to the scenario. The explanation may lack some clarity or depth. The potential implications may not be considered.	**4 - 6**
	Level 3	Explains how to improve cash flow by managing inventory and payables, with a good attempt at applying this to the scenario. The explanation is mostly clear and comprehensive. The potential implications are considered.	**7 - 9**

Operational Level Case Study November 2021–February 2022

Marking Guidance

Variant 6

About this marking scheme

This marking scheme has been prepared for the CIMA 2019 professional qualification Operational Case Study [November 2021 – February 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, markers are subject to extensive training and standardisation activities and ongoing monitoring to ensure that judgements are being made correctly and consistently.

Care must be taken not to make too many assumptions about future marking schemes based on this document. While the guiding principles remain constant, details may change depending on the content of a particular case study examination form.

General marking guidance

- Marking schemes should be applied positively, with candidates rewarded for what they have demonstrated and not penalised for omissions.
- All marks on the scheme are designed to be awarded and full marks should be awarded when all level descriptor criteria are met.

- The marking scheme and indicative answers are provided as a guide to markers. They are not intended to be exhaustive and other valid approaches must be rewarded. Equally, students do not have to make all of the points mentioned in the indicative answers to receive the highest level of the marking scheme.
- An answer which does not address the requirements of the task must be awarded no marks. Markers should mark according to the marking scheme and not their perception of where the passing standard may lie.
  Where markers are in doubt as to the application of the marking scheme to a particular candidate script, they must contact their lead marker.

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

- For each trait in the marking scheme, read each level descriptor and select one, using a best-fit approach.
- The response does not need to meet all of the criteria of the level descriptor – it should be placed at the level when it meets more of the criteria of this level than the criteria of the other levels.
- If the work fits more than one level, judge which one provides the best match.
- If the work is on the borderline between two levels, then it should be placed either at the top of the lower band or the bottom of the higher band, depending on where it fits best.

3. Select a mark within the level

- Once you have selected the level, you will need to choose the mark to apply.
- A small range of marks may be given at each level. You will need to use your professional judgement to decide which mark to allocate.
- If the answer is of high quality and convincingly meets the requirements of the level, then you should award the highest mark available. If not, then you should award a lower mark within the range available, making a judgement on the overall quality of the answer in relation to the level descriptor.

Summary of the core activities tested within each sub-task

Sub-task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	**B**	Prepare budget information and assess its use for planning and control purposes	**40%**
(b)	**B**	Prepare budget information and assess its use for planning and control purposes	**16%**
(c)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principles	**44%**
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	**24%**
(c)	**E**	Prepare information to support short-term decision-making	**24%**
Section 3			
(a)	**B**	Prepare budget information and assess its use for planning and control purposes	**44%**
(b)	**E**	Prepare information to support short-term decision-making	**28%**
(c)	**D**	Apply relevant financial reporting standards and corporate governance, ethical and tax principle	**28%**
Section 4			
(a)	**C**	Analyse performance using financial and non-financial information	**40%**
(b)	**C**	Analyse performance using financial and non-financial information	**32%**
(c)	**F**	Prepare information to manage working capital	**28%**

SECTION 1			
Task (a) **Explain** what the three trend lines and seasonal variation information shown in Chart 1 and Table 1 indicate about historic sales of smart running shoes in Europe and how this information could be used to determine a forecast of sales volumes for our new range for the first 2 quarters of 2022.			
Trait			
Chart 1 & Table 1	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates understanding of what the trend and/or seasonal variation information indicates but with little or limited reference to Chart 1 and Table 1. Explanation lacks clarity.	**1**
	Level 2	Demonstrates understanding of what the trend and seasonal variation information indicate with some reference to Chart 1 and Table 1. Explanation lacks some clarity.	**2 - 3**
	Level 3	Demonstrates understanding of what the trend and seasonal variation information indicate with good reference to Chart 1 and Table 1. Explanation is mostly clear.	**4**
How to forecast	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some general understanding of how to determine a sales forecast from time series information. The explanation lacks clarity and lacks reference to the scenario.	**1 – 2**
	Level 2	Demonstrates some understanding of how to determine the sales forecast requested based on the information given. The explanation may lack some clarity and/or accuracy.	**3 – 4**
	Level 3	Demonstrates a good understanding of how to determine the sales forecast requested based on the information given. The explanation is mostly clear and accurate.	**5 - 6**

Task (b) Explain two factors that will limit the accuracy of this forecast.			
Trait			
Limit accuracy	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains at least one factor that will limit the accuracy of the forecast. The explanation may lack clarity and/or application to the scenario.	**1**
	Level 2	Explains at least one factor that will limit the accuracy of the forecast. The explanation may lack some clarity and/or application to the scenario.	**2 – 3**
	Level 3	Explains two factors that will limit the accuracy of the forecast. The explanation is clear and applied to the scenario.	**4**

Task (c) Explain the two ways in which the laptop lease could be reflected in our financial statements for the year ending 30 June 2022.			
Low Value	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates recognition that laptops are potentially low value items but gives little if any justification for this. The explanation of the accounting treatment lacks clarity and accuracy.	**1 - 2**
	Level 2	Demonstrates recognition that laptops are potentially low value items and does attempt to justify this. The explanation of the accounting treatment may lack some clarity and accuracy.	**3 – 4**
	Level 3	Demonstrates recognition that laptops are potentially low value items and makes a reasonable attempt to justify this. The explanation of the accounting treatment is mostly clear and accurate.	**5**
Other treatment	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of the usual accounting treatment for leases. The explanation has omissions and lacks clarity, accuracy and/or application to the data in the scenario.	**1 – 2**
	Level 2	Demonstrates reasonable understanding of the usual accounting treatment for leases. The explanation will reference the scenario but may have some omissions or there may be some lack of clarity or accuracy.	**3 – 4**
	Level 3	Demonstrates a good understanding of the usual accounting treatment for leases. The explanation references the scenario, is clear and accurate for the most part and contains no major omissions.	**5 - 6**

SECTION 2			
Task (a) **Explain** how the cost structure and timing of costs incurred providing an app compare to those for manufacturing the shoes. Please also explain the potential issues with determining a cost per unit of the app.			
Trait			
Comparison	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of how the cost structure and timing of costs compare between the digital and the physical products. The explanation lacks clarity and application to the scenario.	**1 – 2**
	Level 2	Demonstrates reasonable understanding of how the cost structure and timing of costs compare between the digital and the physical products. The explanation may lack some clarity and/or application to the scenario.	**3 – 5**
	Level 3	Demonstrates a good understanding of how the cost structure and timing of costs compare between the digital and the physical products. The explanation is mostly clear and applied to the scenario.	**6 – 7**
Issues	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains at least one potential issue with determining a cost per unit of the app. The explanation lacks clarity and application to the scenario.	**1 – 2**
	Level 2	Explains at least two potential issues with determining a cost per unit of the app. The explanation may lack some clarity and/or application to the scenario.	**3 – 4**
	Level 3	Explains at least three potential issues with determining a cost per unit of the app. The explanation is mostly clear and applied to the scenario.	**5 - 6**

Task (b) Explain what Chart 1 shows us about each supplier's price structure and based on the expected value of purchase volumes from Table 1, which supplier we should choose.			
Trait			
Chart 1 and Decision	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates understanding of some aspects of the suppliers pricing structures. The explanation lacks clarity and depth and is unlikely to identify the correct decision based on the expected value of purchase volumes.	**1 – 2**
	Level 2	Demonstrates understanding of many aspects of the suppliers pricing structures. The explanation may lack some clarity and/or depth. The identification of the correct decision may not be given.	**3 – 4**
	Level 3	Demonstrates understanding of all aspects of the suppliers pricing structures. The explanation is mostly clear, and the decision given is correct based on the expected value of purchase volumes.	**5 – 6**
Task (c) Explain the limitations of basing this decision on the expected value of purchase volumes.			
Trait			
Limitations	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains at least one sensible limitation of basing this decision on the expected value of purchase volumes. The explanation may lack clarity and application to the scenario.	**1 – 2**
	Level 2	Explains at least two sensible limitations of basing this decision on the expected value of purchase volumes. The explanation may lack some clarity and/or application to the scenario.	**3 – 4**
	Level 3	Explains at least three sensible limitations of basing this decision on the expected value of purchase volumes. The explanation is mostly clear and applied to the scenario.	**5 – 6**

SECTION 3			
Task (a) Explain the impacts of the changes to selling price on budgeted revenues, contributions and profit for CushySmart and the factors we should consider before either of the changes are implemented.			
Trait			
Impacts	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of the impact of the price reductions on budgeted revenues, contributions and profits. The explanation lacks clarity and reference to the data in the scenario.	**1 – 2**
	Level 2	Demonstrates reasonable understanding of the impact of the price reductions on budgeted revenues, contributions and profits. The explanation lacks a little clarity but there is a reference to the data in the scenario.	**3 – 4**
	Level 3	Demonstrates good understanding of the impact of the price reductions on budgeted revenues, contributions and profits. The explanation is clear and references the data in the scenario.	**5**
Other factors	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains at least one relevant factor to be considered. The explanation lacks clarity and/or application to the scenario.	**1 – 2**
	Level 2	Explains at least two relevant factors to be considered. The explanation may lack clarity and/or application to the scenario.	**3 – 4**
	Level 3	Explains at least three relevant factors to be considered. The explanation is mostly clear and applied to the scenario.	**5 - 6**

Task (b) Explain how the information shown in Table 2 would be used to decide on which of the outsole models we should buy-in and which we should make in-house.			
Trait			
	Level	**Descriptor**	**Marks**
Make or buy		No rewardable material	**0**
	Level 1	Demonstrates understanding that need to consider the relevant costs of each option, but an explanation of this in the context of a make or buy decision lacks technical accuracy. The explanation lacks clarity and lacks application to the scenario.	**1 – 2**
	Level 2	Demonstrates understanding of that need to consider the relevant costs of each option and attempts to explain this in the context of a make or buy decision. The explanation may lack some technical accuracy, clarity and/or application to the scenario.	**3 - 5**
	Level 3	Demonstrates understanding of that need to consider the relevant costs of each option and makes a good attempt to explain this in the context of a make or buy decision. The explanation is mostly technically accurate, clear and applied to the scenario.	**6 - 7**

Task (c) Explain the impact that the items of expenditure shown in Table 3 will have on our financial statements for the year ending 30 June 2022.			
Trait			
IAS 16	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates understanding of some of the rules in IAS 16 with respect to recognition and initial measurement of PPE. The explanation is likely to lack clarity and application to the scenario. The impact on the financial statements for the year ending 30 June 2022 may not be considered or may be inaccurate.	**1 – 2**
	Level 2	Demonstrates understanding of many of the rules in IAS 16 with respect to recognition and initial measurement of PPE. The explanation may lack some clarity and/or application to the scenario. The impact on the financial statements for the year ending 30 June 2022 is probably considered, although this may be inaccurate or limited.	**3 – 5**
	Level 3	Demonstrates understanding of most of the rules in IAS 16 with respect to recognition and initial measurement of PPE. The explanation is mostly clear and applied to the scenario. The impact on the financial statements for the year ending 30 June 2022 is accurately considered.	**6 – 7**

SECTION 4			
Task (a) Explain what the sales price, sales mix contribution and sales quantity contribution variances measure and what the variances shown in Table 1 indicate about the online sales performance of our running shoe ranges for the period April to June 2022.			
Trait			
What the variances measure	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Explains what one of the variances measures in a general sense.	**1**
	Level 2	Explains what two of the variances measure in a general sense.	**2**
	Level 3	Explains what all three of the variances measure in a general sense.	**3**
What the variances indicate	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Provides some explanation of what the variances indicate about online sales of the running shoe ranges. The explanation lacks accuracy, clarity and reference to the information given in the scenario.	**1 – 2**
	Level 2	Provides a reasonable explanation of what the variances indicate about online sales of the running shoe ranges. The explanation may lack some accuracy, clarity and/or reference to the information given in the scenario.	**3 – 5**
	Level 3	Provides a good explanation of what the variances indicate about online sales of the running shoe ranges. The explanation is mostly accurate and clear with good reference to the information given in the scenario.	**6 - 7**

Task (b) Explain what the KPIs shown in Table 2 indicate about our online sales for the period April to June 2022			
Trait			
KPIs	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates some understanding of what the KPIs indicate about the performance of the website and online sales distribution team. The explanation lacks clarity and depth. It also lacks any interconnection between the measures given and makes little reference to the scenario.	**1 – 3**
	Level 2	Demonstrates reasonable understanding of what the KPIs indicate about the performance of the website and online sales distribution team. The explanation may lack some clarity and/or depth. It may also lack some inter-connection between the measures given and/or reference to the scenario.	**4 – 6**
	Level 3	Demonstrates a good understanding of what the KPIs indicate about the performance of the website and online sales distribution team. The explanation is mostly clear and comprehensive. It includes inter-connection between the measures given and reference to the scenario.	**7 - 8**

Task (c) Explain the factors to be considered when setting credit limits for the two specialist sports retailers, using the information in Table 3.			
Trait			
Credit limits	**Level**	**Descriptor**	**Marks**
		No rewardable material	**0**
	Level 1	Demonstrates understanding of credit limits but fails to use the information in the scenario to explain the factors to consider. The explanation lacks clarity and is generic rather than applied.	**1 – 2**
	Level 2	Demonstrates understanding of credit limits and does attempt to use the information in the scenario to explain the factors to consider. The explanation may lack some clarity.	**3 – 5**
	Level 3	Demonstrates understanding of credit limits and makes a good attempt to use the information in the scenario to explain the factors to consider. The explanation is mostly clear.	**6 - 7**

Operational level case study – Examiner's report

November 2021 – February 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 November 2021 and February 2022 were based on TreadCushy, a company that designs, manufactures and sells a range of athletic shoes made using natural and recycled materials. The company is based in Keyland, a country located in mainland Europe. During the year to 30 June 2021, the company's revenue was K$68 million, profit, after tax was K$6 million and more than 700,000 pairs of athletic shoes, were sold across 10 different European countries. All sales are direct to customers, and approximately 75% of sales are made through the company website and 25% in the company's own retail stores.

Six variants were written based on TreadCushy. The focus of each variant was as follows:

- Variant 1: launch of a new range of athletic shoes made from recycled materials.
- Variant 2: launch of a clothing range and fitness class app.
- Variant 3: expansion of the Production Facility resulting from increased demand for TreadCushy products.
- Variant 4: upgrade of retail stores and introduction of gait analysis in stores.
- Variant 5: expansion of the Production Facility and opening new sales channels in Asia.
- Variant 6: launch of a new range of smart running shoes.

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 which split the total mark available into three levels: level 1, level 2 and level 3. It was also possible to achieve a score of zero for a trait if there was no rewardable material.

To achieve a level 3 for most traits, it was expected that a candidate would demonstrate good technical understanding of the topic being tested, through clear and comprehensive explanation, and apply this technical understanding to the TreadCushy business and the particular scenario within the task.

If a candidate scored at a level 1 on a trait, it is likely that they did some or all of the following:

- Demonstrated some technical understanding, but with gaps in knowledge.
- Identified issues and points rather than explained them.
- Explained issues too briefly or with a lack of clarity.
- Failed to relate their answer to the task scenario and the specifics of TreadCushy.

It must be stressed that demonstrating good technical understanding alone is not enough to pass. Candidates need to demonstrate technical understanding within the context of the scenario and apply to the issue being addressed. Information given to candidates as part of the task is supplied for a reason and should be, as far as possible, incorporated into answers, along with relevant information from the pre-seen material. Application to the scenario is key to achieving high level 2 and level 3 scores. When knowledge gaps exist, application is almost not possible; therefore, candidates must ensure that their knowledge base is complete.

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 not as varied as previous sessions, with a significant majority of candidates being in the mid-range of the marks given. There were fewer poor scripts, which is encouraging and perhaps demonstrates that most candidates were reasonably well prepared for this session. There were some excellent high scoring answers across all variants where candidates were able to demonstrate their technical understanding of topic areas, utilising information given in the pre-seen and the unseen materials to apply this understanding within the context of the business and the situation presented. These candidates gave well-structured and well-presented answers which were clear and comprehensive. 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/or 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, time series and its limitations (other than using time series information to create a forecast), other factors in decision making, direct labour variances, sales price variances, digital costing systems, review of working capital ratios and general working capital management. In a number of topic areas, however, candidates lacked both technical knowledge and application.

These included activity-based costing, activity-based budgeting, zero-based budgeting, direct and indirect costs in the context of digital cost objects, what-if and sensitivity analysis, sales and mix variances.

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 IFRS 16. Remember, an explanation requires more than a short sentence on a point or simple identification of a rule in a financial reporting standard. Application to the specifics of the scenario and the situation at hand is also lacking at times. There was also some evidence of candidates not answering all parts of a sub-task.

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 appeared to be A (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 what each of the variances shown in Table 1 meant and possible reasons for their occurrence based on the information given by Terry Amos, Head of Production, and a KPI dashboard shown in Table 2. This tested core activity C. This was reasonably well answered by most candidates who were able to explain the meaning of most of the variances and gave sensible reasons for these variances based on the information provided by Terry Amos. Very few candidates used the information in the KPI dashboard to support their explanation of the reasons for the variances, which was disappointing given the explicitness of the task. This limited the mark to a high level 2 in many cases. Some candidates did confuse variable overhead variances with fixed overhead variances and demonstrated a lack of understanding that the variable overhead variances were based on actual production levels rather than budgeted production levels.

The second sub-task asked for an explanation of the benefits to the managers in the Weaving Department of using a real-time KPI dashboard, such as that shown in Table 2. This tested core activity C. This was reasonably well answered by many candidates who were able to give sensible benefits such as visualisation of the data and the fact that the information was real-time. Some candidates used the scenario to illustrate these benefits and as a result, scored at level 3. Candidates that gave generic benefits tended to score at a low level 2.

Task 2

The first sub-task asked for an explanation of what Graph 1 showed and how to use the data in the graph to determine a forecast of quarterly sales volumes for the new Cushy-R range, using a four-point moving average approach to determine a trend line. This tested core activity B. Most candidates were able to identify that the graph showed an upward trend over the period and that there were clear seasonal variations. For a level 3 score, it was expected that candidates would go further than this and give some insight into why this may be the case, and some candidates did do this. The element of this sub-task about determining the forecast was less well answered. Many candidates could explain how a four-point moving average is calculated, which was relevant and scored marks, but then did not go on to explain how to determine the trend line and how to calculate the seasonal variations. Very few candidates actually commented on using the trend line and the seasonal variations to determine the forecast. Therefore, scores for this element of the sub-task were typically at low level 2.

The second sub-task asked for an explanation of how the expenditure associated with new weaving machinery would be initially recorded in our financial statements. It also asked for an explanation of how the weaving machinery asset would be depreciated in the financial statements for the year ended 30 June 2022. This tested core activity D. For the first part of this sub-task, most candidates

identified that all of the costs should be capitalised, but many failed to explain why this was the case and therefore limited their score to a mid-level 2 at best. Candidates are reminded that simply stating that costs would be capitalised is not explained. In terms of the part of the sub-task about depreciation, most candidates demonstrated an understanding of depreciation in a general sense and that the depreciation charge would need to be pro-rated in the first year. Only a few candidates explained that the asset would need to be split into parts and depreciated over different useful lives.

The third sub-task asked for an explanation of how the existing machinery that was to be sold would be treated in the financial statements for the year ended 30 June 2022. This tested core activity D. Most candidates were able to identify the IFRS 5 criteria regarding when to reclassify the asset as held for sale, and many made a good attempt at applying these criteria to the specifics of the scenario to justify why this asset would be reclassified as held for sale. Some candidates missed the point that the asset would not be held for sale until 30 April when it would have been dismantled and at that point available for immediate sale in its present condition. Most candidates identified that the asset held for sale would be shown within current assets and that depreciation would cease. However, fewer candidates accurately explained the valuation of the asset.

Task 3

The first sub-task asked for an explanation of the maximax, maximin and minimax regret decision criteria and how each of these could be applied to the information in Table 1 and Table 2 to decide which supplier to choose. It also asked for a statement of which supplier would be chosen for each criterion. This tested core activity E. Most candidates were able to explain each of the criterion, although it is disappointing how many candidates still refer to risk and risk attitudes in this context when these criteria apply only where there is uncertainty. Identification of the correct suppliers for each criterion was less well answered. Many candidates failed to recognise that this was a cost situation.

The second sub-task asked for an explanation of how we would use probability information to make the decision about the supplier of sewing machines, assuming a risk neutral approach to decision making. It also asked for an explanation, with reference to the information in Table 1, of how we would determine the values to use when deciding whether it was worth paying the additional fee to MRT Consultancy for the accurate prediction of demand. This tested core activity E. Most candidates demonstrated an understanding that a risk-neutral approach would be based on expected values and demonstrated an understanding of expected value. Most candidates also demonstrated an understanding that this was a perfect information situation. However, very few candidates went beyond this to either explain the expected value in the context of the scenario or to explain how to determine the values to use to decide whether it was worthwhile to buy the perfect information. As a result, many scores were limited to a mid-level 2.

The third sub-task asked for an explanation of ReYarnage's working capital position based on the information in Table 3. This tested core activity F. Most candidates recognised that the supplier was struggling for cash due to high inventory and poor receivables management, which meant that it potentially had problems with being able to pay its own suppliers on time. However, few candidates

took it a step further to explain how this might impact TreadCushy. For example, high inventory levels might indicate a better ability to meet TreadCushy demand; receivables over the 30-day credit terms might give TreadCushy longer to pay; and payables over the 30-day credit terms could lead to ReYarnage being put on stop, meaning that TreadCushy would not receive any goods. Many candidates though did recognise that the company was probably overtrading with high growth/low cash combined with it being a new business. However, only a few candidates further explained that the latest year showed an improvement given the replacement of short-term finance with long-term finance.

Task 4

The first sub-task asked for an explanation of how the information in Table 1 and Table 2 supported the use of activity-based costing (ABC) instead of the current costing system. It also asked for suggestion of how production runs should be scheduled in the Weaving Department and an explanation of the benefits with potential issues to consider if the suggestion was implemented. This tested core activity A. This was not well answered. Most candidates demonstrated a general understanding of ABC, but very few actually addressed the task which was to explain how the information given supported the use of ABC. Candidates were expected to recognise that, on the basis of machine hours, each fabric type would consume the same amount of overhead, but that this could not be the case as the processes used for the production of the fabrics may differ with regard to spindle changes and inspection. Very few candidates suggested how production runs could be scheduled: indeed, many candidates ignored this altogether.

The second sub-task asked for suggestion, with supporting justification, of appropriate cost drivers for each of the two cost pools identified in Table 2. This tested core activity A. This was reasonably well answered with many candidates achieving a high level 2 score or level 3 score.

The third sub-task asked for explanation of the sensitivity information shown in Table 4 and why the level of sensitivity differed depending on the budget variable. It also asked for explanation of the benefits and limitations of this analysis. This tested core activity B. This was the worst answered sub-task for many candidates who demonstrated a lack of understanding of sensitivity analysis. A common error was to explain that a 5.5% sensitivity for selling price meant that profit would change by 5.5% if there was a change in selling price. This then led to candidates determining that selling price was the least sensitive variable and marketing costs was the most sensitive when the opposite is correct. Most candidates did achieve a level 1 score for benefits and limitations by making some very generic comments. Very few candidates demonstrated technical understanding in this sub-task which is disappointing.

Variant 2 Comments on performance

Task 1

The first sub-task asked for an explanation of how a decision about which promotional campaign to choose would be made using a risk neutral, risk seeking and risk-averse approach, stating the choice made under each approach. This tested core activity E. This style of question has been asked many times, and candidates still have trouble distinguishing between risk and uncertainty. While many were able to identify and justify the correct campaign, a considerable number of candidates referred to maximin in relation to a risk-averse approach, which is an approach relevant with uncertainty.

The second sub-task asked for an explanation, based on the information in Table 1, 2 and 3, of how the risk attitude of the SMT would impact on its willingness to pay for perfect information. This tested core activity E. This was not well answered. Most candidates were able to demonstrate that they understand what perfect information was, although this was often not well articulated. Many candidates did not refer to whether their choice of campaign would differ with perfect information and therefore did not use the information provided. Candidates did score at level 1 for recognising how risk attitude may impact willingness to pay for the information in a more generic way.

The third sub-task asked for an explanation of how to determine the cost of providing a 1-month subscription to the CushyFit app and the difficulties associated with doing this. This tested core activity A. This was reasonably well answered, and there was a considerable improvement in the quality of answers compared to similar questions from past sessions. Most candidates were able to pick out the obvious direct costs of the app. Candidates were also able to explain that total costs would be divided by the number of lifetime subscriptions. However, weaker candidates did not go much further than this in explaining how to determine the cost per subscription. Some candidates repeated from the question the costs to include as little more than a list, which scored poorly. Answers that gave only generic descriptions of the nature of digital products versus traditional products did not score well. Good answers demonstrated an understanding of the treatment of indirect and direct costs, gave clear and comprehensive explanations of how to treat the types of cost mentioned in the scenario and how to determine a cost per monthly subscription. Most candidates were able to identify the difficulties of determining the cost per subscription. Good answers clearly applied the difficulty to the scenario, and explanations were clear and comprehensive.

Task 2

The first sub-task asked for explanation of a multi-product profit-volume chart and what it indicated about a new clothing range. Candidates were also asked for an explanation of three factors that should be considered when interpreting the chart. This tested core activity E. Many candidates scored well for the first part of this, as they were able to identify and explain the key features of the chart such as the two lines, the fixed costs, the two breakeven points and margins of safety. Weaker answers did identify many of the features but did not explain them well. It is important to remember that candidates are asked to explain to the SMT and as such terms such as 'breakeven point' require a brief explanation. Most candidates were able to identify some factors to be considered and explained these with good application to the scenario. This demonstrated a good understanding of the assumptions used to create the chart and how they may not be reflective of the scenario in relation to the new clothing range.

The second sub-task asked for explanation of the implications to the business of allowing credit to retailers. This tested core activity F. To score at level 3, candidates were expected to give a range of points that were applied to the scenario, such as the impact that selling to different types and sizes of retailers may have on the business. Many candidates scored well here and were able to explain the impact on working capital and cash as well as the need to establish and run a new credit control function with the risk of irrecoverable debts and need for credit monitoring. There was also evidence of engagement with the pre-seen materials as many candidates referred to the ability of the business to absorb this increase into the working capital cycle by reference to the financial statements. Fewer candidates distinguished between large and small retailers.

The third sub-task asked for explanation of the suitability of offering a prompt payment discount to the retailers. This tested core activity F. Most candidates were able to demonstrate that they understood the concept of a prompt payment discount (although some candidates were confused with bulk purchase discounts). However, not all candidates addressed the suitability, which limited them to a level 1 score. Marks were awarded for referring to the costs and benefits and how they should be assessed to determine whether this would be worthwhile for the business.

Task 3

The first sub-task asked for explanation of how an activity-based budgeting (ABB) approach would be applied to determine a budget for employee costs in the online sales packing hub of the Distribution Centre. This tested core activity B. Many candidates scored only at level 1 because of a lack of understanding about how ABB differs from ABC. Most candidates were able to discuss activities and cost drivers in a generic way, however, struggled when they tried to apply to the information they were given. There were two clear activities in the packing hub, and candidates were expected to identify suitable drivers and then show how they would be used to establish the budget. Even those candidates who were able to do this mostly stopped short of showing how the budget would be determined from an estimation of cost drivers. Many candidates spent time discussing allocation of overheads which is not relevant when determining an employee budget. Candidates are advised to refer to previous answers in this area.

The second sub-task asked for an explanation of the benefits and drawbacks of using ABB to determine the overall operating cost budget for the Distribution Centre. This tested core activity B. It generally followed that if candidates performed poorly in the previous sub-task, then their answer to this sub-task was also weak. Again, many answers focussed on benefits of ABC not ABB, for example, suggesting more accurate selling prices could be established. This was not relevant to setting cost budgets using ABB. Most candidates were able to score at level 1 in this task for generic points. A higher-level score required application to the distribution cost budget.

The third sub-task asked for explanation of how the initial and subsequent measurement of a lease liability and right-of-use asset in the financial statements for the year ending 30 June 2022 would differ between option 1 and option 2. This tested core activity D. Candidates either did well or very poorly depending on their preparation. The task was slightly different to previous versions of this type of question. There were two options to compare, and candidates, to score well, needed to show how they would be treated differently in relation to the liability and the asset. Candidates are reminded that they are asked to explain and not merely to state the treatment. Some answers presented a journal entry presentation of an answer which is not an explanation. Therefore, to score at level 3, candidates needed to be clear and comprehensive as well as technically correct.

Task 4

The first sub-task asked for explanation of what sales variances in Table 1 meant and reasons why they may have arisen. This tested core activity C. Most candidates could explain the meaning of the price variance and quantity variance and were able to explain the reasons well. The sales mix variance was calculated using the weighted average method, and it was clear many candidates did not understand this. However, those that did explained this well and were able to identify reasons for the variance.

The second sub-task asked for explanation of three Key Performance Indicators (KPIs) that could be included on a digital marketing dashboard, explaining how each would be calculate and why each would be appropriate. This tested core activity C. Candidates did not score well here for several reasons. Firstly, the KPI needed to measure what it has been tasked with measuring. In this case, there needed to be a clear link between the KPI and the digital marketing campaign. Some KPIs suggested were not indicative of success, and it was hard to see how the business would know from the KPI whether the campaign had been successful. Secondly, the justification was weak. Many candidates did not actually say why the KPI was appropriate and merely stated the KPI again. For example, stating a KPI as ‘Number of social media likes’ and justifying this as ‘this will show the number of times someone has liked a post’ is not adding anything to the explanation. To show why this is appropriate, the candidate needs to clearly say why this will show the success of the campaign (for example, this will show the reach of the campaign and whether potential customers are positively influenced sufficiently by a particular post to ‘like’ it on their social media. This is an indication that the post has been successful). Thirdly, the KPI was too vague. The KPI must be capable of measurement. Hence, in explaining the calculation it should become clear whether this is the case. If you cannot explain how to calculate the KPI then this is likely because it is not specific enough.

The third sub-task asked for an explanation of how to reflect the case settlement and the 560 items of inventory in the financial statements for the year ended 30 June 2022. This tested core activity D. The first of these concerned an adjusting event relating to a legal case. This was answered well by most candidates. The second was in relation to the valuation of inventory and again most candidates answered this well. Weaker answers tried to combine the two issues and became confused as a result.

Variant 3 Comments on performance

Task 1

The first sub-task asked for explanation of how the fixed production overhead expenditures, efficiency and capacity variances for the Cutting & Stitching Department in November would be calculated based on the information in Table 1 and whether they would be adverse and favourable. It also asked for an explanation of possible reasons for each variance. This tested core activity C. Many candidates were able to explain how to calculate the expenditure and efficiency variances with technical accuracy and reference to the information in the scenario. However, some candidates explained that the expenditure variance compared the actual spend with a flexed budget, and some thought that the cost of the three new direct labour employees were a cause of the expenditure variance, which was not correct. Most candidates demonstrated that they did not understand the capacity variance. A common error was to explain the variance as being due to the actual production of shoes being higher than budgeted, and for some reason, this was viewed as being an adverse variance by some candidates on this basis.

The second sub-task asked for an explanation of whether it was appropriate to hold the Cutting & Stitching Department Manager accountable for the fixed production overhead variances of their department in November. This tested core activity B. Most candidates demonstrated that they understood the basic principles of responsibility accounting, often discussing planning versus operational variances which was useful, but they often failed to go on and explain this in terms of the three production fixed overhead variances.

The third sub-task asked for an explanation of how a rolling budgets approach differed to how budgets were currently prepared. It also asked for explanation of the potential benefits and drawbacks of adopting a rolling budget approach for the sales and production budget. This tested core activity B. This was generally well answered by candidates, although some took the opportunity to explain incremental budgeting in too much depth, which wasn't required. Some candidates only provided generalised benefits and drawbacks rather than explaining these in the context of the sales and production budgets and therefore could only score at level 1.

Task 2

The first sub-task asked for explanation of why the calculation of profit was different using an absorption costing and a marginal costing approach, and why, using the gross profit calculations, the approaches can produce different gross profit figures. This tested core activity A. Most candidates could explain the basic differences between absorption costing and marginal costing in a general sense, but often did not make a reference to the gross profit calculations provided. Very few candidates explained under or over recovery of

overheads when using absorption costing as one of the differences. As a result of both of these factors, many candidates scored a lower level 2 score.

The second sub-task asked for an explanation of whether it would be beneficial to use marginal costing rather than absorption costing as the company's costing system. This tested core activity A. This was usually well answered, and most candidates were able to make a few relevant comments, although some candidate's scores were limited to lower level 2 due to them identifying points rather than explaining them.

The third sub-task asked for an explanation of whether each of the cost items identified in Table 2 were relevant or irrelevant to the decision of whether to accept the contract or not. This tested core activity E. Most candidates correctly explained the basic approach to take in deciding whether costs would be relevant or not but did not always fully explain their conclusion on each of the five cost elements. Some common areas of lack of clarity were in not explaining that the relevant costs for other raw materials would be the increased replacement cost, and that the cost of an extra production shift would be 150% of normal rates, with many answers just saying that the relevant cost would be the 50% premium.

The fourth sub-task asked for an explanation of two other factors to consider before deciding whether to accept the contract or not. This tested core activity E. Many candidates made the sensible point that this would be a good marketing opportunity for TreadCushy. However, many candidates also argued that TreadCushy should consider either KNSO's credit worthiness or reputation before accepting the contract. This failed to consider that KNSO was the national sports organisation for Keyland and that TreadCushy would certainly want to be involved in supplying them.

Task 3

The first sub-task asked for an explanation of two ways, either using the graph or otherwise, to determine which of Point 1 or Point 2 was the financial optimum. This tested core activity E. Many candidates failed to earn more than a mid-level 2 for this sub-task because of a failure to read the task carefully enough. There should have been two ways of explanation, but most candidates only used the graph. It wasn't clear from an inspection of the graph whether Point 1 or Point 2 would be best, yet many candidates jumped to the conclusion that Point 2 would be best without really justifying this in sufficient depth. Some candidates failed to explain how the iso-contribution line would be used.

The second sub-task asked for an explanation of the factors to be considered before proceeding with the production plan identified from the graph as being optimum. This tested core activity E. What was expected was an explanation of issues such as whether more resources could be bought in (including the consideration of shadow price), and whether the new model of shoe should take priority. Many candidates only discussed potential inaccuracies of the data in the graph.

The third sub-task asked for an explanation of the benefits of taking an aggressive approach to the management of inventory levels and whether adopting Just-In-Time purchasing and Just-In-Time production would be a suitable way to achieve this. This tested core activity F. Some candidates went off at a tangent and attempted to introduce the Economic Order Quantity model when discussing Just-In-Time (JIT), which wasn't relevant. However, most candidates were able to explain the benefits of having lower inventory levels. What was not well answered was whether TreadCushy should adopt JIT for purchasing and production. Some candidates took this as an opportunity to discuss the principles of JIT in general, while others only discussed some implications for purchasing for the company and not for production.

Task 4

The first sub-task asked for an explanation of how to value the inventory identified in Table 1 in the company's financial statements for the year ended 30 June 2022. This tested core activity D. Many candidates demonstrated good understanding of the rule in IAS 2 to value finished goods inventory at the lower of cost or net realisable value (NRV), and this was usually well applied to the scenario provided. However, some candidates made the mistake of increasing the NRV by the K$100 delivery cost that TreadCushy would need to incur to sell the yarn, rather than deducting this cost from the inventory value based on what it could be sold for. In contrast, the valuation of the work-in-progress was poorly attempted. Some candidates tried to use the lower of cost and NRV even though the partly completed shoes would have had no market value. Other candidates made a rather vague statement such as costs would be carried forward to the next period, and some just ignored this part of the sub-task.

The second sub-task asked for an explanation of how to account for the items of old equipment identified in Table 2 in the financial statements for the year ended 30 June 2022. This tested core activity D. Some candidates tried to explain how this should be dealt with using the same criteria as they used for inventory, which was not appropriate. However, many candidates made a good attempt at explaining how to account for the lifting equipment and recognised that the repair cost of K$5,000 would need to be expensed rather than capitalised, and that there would be a need to now depreciate the equipment over a 4-year period from 1 May 2022. The explanation of how to account for the old racking was less well done. Some candidates went off at a tangent and discussed the requirements for treating the new racking as a non-current asset, which was not required, while many other candidates' explanation was all about whether the old racking should be an asset held for sale rather than for potential future use.

The third sub-task asked for suggestions of three KPIs to include in the Raw Materials Warehouse dashboard with an explanation of how these would be calculated and why they would be appropriate. This tested core activity C. There were two kinds of answers. Some candidates earned very good marks by clearly explaining and justifying three relevant KPIs that could be used for assessing the Raw Materials Warehouse. Other candidates' answers lost marks by either suggesting KPIs that were not relevant or, having made a relevant suggestion, failing to explain how their proposed KPI would be calculated. Many KPIs suggested by candidates related to

either raw material wastage in the production department or related to the effectiveness of the purchasing function. This was careless reading of the exam sub-task that was specifically focussed on the Raw Materials Warehouse.

Variant 4 Comments on performance

Task 1

The first sub-task asked for an explanation of a profit-volume chart and how the upgrade, gait analysis and promotional campaign would potentially change it, including the impact on breakeven volume and margin of safety. This tested core activity E. Most candidates were able to identify the fixed costs, breakeven point and margin of safety, demonstrating good understanding of the profit-volume chart. However, a number of candidates failed to consider how the chart would be affected by either the upgrade, gait analysis or promotional campaign. For those candidates that did consider this, most were able to explain the impact on fixed costs and made sensible comments about the impact of this on breakeven and margin of safety. Some candidates also referred to the impact on total sales, however, only a few candidates commented on the impact on the weighted c/s ratio. However, there were some excellent level 3 answers where candidates produced detailed explanations of differing impacts depending on the relative size of the increase in sales volume compared with fixed costs.

The second sub-task asked for an explanation of how rolling budgets differ from how the company currently budgets and whether it would be beneficial for the business to use rolling budgets. This tested core activity B. Many candidates scored well for the first part of this sub-task because they were able to explain the main features of rolling budgets and articulated the difference between rolling budgets and incremental budgets well. In relation to the benefits of rolling budgets, candidates needed to not only identify generic benefits of the method, but to also apply these specifically to TreadCushy. In some cases, this was why candidates did not score at level 3 for this part, despite having listed and explained several benefits well.

The third sub-task asked for suggestions of three KPIs that could be used to monitor the performance of retail store employees. It also asked to explain how each KPI would be calculated and why it would be appropriate. This tested core activity C. Performance here was very varied as is quite often the case for tasks on KPIs. Candidates need to be specific in their suggestions of KPIs as a good KPI needs to be capable of being measured. Where candidates had not done this, marks were often limited to level 1 or low level 2 because candidates were unable to explain how it would be calculated and to justify its appropriateness. However, there were some good suggestions for monitoring employee performance, either individually or as a retail store.

Task 2

The first sub-task asked for an explanation, using the figures in Table 1, of whether choosing a promotional campaign based on expected value was the best approach. It also asked for explanation of which campaign would be chosen using a risk seeking and risk

averse approach to decision making. This tested core activity E. It was clear that candidates understood expected value and were very aware of the various limitations of using expected value in decision making. However, some candidates gave very generic answers and did not necessarily link weaknesses of expected value to the decision in the task, which limited their score. In identifying the risk seeking and risk-averse choices, some candidates are still confusing risk and uncertainty, although fewer than this has been the case in previous sessions. Some candidates incorrectly referred to maximin as opposed to the coefficient of variation to make this decision.

The second sub-task asked for an explanation of the difficulties that would be faced when trying to determine the direct and indirect costs of the retail services in our stores per pair of shoes sold. This tested core activity A. This was a challenging task for most candidates. There were many difficulties in establishing a cost per pair of shoes, and some of these were hinted at in the information given about the nature of the retail service. Many costs of the retail service could be classified as direct or indirect, and candidates therefore were expected to appreciate this and discuss the issues accordingly. Many students were able to identify costs as potentially direct or indirect. To score well though candidates needed to justify the treatment of each cost, thus demonstrating understanding of the nature of such costs and many candidates did not do this. There were a few very good level 3 answers where candidates explained the issues in attributing costs to individual pairs of shoes, explaining problems regarding gait analysis, fitting and the free socks for example. Unfortunately, many candidates did not go much further than to repeat the information they had been given, which could only be awarded a level 1 score.

Task 3

The first sub-task asked for an explanation of what the variances shown in Table 1 and Table 2 indicated about the sales performance of Store 1 and Store 8 in February, giving possible reasons why the variances had occurred. It also asked for any possible impact that the recent changes may have had. This tested core activity C. Most candidates did reasonably well here. When explaining the variances, candidates were expected to demonstrate understanding of what the variances meant as well as then explain the reasons based on the information given. Many candidates explained how to calculate the variance as opposed to explaining its meaning, which was not necessary. It was surprising to see how many candidates stated that the sales price variance was adverse without stating this meant that we sold shoes for lower than the standard selling price. It is not enough just to state it is adverse or favourable, candidates need to show they understand the meaning of the adverse or favourable variance. For the mix variance, many candidates stated which shoes were adverse or favourable individually, stating the store had sold more or less of that shoe type. However, it was unclear from some answers whether they understood the overall impact of the variance on profit. Candidates did well in explaining and interpreting the sales quantity variance. Few candidates went on to consider the overall impact of the variances in each store. However, some good answers did make comparisons between the stores, for example commenting on the location of each.

The second sub-task asked for explanation of how the different items of expenditure in Table 3 would affect the financial statements for the year ended 30 June 2022. This tested core activity D. Again, many candidates did well here, achieving high level 2 or level 3 scores. Those candidates that didn't score so well, either failed to justify, in relation to IAS 16, why an item of expenditure was either capitalised or written off to profit or loss and / or failed to consider depreciation.

Task 4

The first sub-task asked for an explanation of how using digital technologies, such as those mentioned (Big Data, the cloud, machine learning and dashboards) in the preparation and use of sales budget, could enhance planning, control, co-ordination and communication within the business. This tested core activity B. Many candidates found this challenging. Many candidates scored at level 1 because their answers were either not specific to budgeting or to the digital technologies given or indeed both. Many candidates also failed to link their answers to sales budgets. Most candidates were able to provide some general benefits, particularly associated with big data and dashboards but fewer went beyond this to comment on the other types of technology. Some candidates misunderstood the meaning of machine learning.

The second sub-task asked for an explanation of whether Store 6 would be classified as a non-current asset held for sale on 30 June 2022. It also asked for an explanation of how its carrying amount on 30 June 2022 would be determined. This tested core activity D. The first part of this sub-task was well done. Many candidates listed the full criteria related to IFRS 5 and explained why the asset did not meet the criteria to be classified as an asset held for sale. The reason for non-classification only related to one criterion, and most candidates spotted this and explained this well. However few candidates went further to then explain the potential impairment and its treatment in the financial statements. Those that did so, scored well. Some candidates, having said that the store would not be classified as an asset held for sale, went on to explain how it would be treated, assuming it was. This was somewhat puzzling.

The third sub-task asked for an explanation of the suitability, based on their relative risk, liquidity and yield, of two types of short-term investment (money market deposit (MMD) and certificate of deposit (CD)). This tested core activity F. Most candidates did not do well here. Many did not demonstrate that they knew the main features of these two types of investment. Some candidates were able to comment in a general way on risk and yield. However, answers often confused the relative liquidity of MMDs and CDs. There were few answers that really justified, for example, why risk or yield was low. Generally, answers lacked depth and specific reference to the two types of investment.

Variant 5 Comments on performance

Task 1

The first sub-task asked for an explanation of what each of the variances in Table 1 meant and possible reasons for their occurrence with reference to the information in Table 2. This tested core activity C. Most candidates did well here and were able to score at mid-level 2 and above. Candidates are clearly comfortable with labour variances, and most were able to explain what the variances meant and to give sensible reasons based on the scenario. As was the case in the variance task in Variant 4, some candidates lost marks because they failed to explain the meaning of the variances adequately and explicitly, despite giving sensible reasons which demonstrated that they did understand the variances.

The second sub-task asked for an explanation of how a responsibility accounting system could be implemented in the Production Facility, illustrating the explanation with reference to the information shown in Tables 1 and 2. This tested core activity B. This was not well answered. Some candidates explained at length bottom-up, as opposed to top-down, budgeting, which was not what the task required. Many candidates though did identify the issue of controllability, but very few candidates explained accountability in terms of operational and planning variances, and even fewer candidates used the direct labour variances given to them when preparing their answers, even though the latter was an explicit part of the task.

The third sub-task asked for explanation of two potential benefits and two potential drawbacks of allowing production managers to be involved in setting their own standards and budgets. This tested core activity B. Most candidates were able to provide two benefits and two drawbacks, but very few linked their explanations to the context of TreadCushy. Whilst candidates' suggestions were usually correct, they could often be applied to any case study scenario, and, as a result, marks were often limited to a were often limited to a level 2 here.

Task 2

The first sub-task asked for an explanation of the impact of the expenditure on the new moulding machine on the reported profit and tax payable for the year ending 30 June 2022. This tested core activity D. Most candidates made a good attempt at the first part of this and recognised that the installation cost could be capitalised but that the training costs had to be expensed. However, these correct statements often needed more explanation or justification. Some candidates also forgot to pro-rata the depreciation charge in the first year to 7 months only. The impact on the tax payable in the year was however less well explained. Whilst most candidates recognised that the expenditure would reduce the tax payable in the year, some candidates wrongly assumed that there would be a 100%

allowance in the first year of purchase and argued the whole of the K$155,000 could be used to reduce the accounting profit after adding back the depreciation for the year. Also, not many candidates explained that a full-year's tax depreciation allowance in 2022 could be claimed compared with only 7 months accounting depreciation and the impact that this would have on tax payable. Some candidates clearly did not have the knowledge to answer this part of the sub-task and ignored it altogether.

The second sub-task asked for an explanation of how the expenditure incurred on the lasting line would affect the financial statements for the year ended 30 June 2022. This tested core activity D. Most candidates failed to explain this issue in sufficient depth. While most candidates recognised that this expenditure could be capitalised, more explanation was needed as to why this was the case. Some common errors were failing to only take 8 months depreciation in the year to 30 June 2022 and failing to explain the impact on both profit or loss and property, plant and equipment.

The third sub-task asked for an explanation of how to use the linear programming graph to determine the production plan for Hill and Flat running shoes for the 2-week period that would optimise contribution. It also asked for a statement of what that optimal production plan was. This tested core activity E. Given how often this style of task has been asked before, it was disappointing how poorly this was answered by many candidates who gave a vague explanation of the feasible region and did not explain how the iso-contribution line would be used to determine the production plan. Some candidates failed to state what the optimum production plan was, despite the latter being part of the task.

The fourth sub-task asked for an explanation of how to determine whether it would be worthwhile buying additional natural rubber from the alternative supplier and how the graph could be used to determine the maximum quantity of what should be ordered. This tested core activity E. This was not well answered. Most candidates made reference to shadow pricing, but their explanations were not always clear. Also, most candidates could not explain how the linear programming graph could be used to determine the maximum quantity to order, often making some reference to the use of simultaneous equations.

Task 3

The first sub-task asked for an explanation of how a digital costing system would change the way that information was gathered to cost shoes. It also asked for explanation of the benefits of using such a system for the business. This tested core activity A. Although this sub-task was reasonably well attempted by many candidates, marks were lost by not explaining in sufficient depth how a digital costing system would change the way that information would be obtained. Some candidates only discussed external issues, for example, linking in with suppliers or monitoring competitors' prices. Some candidates only discussed internal issues, for example, linking into factory operations. In contrast, most candidates could explain some potential benefits of using a digital costing system, but many only made rather generic points, for example, that it may help with pricing decisions, or in finding other suppliers, or information would be

more up-to-date. For the explanation of the benefits, there often needed to be more focus on TreadCushy's business operations and to link in with production variances and responsibility accounting.

The second sub-task asked for an explanation of the decision tree and how it should be used to make a decision on the arrangements for the BJ Footwear contract. This tested core activity E. While most candidates made an attempt at explaining the different branches of the decision tree, these were often just very descriptive answers of the data provided with very little commentary added. Candidates often failed to explain that the decision tree assumed a risk-neutral approach to decision making, and sometimes did not explain in sufficient depth how the tree could be used to make the decision.

The third sub-task asked for an explanation of how having a risk seeking or risk-averse attitude would change how the decision was approached. It also asked for a statement of what the decision would be for each of these attitudes. This tested core activity E. Many candidates assumed this was asking about maximax and maximin approaches to decision making, which are appropriate in situations of uncertainty, but not suitable when talking about risk attitudes. Most candidates however did make the right decision on a risk seeking approach, that is electing to allow return of unsold inventory and to advertise. However, maximin was the wrong approach to this scenario for a risk-averse attitude. The lowest risk option for TreadCushy was not to allow return of inventory and not to advertise.

Task 4

The first sub-task asked for an explanation of three KPIs that could be used to monitor the performance of the new IT Support Services Department, with an explanation of how these would be calculated and why they would be appropriate. This tested core activity C. Many candidates made a good attempt at suggesting KPIs that would be useful for the IT Support Services Department. Most candidates also had a good structure to their answers that explained for each KPI how it could be measured and why the KPI was appropriate. Weaker candidates either omitted to explain why their suggested KPIs were appropriate, or sometimes proposed KPIs that were more focused on costs rather than service quality.

The second sub-task asked for an explanation of how decision packages would be developed as the first stage of the budgeting process in respect of the training function of the new IT Support Services Department. This tested core activity B. Many candidates struggled to explain the principles of decision packages. A common error was to discuss the approach of using ZBB to create the department's budget instead of explaining how decision packages could be developed. However, those candidates that considered incremental and mutually exclusive packages often earned very good marks.

The third sub-task asked for an explanation of how to change the way that inventories and payables could be managed to reduce the risk of a cash deficit occurring, including an explanation of the potential implications resulting from these changes. This tested core

activity F. This should have been a very straightforward question but was not as well answered as it could have been by some candidates. The management of payables was reasonably well answered with most candidates recognising that payable days were already high and that it would be difficult to extend these days without causing raw material supply issues. When explaining inventories, however, some candidates did not clearly explain how these could be reduced, or if they did, usually only briefly commented on the use of JIT or EOQ. Very few candidates discussed the potential implications for finished goods inventory of any changes that they proposed.

Variant 6 Comments on performance

Task 1

The first sub-task asked for an explanation of what the three trend lines and seasonal variation information shown in Chart 1 and Table 1 indicate about historic sales of smart running shoes in Europe and how this information could be used to determine a forecast of sales volumes for the new range for the first 2 quarters of 2022. This tested core activity B. Most candidates were able to explain the trend and seasonal variation information, with many scoring at high level 2 or level 3 here. Many candidates linked the increase in trend to the nature of the product and the seasonal variation to TreadCushy's pattern of sales, which was pleasing to see. However, in contrast, explanations of how to use the information to create the forecast were generally poor. Many candidates did not recognise that the information was for Europe and not TreadCushy, and so did not note that the figures would need to be adjusted to reflect the company's potential share of the market. Those that did recognise this often scored well. In addition, most candidates focused their answers on the seasonal variations and how these would be used to calculate the seasonal adjustments in quarters 1 and 2 but did not talk about how the trend line would be established and extended, perhaps indicating a lack of technical understanding.

The second sub-task asked for an explanation of two factors that would limit the accuracy of this forecast. This tested core activity B. Many candidates scored at level 3 because they gave two good points that were applied to the circumstances of TreadCushy. A lower mark here was usually because of generic points being made that were not linked to the scenario. It should be noted that, where a specific number of points are asked for, only those number of points will be awarded credit.

The third sub-task asked for an explanation of the two ways in which the laptop lease could be reflected in the financial statements for the year ending 30 June 2022. This tested core activity D. Most candidates scored mid-level 2 or below here, which was disappointing given that treatment of leases in the financial statements has appeared many times in previous case studies. Explanation of the initial measurement of the right-of-use asset and corresponding lease liability was reasonable in many cases, although often lacked reference to the information in the scenario. Explanation of the subsequent measurement was often vague and again lacked reference to the scenario information. Very few candidates recognised that the period for interest and depreciation was only 6 months. Some candidates did correctly identify the alternative treatment as treating the lease as that of low value items. However, very few were able to explain how this would impact the financial statements, demonstrating a lack of technical understanding.

Task 2

The first sub-task asked for an explanation of how the cost structure and timing of costs incurred for providing an app compare to those for manufacturing the shoes. It also asked for an explanation of the potential issues with determining a cost per unit of the app. This tested core activity A. This was not answered well. Most candidates did make some sensible comments about the timing of costs. However, many candidates did not seem to understand what is meant by the term cost structure and simply repeated the information from the scenario about the different costs associated with the app, rather than comment on whether these costs were direct/indirect or fixed/variable. Some candidates completely failed to give any comparison to the physical product. Many candidates did identify some of the issues, but often these were a little vague, lacked detail and were muddled with general commentary on the app costs, rather than being considered separately. As a general guide, where a sub-task is split into two distinct parts, like in this case, it is advisable to answer each part separately.

The second sub-task asked for an explanation of what Chart 1 showed about each supplier's price structure and, based on the expected value of purchase volumes from Table 1, which supplier should be chosen. This tested core activity E. This was well answered by most candidates. These candidates were able to clearly identify the discounts being offered by supplier A and the fixed cost of supplier B, as well as identify the correct decision on an expected value basis. Many candidates, therefore, scored at level 3 here. Common reasons why candidates did not score highly included not making a decision based on expected value or a lack of reference to the information in the chart.

The third sub-task asked for an explanation of the limitations of basing this decision on the expected value of purchase volumes. This tested core activity E. In many cases, candidates gave the generic limitations (risk neutrality, probability estimates and not being applicable for one-off decisions) without linking these to the scenario. This, therefore, limited many scores to level 2.

Task 3

The first sub-task asked for an explanation of the impacts of the changes to selling price on budgeted revenues, contributions and profits for CushySmart and the factors that should be considered before either of the changes were implemented. This tested core activity B. This was a challenging sub-task testing the ability to compare information and comment on what the figures were saying. It was pleasing to see that many candidates scored well here comparing the various levels of profit and contribution and linking this to the stepped costs and the increase in volume at reduced margins. Candidates that only scored at level 1 for the first part of this sub-task did so because they did little more than repeat the information given. Regarding the factors to consider, many candidates explained a wide range of factors to be considered. Many good points were made about the brand, perception of quality and the capacity constraints.

The second sub-task asked for an explanation of how the information shown in Table 2 would be used to decide which of the outsole models should be bought in and which should be made in-house. This tested core activity E. There were two aspects to this. The first was to discuss the production versus buy in price. Many included the fixed production costs and simply concluded that everything should be bought in when only variable production costs should have been considered. Secondly, the problem of the limited machine time needed to be explained. This was not well answered. Many candidates confused the make or buy rules with general constraints and talked about throughput or contribution analysis. The application to the scenario was poor: it appeared as though candidates could regurgitate steps from a textbook but could not apply them to the scenario.

The third sub-task asked for an explanation of the impacts that the items of expenditure shown in Table 3 would have on the financial statements for the year ending 30 June 2022. This tested core activity D. This has been tested many times and yet candidates do not seem to know the criteria for capitalising expenditure, as this was not well answered. Few candidates noted that the depreciation and the maintenance costs needed to start next year, and some even suggested not including the property, plant and equipment until next year (which shows a poor understanding of what the statement of financial position tells us).

Task 4

The first sub-task asked for an explanation of what the sales price, sales mix profit and sales quantity profit variances measured and what the variances shown in Table 1 indicated about the online sales performance of the running shoe ranges for the period April to June 2022. This tested core activity C. Most candidates clearly explained what the sales price variance measured, although the explanation of what the mix and quantity variances measured was sometimes vague and muddled. It would appear that candidates struggle to articulate mix variances calculated using the weighted average method and that a quantity variance is at the standard mix. Most candidates could identify reasons but, because of a lack of clarity regarding the overall explanation, this resulted in many scoring at level 2 or lower. As a note for the future, candidates are reminded that when explaining what variance means or measures it is good practice to explain that a variance shows the effect on profit of selling at a different price, in a different mix or at a different volume.

The second sub-task asked for an explanation of what the KPIs shown in Table 2 indicated about online sales for the period April to June 2022. This tested core activity C. If the sub-task had asked how the KPIs were calculated, candidates would have scored much better. Most candidates described how the figures were arrived at and then went on to explain the trends and the monthly movements, but few explained why these movements occurred and linked the full range of KPIs together to get the fuller picture.

The third sub-task asked for an explanation of the factors to be considered when setting credit limits for the two specialist sports retailers, using the information in Table 3. This tested core activity F. Many candidates seemed to think this sub-task was about explaining the levels of working capital of two entities compared to the industry averages. While this has been a style of the task given

before, this was not the task here. This meant that few candidates identified that Runners Life was overtrading and simply went through what each ratio meant. Very few candidates demonstrated that they understood what a credit limit was. As a result, many candidates only scored mid-level 2.

Tips for future candidates

There are several key points to consider when preparing for future Operational level case study examinations. These points are the same as in previous reports and are:

- Key to achieving a score at level 2 and above is to ensure that:
  - You have the technical knowledge and understanding of all of the topics included in each of the core activities. It is not sufficient to rely on the fact that you remember it from the OTQ exams, because it is likely you won't. You need to revise technical material: if you don't have the knowledge, you can't score well.
  - You are able to apply your technical knowledge and understanding within the case study context. Simply reproducing rote-learned answers or pure knowledge of a topic area will score very few, if any, marks. Similarly, taking a non-targeted approach to an issue and commenting on everything that you know about it from a theoretical point of view will score few marks.
  - You are able to explain comprehensively and with clarity, rather than making unsupported statements. Writing comments such as, "this improves decision making", "this graph is essential" or "planning is enhanced" is not enough to gain any marks. Candidates must explain "how" and ''why'' this is the case. Explanations can quite often be improved by adding "because of …." at the end of a sentence. Explanations should also utilise the information given to you within the case study itself, especially financial information. For example, reasons for variances are often given to you in the unseen information, the skill is to pick this out and use it.
- To help you achieve this you need to:
  - Study the pre-seen material in depth. Ensure that you are very familiar with the business, especially the financial information, before the exam as this will help you apply your knowledge and will save you time. Similarly, an awareness of the industry that the business is in will help you to think of the wider issues that might impact decisions that you could be asked to comment on.
  - Practise, practise, practise past OCS exam tasks. Practising past tasks and then checking against the published answers will help you to understand what the examiner is looking for.
- On the day:
  - It is important to take time to plan your answer so that you are able to apply your knowledge to the specifics of the case. I suggest that for certain tasks you plan your answers on the answer screen itself. For example, if you are asked for the potential benefits and problems of activity-based costing, I suggest that you first note down headings for benefits and

problems. Under each heading, list your benefits and problems; these will become your sub-headings. Then you can write a short paragraph under each sub-heading. This will allow you time to think about all of the points that you want to make and will help to give your answer in a clear format. Ultimately, it should save you time.

- Please take care of how your answer looks. Some answers are very difficult to read because of poor spelling and grammar. While this examination is not a test of English, it is important that answers are presented well so that markers can see that you have demonstrated a clear understanding of the issues.