

November 2021 and February 2022
Management Case Study and CIMA Gateway
2019 CIMA Professional Qualification
Full post exam support materials

Below is the full post-exam supporting materials for the management / gateway case study exam.

Pre-seen material

The November 2021 and February 2022 management / gateway case study pre-seen can be found [here](#)

Examiner's report

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

- 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](#)
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Management 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.

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Introduction

Frinta is a quoted company that manufactures controls for central heating systems and electronic devices that form the basis for smart homes.

Frinta is based in Westland, a developed country that has a strong economy and whose citizens have a high standard of living.

Westland's currency is the W\$. Westlandian company law requires companies to prepare their financial statements in accordance with International Financial Reporting Standards (IFRS).

You are a financial manager at Frinta's Head Office. Your primary responsibilities are associated with management accounting and you report to Amadou Gallo, the Senior Financial Manager, who reports directly to the Finance Director.

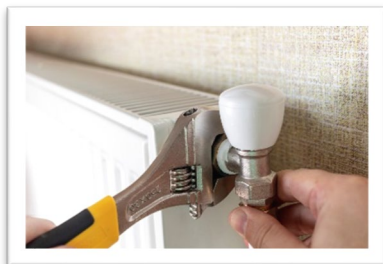
Frinta's history and products

Frinta was founded in the 1970s, initially manufacturing components such as thermostats to control domestic central heating systems. Frinta's founder was a plumber who had developed and patented a new type of thermostat that was easier to install and that gave users greater control over their home central heating than traditional controls. The company started to manufacture these devices at a time when there was a significant boom in the construction industry, with new homes being built with central heating throughout and many older homes being modernised and upgraded to include central heating.

Heating controls



Frinta's early products were essentially mechanical devices that controlled gas-powered central heating systems. Most homes had a single main thermostat that controlled the central heating system. A rotary dial set the temperature at which the house was to be maintained. When the air temperature was above that threshold a simple mechanical device opened a switch inside the device and so disconnected the electrical connection to the central heating boiler. When the air cooled the thermostat closed the switch and so activated the heating system.



Individual radiators also had mechanical thermostats that controlled the flow of hot water that was piped from the boiler. If a radiator was below its desired temperature then its thermostat opened a valve that allowed hot water to flow through, heating the radiator and so radiating heat into the room. The thermostat closed the valve once the radiator reached its desired temperature and so prevented overheating.

Frinta expanded its range to operate electric heating systems, using similar mechanical thermostats to those in its controls for gas-powered heating. All of its products were designed to be as attractive as possible because they were intended for home use and also as easy to operate as possible. The company rapidly became the largest supplier of domestic heating controls in Westland.

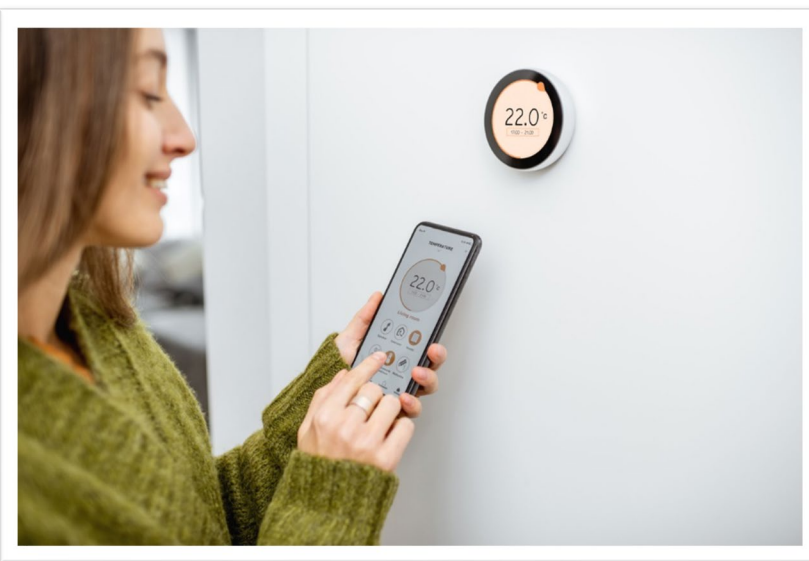
Frinta invested heavily in product design, adding features such as mechanical timers that permitted householders to set their heating to switch on and off at predetermined times, avoiding the cost of heating an unoccupied house during the working day. The user interface was a key element of any new design, with each new device being designed to be as easy as possible to operate and blending into a domestic setting rather than looking like a piece of industrial equipment.

Frinta was quoted on the Westland Stock Exchange in the early 1990s. At that time the founder stepped down from the company and retired. He sold his shares and took no further interest in the company.

Since its flotation, Frinta has continued to manufacture control devices. Its range now includes controllers for hot water heaters and air conditioning systems. Frinta has been at the forefront of incorporating new technologies into its designs. For example, replacing mechanical thermostats with electronic sensors and incorporating LCD displays that show settings and have made controllers more reliable as well as making them even easier to operate.

One major area of change has been online control. Most of Frinta's devices are now "smart", meaning that they can connect to the householder's home wi-fi system and can be operated by an app downloaded to a smartphone, tablet, laptop or desktop computer. Users can operate their heating systems from any room in the house, making use of the user-friendly interface in the app to make any adjustments with ease. They can also control their devices from outside the home provided they have an internet connection.

Frinta's app makes it easy for householders to program their heating systems to suit their lifestyles. For example, the heating system can be programmed to switch itself off at times when the house is likely to be unoccupied. The householder can also override the timer from a smartphone or any other connected device. This can be convenient if, say, returning earlier than expected and wishing to come home to a warm house.



Frinta remains Westland's leading supplier of controllers by revenue. It also has significant export sales, primarily to developed countries.

There are several major competitors in the controllers' market. Their products are significantly cheaper than Frinta's, but they are also much less sophisticated. There is still demand for inexpensive controllers that do not have the smart features used in Frinta's latest range. Indeed, there are still

manufacturers who produce mechanical controllers that are similar in design and construction to those that were made by Frinta when it was founded in the 1970s.

Frinta's heating and ventilation controllers are sold through building supply companies that resell them to heating engineers, plumbers and builders. Frinta will also accept bulk orders from large housebuilders who are prepared to order 500 units or more at a time in order to equip each of the new houses on a major development.

Frinta's controllers must be installed by qualified professionals. An amateur installation could cause the controller to malfunction, thereby damaging Frinta's reputation. Errors can also cause gas or water leaks, which could prove dangerous or damaging to property. Frinta will not, therefore, sell its controllers directly to the public or to retailers that supply the do-it-yourself market.

Frinta markets its controllers heavily through advertising in trade magazines and online in various websites aimed at relevant tradespeople. The purpose of this advertising is to ensure that new products and new features are publicised and to maintain brand recognition.

Frinta does not advertise to the general public because homeowners rarely specify a particular brand when they are replacing or upgrading any part of their heating or air conditioning systems. Instead, they rely on contractors for recommendations that meet their needs. Professionals are generally happy to recommend and use Frinta unless their customers insist that they use cheaper brands. The controllers are a visible element of any heating or ventilation system and ease of use has an immediate impact on customer satisfaction.

Smart speakers

In 2016, Frinta launched what was to be the first of a range of "Frinta Friend" smart speakers. This line of products was launched in response to the success of the Ypvox smart speaker system produced by Ypburn in 2014. At the time of its launch in 2014, the Ypvox smart speaker was a new product category that combined various existing technologies that were intended to simplify users' lives.

The essence of a smart speaker can be summed up as follows:

Online connection	This is the element that makes these devices "smart". Smart speakers connect wirelessly to the home wi-fi and, through that, to the internet. Smart speakers act as hubs that make it quicker and easier for users to interact with compatible electronic equipment within the home and also to access services through the internet.
Microphones	Users operate smart speakers by giving them verbal instructions. The microphones in a smart speaker system are capable of distinguishing users' voices from the background noises in a normal domestic setting. Users simply tell the device what to do.
Speakers	Smart speakers reply verbally to users' requests, using computer-synthesised voices. They have good quality speakers to enable those responses to be heard clearly. The speakers give the devices other functions, such as playing music that is stored on the home network or that is being streamed from the internet. Some smart speakers have video touchscreens, but those are generally used to augment the function of the speakers. The devices are still operated primarily by using verbal exchanges.
Artificial intelligence	Smart speakers convert users' verbal instructions to text, which then become commands for the device. Issuing a verbal instruction to a smart speaker is the same as typing a command into a tablet or computer.

	<p>The operating systems in smart speakers can interpret inputs and so enable users to talk to them without having to learn a particular set of instructions.</p> <p>For example, the Frinta Friend device can make sense of almost any sensible form of request for the weather forecast:</p> <ul style="list-style-type: none"> • “Frinta, what will the weather be like tomorrow?” • “Frinta, will it rain tomorrow?” • “Frinta, tell me what tomorrow’s weather will be like.” • And so on ... <p>The smart speaker will respond to any instruction that is prefaced by “Frinta”, which is the device’s activation word. If the instruction is indistinct or ambiguous then the device will request that the instruction be repeated or reworded.</p> <p>The software learns users’ preferences. For example, users can input account names and passwords for major online retailers. Then they can make purchases with simple commands, such as “Frinta, buy soap powder and coffee”. The smart speaker will then place orders with brands of those items that the user has purchased in the past. If no such purchases have been made then the smart speaker would seek clarification before proceeding, perhaps asking “what brand of coffee would you like to buy?”</p>
Scale	<p>Users can connect as many smart speakers as they wish to their home wi-fi networks. Having multiple devices means that requests can be made from any room that has a smart speaker. For example, the user can say “Frinta, add toothpaste to my shopping list” to any connected device and can play the updated shopping list back at any time from any device.</p> <p>Multiple smart speakers can be used as internal communication devices, enabling users to talk to one another or to broadcast announcements across the house.</p>

Connectivity	<p>Smart speaker systems can interact with other smart devices even though those were not designed to be compatible with smart speaker systems. These smart devices generally use an open-source operating system that is designed to control equipment. Any device that can be connected to the home network and operated with an app can, in theory, be controlled by a smart speaker.</p> <div data-bbox="475 421 901 712" data-label="Image"> </div> <p>For example, Dronquo manufactures smart electrical plugs that can be switched on and off by a smartphone app. They use an operating system that is compatible with the Frinta Friend smart speaker. If a user gives a Dronquo electrical adapter a name, such as “table light” then it can be operated by verbal commands such as “Frinta, switch on the table light”. The system can also cope with more complicated commands, such as “Frinta, switch the table light on at 18.00 every evening and off at midnight”.</p> <p>Smart speakers can also interact with smartphones. Users can update their to-do lists or appointment calendars with verbal commands “Frinta, I have a dental appointment at 14.30 on the 23rd of next month”. Their calendar will then be updated and synchronised with their smartphones. Updates input into their phones will also be synchronised with their Frinta Friend systems.</p>
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Ypburn – Frinta’s rival in the smart speaker market

The market for sophisticated smart speakers was created by Ypburn, when it launched its Ypvox smart speaker product in 2014. Ypvox was the first product that offered effective voice control with artificial intelligence that enabled users to speak naturally. It also introduced the ability to distinguish users’ voices from any background noise.

Ypvox was primarily intended to act as an electronic hub within the home. Users would be able to interact with their smart speakers in a variety of ways, using an activation word, such as “Vox”, to distinguish instructions to the device from background conversation. For example:

- **Updating schedules and lists** “Vox, Tom has a doctor’s appointment at 4.30 next Tuesday afternoon” or “Vox, add apply for a new passport to Mary’s to-do list.”
- **Conducting basic internet searches** “Vox, what is the time in Eastland?” or “Vox, when is the next train from Midtown to Capital City?”
- **Online shopping** “Vox, order black socks from Meltasock” – which would probably result in a response listing different brands and sizes of black socks before the order was placed with the selected online retailer and charged to the user’s credit card.
- **Operating other smart devices** “Vox, switch on the television and find a documentary” or “Vox, increase the heating by three degrees.”

Users enjoyed the fact that their Ypvox smart speakers could simplify their lives in many different ways and without having to struggle with complicated programming and installation. For example, if a user purchased a new smart television there was every chance that it would be recognised by Ypvox when it was first switched on and that installation would require hardly any input from the user, apart from inputting a user name and password.

Ypvox benefitted from the fact that smart devices were being developed by many third parties. For example, Dronquo's smart electrical adapters are intended to be operated by a smartphone app, but they can also be operated by Ypvox.

Frinta's smart speakers (Frinta Friend)

Frinta's entry into the smart speaker market was inspired by Ypburn. The most immediate reason for this was that Ypburn's speaker could operate Frinta's smart heating and ventilation controllers. A secondary reason was that Frinta wished to diversify its product range and it was clear that Ypburn's smart speakers had stimulated demand for such devices.

Frinta's Board viewed the fact that Ypvox could control Frinta smart heating and ventilation controllers as a threat. Frinta's heating and ventilation controllers are more expensive than other brands, but they sell well because they are attractive and easy to operate. The emergence of smart speakers that can operate heating and air conditioning controllers makes it possible for builders to buy cheaper control systems. These need not be visually attractive because there is no need to mount them where they will be seen if they are operated by wi-fi signals from a smart speaker. There is also little need to make them easy to program and operate if smart speakers can accept simple verbal commands.

Frinta's initial intention was to create a smart speaker that was to be sold as an accessory for its heating and ventilation controllers. This device would be compatible with existing controllers and would offer greater versatility in terms of operating heating and air conditioning.

Frinta's Research & Development (R&D) Department had purchased some Ypvox smart speakers for investigation and had found that they could not replicate all of the functions that a user could input from the Frinta app on their smartphones. The initial brief for the design of the Frinta Friend smart speaker was to design a device that could employ all of the functions of the Frinta smart heating and ventilation controllers. The addition of Frinta Friend to the product range would protect the dominance of Frinta's heating and ventilation controllers at the luxury end of the market.

Frinta was also keen to develop smart speakers because demand for smart heating and ventilation controllers had matured. There was a steady demand from housebuilders and for replacements and upgrades to existing systems, but Frinta had already met most of the demand from that market. Frinta's Board was keen to find a suitable product that it could develop in order to stimulate growth.

Smart speakers were considered a suitable product for development because they were intended to be simple to use, a key consideration in Frinta's approach to design. Frinta's approach to making heating controllers had also given it experience of making electronic items for use in the home that were attractive to look at.

Frinta's R&D Department was instructed to design a smart speaker that fulfilled the following criteria:

- It should be an effective means of operating Frinta's smart heating and ventilation controllers, using simple voice commands.
- It should offer additional features for organising users' personal lives, conducting basic internet searches and online shopping. Frinta's R&D Department was instructed to deliver a design that was superior to that of Ypburn's Ypvox smart speaker in terms of the hardware and software that provided these features.




The design team decided to base Frinta Friend's operating system on the software that was already in use in the company's smart heating and ventilation controllers. That gave the greatest possible flexibility in terms of offering voice control to those products. It also assisted in the development of superior performance of a standalone smart speaker.

Frinta's choice of software meant that Frinta Friend was less suitable for use as a universal controller that could operate other smart devices. Frinta's design team programmed the ability to update schedules and lists on smartphones and the ability to control Dronquo's smart electrical plugs into Frinta Friend. Those were the only third-party products that could be managed by Frinta Friend when it was launched. Frinta's Board believed that consumers would be prepared to buy Frinta Friend because of its build quality and the excellence of its artificial intelligence and would not be unduly concerned about integration with other manufacturers' smart devices. Most smart products are designed to be operated by users' smartphones and so Frinta's Board believed that users would have little need of the ability to use their smart speakers for this purpose.

Frinta launched its first Frinta Friend smart speaker in 2016, with updates and upgrades being added since then.

Frinta and Ypburn are the leading manufacturers of smart speakers worldwide. Ypburn remains the larger and more successful in the smart speaker market, with approximately 60% market share by revenue.

The Frinta Friend range now comprises three models of smart speaker:

Frinta Friend Classic		This is the most popular device. It has a large and powerful speaker and is intended to look good on a table, desk or shelf.
Frinta Friend Mini		The Mini speaker offers all of the features of the Classic, but in a smaller device. The Mini's speaker is a little smaller than the one in the Classic, which reduces the sound quality slightly. The Mini costs less than the Classic.
Frinta Friend Screen		<p>The Screen is larger than the Classic and has a video display that can show graphics, pictures and text. It has two speakers built into its case, giving it a better sound quality than either of the other models.</p> <p>The Screen model has a camera that can be used for video calls, either to another Frinta Friend Screen within the same home network or remotely over the internet.</p> <p>A photoelectric cell controls the video display's brightness so that it can be used in a bedroom without keeping the occupants awake with a bright display.</p>

All three models offer the same basic operating capability.

Some users own a single Frinta Friend, while others have several. It is possible to mix different models in the same network. The devices are easy to install and use. If the owner buys a single device then it will set itself up, asking the user for specific information such as the password for the home wi-fi router, a security phrase to access the Frinta Friend account and a device name. If the user adds more devices then the existing Frinta Friend will detect the

new smart speaker and will set it up automatically, requiring only the user's security phrase and a device name.

The Frinta Friend is sold as a consumer product through retailers, both physical and online, who specialise in home electronics and entertainment systems.

Frinta's operations

Frinta has a factory in Westland's Central City that manufactures controllers for heating, hot water and air conditioning systems. The factory is located in the industrial zone on the city's outskirts. Frinta's Head Office is located beside the factory. Frinta has been located in Central City since its foundation. Initially, it occupied a small factory unit. By the year 2000 it had moved to its present location, a large and modern electronics factory with a purpose-built Head Office in the adjacent building.

Frinta has a second factory in Teck City, located in Westland, 90 miles south of Central City. The Teck City factory is used to make Frinta Friend products. The location of this factory was chosen because many electronics companies are based in Teck City and Frinta's Board believes that it is desirable for the company to maintain a close relationship with the manufacturers whose products may be made compatible with Frinta Friend.

Frinta's R&D facility is based in a large building that is adjacent to the Central City factory. All of the company's research and development is located here because the Board is keen to make the best possible use of synergies between the major product ranges: controllers and smart speakers.

Head Office staff are split into five main departments:

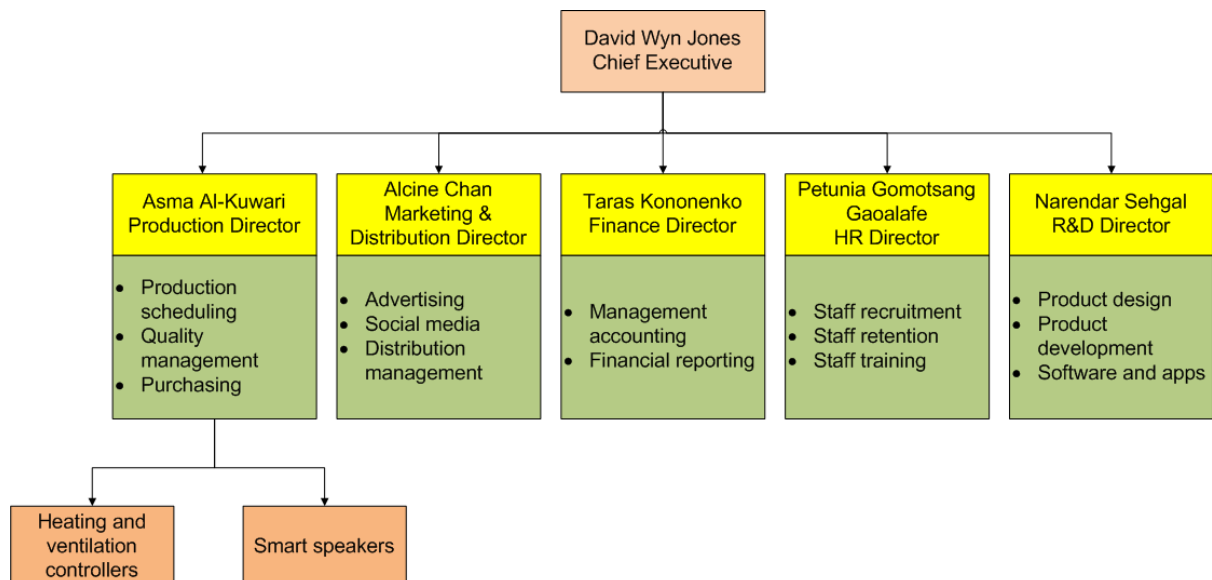
- Production
- Marketing and Distribution
- Human Resources (HR)
- Finance and Administration
- R&D

Frinta does not have direct sales channels for any of its products. Pricing decisions, including any discounts, are made by the Board.

Costings

		Smart speakers		
	Frinta network heating controller	Frinta Friend Mini	Frinta Friend Classic	Frinta Friend Screen
	W\$	W\$	W\$	W\$
Microphones	-	4.26	4.26	5.11
Speakers	-	3.37	4.16	6.74
Camera	-	-	-	2.75
Screen	-	-	-	3.96
LCD display	2.14	-	-	-
Processor and other electronics	1.37	3.18	3.18	3.18
Case and buttons	7.21	2.45	3.16	4.41
Wireless connectivity	2.79	3.04	3.04	3.04
Sensors	4.77	-	-	1.18
Packaging	0.85	1.07	1.26	1.57
Total parts and materials	19.13	17.37	19.06	31.94
Manufacturing labour and overheads	5.34	7.88	8.55	9.44
Production cost	24.47	25.25	27.61	41.38
Unit selling price	42.62	35.48	39.55	55.74

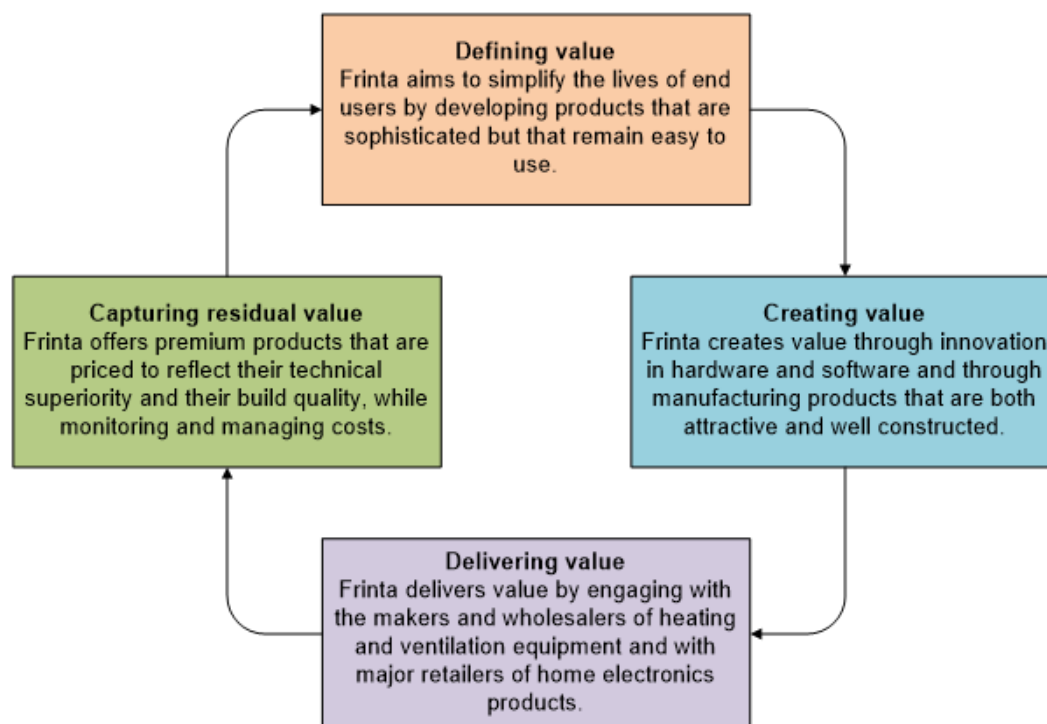
Frinta's management structure



Frinta's Board also includes the following non-executive directors:

- Tamara Dagen – non-executive Chair
- Abdelhamid Nechad
- Rachael Maminto
- Te Oti Rakena
- Hina Kazimi
- Hend Al-Naimi

Frinta's business model



Frinta has always focussed on quality and ease of use in the design and manufacture of its products. This is true of both its heating and ventilation controllers and its smart speakers. Frinta was founded by a plumber who believed that the company's initial success was attributable to continuing innovation and improvement. For instance:

- The market for smart heating and ventilation controllers is mature, but Frinta continues to innovate, making controllers that are as easy as possible to adjust and to operate, whether operated by push buttons on the control unit, a smartphone app or a smart speaker. Plumbers and builders often specify Frinta controllers because they know that their customers will find it easier to operate their heating or air conditioning.
- Frinta's smart speakers continue in the tradition of the heating controllers. Frinta Friend can be set up within minutes of opening the box and without requiring any IT skills. Adding an additional speaker to the network is just as simple.

Frinta invests in manufacturing equipment and in good quality materials that ensure that its products look attractive in a home setting. Feedback from consumers indicate that Frinta's products inspire confidence because of their high build quality.

Frinta's experience in the manufacture of heating and ventilation controllers has frequently involved working with the manufacturers of central heating boilers, air conditioners and radiators so that Frinta's controllers can be integrated into an efficient system that is both reliable and easy to operate. That experience has been invaluable in the development of a successful smart speaker brand. The Frinta Friend is designed for use in a stand-alone mode, although it can be used to control Frinta's heating and ventilation controllers. Frinta has also collaborated with Dronquo in order to enable Frinta Friend to switch devices plugged into a Dronquo electrical adapter on and off.

Frinta's products are marketed on quality and functionality.

- Frinta's heating and ventilation controllers are relatively expensive in comparison to competing brands. They are often recommended by heating engineers who have been commissioned to design and install high quality heating and ventilation systems and so are more focussed on quality than on price. The same is true of builders, who often specify Frinta controllers as a selling feature in their more expensive homes.
- Frinta's only major competitor in the smart speaker market is Ypburn. The retail prices for both company's products are comparable. Neither company actively aims to compete with the other on the basis of price.

Extracts from Frinta's annual report

Frinta Group

Consolidated statement of profit or loss

For the year ended 31 December

	2020	2019
	W\$ million	W\$ million
Revenue	820.0	771.0
Cost of revenues	(537.9)	(495.3)
Gross profit	282.1	275.7
Administrative expenses	(16.4)	(19.3)
Selling and marketing expenses	(50.8)	(54.7)
Operating profit	214.9	201.7
Finance costs	(11.0)	(11.0)
Profit before tax	203.9	190.7
Tax	(45.0)	(38.0)
Profit for year	158.9	152.7

Frinta Group

Consolidated statement of changes in equity

for the year ended 31 December 2020

	Share capital and share premium	Retained earnings	Total
	W\$ million	W\$ million	W\$ million
Balance at 31 December 2019	800.0	671.3	1,471.3
Profit for the year		158.9	158.9
Dividends		(128.0)	(128.0)
Balance at 31 December 2020	800.0	702.2	1,502.2

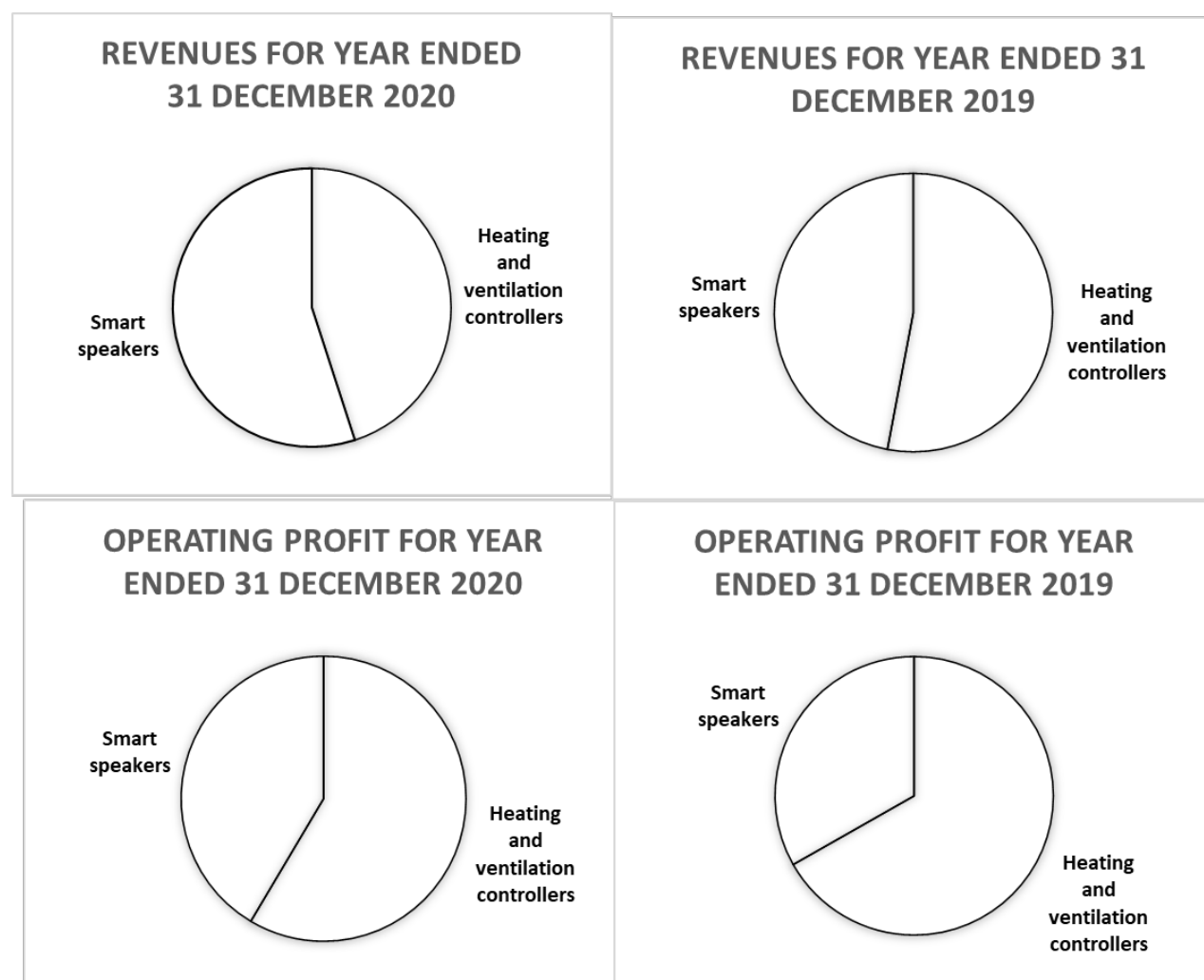
Frinta Group
Consolidated statement of financial position
As at 31 December

	2020	2019
	W\$ million	W\$ million
Non-current assets		
Property, plant and equipment	971.1	935.2
Intangible assets	657.1	661.1
	<hr/>	<hr/>
	1,628.2	1,596.3
Current assets		
Inventory	41.3	36.7
Trade receivables	88.0	82.0
Bank	17.3	16.8
	<hr/>	<hr/>
	146.6	135.5
Total assets	<hr/>	<hr/>
	1,774.8	1,731.8
	<hr/>	<hr/>
Equity		
Share capital and share premium	800.0	800.0
Retained earnings	702.2	671.3
	<hr/>	<hr/>
	1,502.2	1,471.3
Non-current liabilities		
Borrowings	180.0	180.0
Current liabilities		
Trade payables	51.6	47.5
Tax	41.0	33.0
	<hr/>	<hr/>
	92.6	80.5
	<hr/>	<hr/>
	1,774.8	1,731.8
	<hr/>	<hr/>

Segmental analysis

	Year ended 31 December 2020 W\$ million	Year ended 31 December 2019 W\$ million
<u>Revenue</u>		
Heating and ventilation controllers	369.0	408.6
Smart speakers	451.0	362.4
	<u>820.0</u>	<u>771.0</u>

	Year ended 31 December 2020 W\$ million	Year ended 31 December 2019 W\$ million
<u>Operating profit</u>		
Heating and ventilation controllers	125.8	134.7
Smart speakers	89.1	67.0
	<u>214.9</u>	<u>201.7</u>



Extract from Ypburn's annual report

Ypburn is Frinta's only major competitor in the market for smart speakers. Ypburn manufactures smart speakers and a range of other smart consumer electronic items.

Ypburn is based in Westland and is quoted on the Westland Stock Exchange.

Ypburn Group

Consolidated statement of profit or loss

For the year ended 31 December

	2020	2019
	W\$ million	W\$ million
Revenue	1,172.6	1,114.0
Cost of revenues	(738.7)	(690.7)
Gross profit	433.9	423.3
Administrative expenses	(19.4)	(17.8)
Selling and marketing expenses	(69.9)	(65.7)
Operating profit	344.6	339.8
Finance costs	(9.6)	(13.2)
Profit before tax	335.0	326.6
Tax	(70.4)	(68.6)
Profit for year	264.6	258.0

Ypburn Group

Consolidated statement of changes in equity

for the year ended 31 December 2020

	Share capital and premium	Retained earnings	Total
	W\$ million	W\$ million	W\$ million
Balance at 31 December 2019	700.0	250.4	950.4
Profit for the year		264.6	264.6
Dividends		(214.3)	(214.3)
Balance at 31 December 2020	700.0	300.7	1,000.7

Ypburn Group
Consolidated statement of financial position
As at 31 December

	2020	2019
	W\$ million	W\$ million
Non-current assets		
Property, plant and equipment	633.3	639.2
Intangible assets	479.7	487.6
	<u>1,113.0</u>	<u>1,126.8</u>
Current assets		
Inventory	55.1	50.8
Trade receivables	127.0	120.7
Bank	18.2	15.3
	<u>200.3</u>	<u>186.8</u>
Total assets	<u><u>1,313.3</u></u>	<u><u>1,313.6</u></u>
Equity		
Share capital and share premium	700.0	700.0
Retained earnings	300.7	250.4
	<u>1,000.7</u>	<u>950.4</u>
Non-current liabilities		
Borrowings	160.0	220.0
Current liabilities		
Trade payables	86.2	80.6
Tax	66.4	62.6
	<u>152.6</u>	<u>143.2</u>
	<u><u>1,313.3</u></u>	<u><u>1,313.6</u></u>

News reports

Westland Business Daily

Internet of things continues to expand into the home



So-called “smart devices” have existed for many years. They are essentially machines that have an internet connection that enables them to send information or receive instruction over the internet.

Smart technology has many commercial applications. For example, smart factories can use a combination of sensors, software and robotics to automate production in ways that would have been unimaginable before

the internet. Machines from different suppliers can communicate and integrate with little or no human intervention. This is possible because of the development of common software standards that allow for a common machine language.

This phenomenon of interoperability is often referred to as the “internet of things” or “IoT”. The IoT has been so successful in industrial settings that it is being rolled out in the home. Early applications include smart meters, which enable utility providers such as gas and electricity companies to download customers’ meter readings and bill them without requiring a physical meter reading. More advanced applications include the smart refrigerator that has a barcode sensor that allows users to scan products when they are stored and when they are used. That makes it possible to check the contents of the refrigerator using a smartphone app. Most models can also be programmed to place an order for fresh supplies from an online supermarket whenever an item is about to run out.

Westland Daily News

How many wi-fi devices do you have in your home?



A recent study by the University of Westland indicated that the average home has 11 smart devices that are connected to the internet and used on a daily basis. As many as 10% of homes have 18 or more devices.

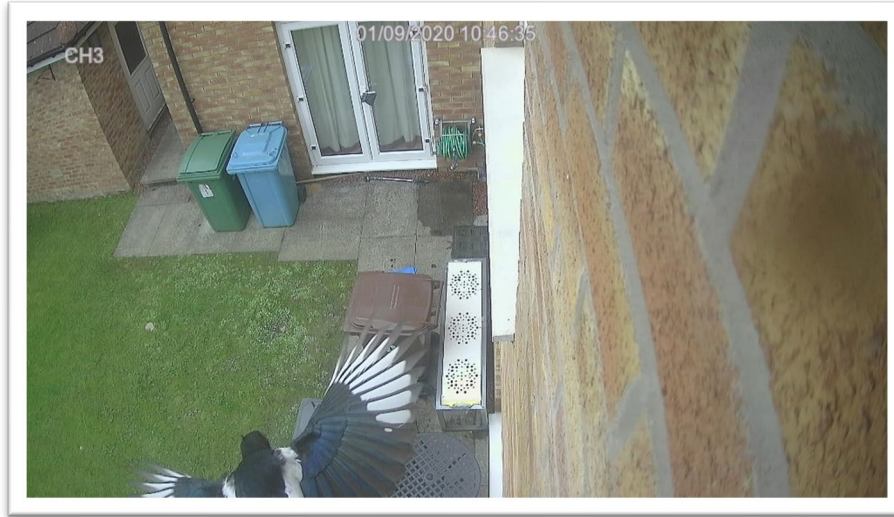
There is plenty of room for growth in that number. In theory, a typical domestic wi-fi router can connect to as many as 255 devices at once. Users

who attempt to use all of that capacity could find that they have insufficient bandwidth to use any of those connections effectively. It is generally recommended that the number of connections be limited to 45 devices.

Even 11 devices can be difficult to use in the average home. Wi-fi signals can generally reach up to 50 metres indoors, but that range can diminish rapidly depending on the number of floors and internal walls between the device and the router. The construction materials used in those barriers will also have a part to play, as will the location of furniture.

Reviews of the Ypburn Home Alarm, as posted to a major online retail site

👍👍👍👍👍 Glad I bought it!



I live in an area that has a high crime rate and so I have been looking for a reliable alarm system for quite some time. My old alarm used to send a text message whenever it detected an intrusion, but I had a few false alarms that caused me a great deal of stress. It turns out that the infrared motion detectors on most home alarm systems can be triggered by a sudden change in the sunlight coming through a window, or even a large spider spinning a web in front of the sensor.

I have upgraded by buying myself a Ypburn Home Alarm system and added two Ypburn Outdoor Security Cameras. I already had a Ypvox, which acts as the control unit, so everything was compatible. Installation was really easy.

I have attached a photograph of a cheeky magpie that flew past my bedroom window while I was away last week. It triggered a motion alarm, but I was able to check that nothing was wrong simply by looking at the images taken by the system and uploaded to my phone.

It is also possible to view a live video feed from the security cameras from anywhere that has internet access. That can be reassuring during a trip or on holiday.

I have given the system 5 thumbs because of the peace of mind that it offers.

Debbie



Easy to install

I chose the Ypburn Home Alarm because I already had an Ypvox smart speaker. There are lots of other smart alarm systems on the market, but most require the installation of a control box that then has to be programmed to link it to the home wi-fi network and remote access requires further programming so that you can use your phone to check your alarm. The Ypburn system sounded so much simpler.

Set-up is easy. The first thing that you see when you open the kit is a card with a unique serial number. You say “Vox, learn security system”, read out the serial number from the card and your smart speaker downloads all of the software that it needs. When it is ready, it asks you for a security phrase that can then be used to disarm the system. Finally, you position your sensors and the external siren. The Ypvox detects each as it is switched on and makes all the necessary connections. It also sets up your smartphone to monitor security alerts while you are away from home.

The new system started working immediately. Now, all I need to do is shout “Vox, alarm active” and the system gives me 30 seconds to leave the house while it arms itself. When I get home, I have 30 seconds to shout “Vox, disarm” and then state my security phrase. Intruders cannot disarm the system without that phrase and so will trigger an alert and will be photographed.

I have awarded the product five thumbs because it was so easy to set up.

Ronald



There is a lot in the box

The Ypburn security system comes as a kit, comprising:

- Two door/window sensors, each of which is attached to an opening. Each sends a signal to your Ypvox smart speaker when it detects that its door or window has been opened.
- Three indoor sensors, each of which detects and photographs movement within the room where it is located. The sensor sends an alert and a photograph to the Ypvox smart speaker, which uploads that information to the cloud and also sends a message containing the time and date of the alert and a copy of the photograph to the user’s phone. This all takes a fraction of a second.
- An external siren that is fitted to an exterior wall. This acts as a visible deterrent against intrusion and also alerts neighbours that the security system has been triggered.



It is possible to extend the kit by adding additional sensors that are sold separately, but it is necessary to buy the kit to get started because it contains the serial number required to download the software to your Ypvox smart speaker. I found that slightly irritating because the kit costs W\$450, which is a lot. My apartment only has one external door, for example, so I only needed one of the door/window sensors.

The system is easy to operate. It can be armed and disarmed with simple voice commands. It seems to be reliable because it always detects my presence when I get home. I did once forget the security phrase needed to disarm the system and so triggered the alarm. The siren was loud enough to annoy my neighbours, who complained about it for days afterwards.

I am awarding this product three thumbs. It would have been five, but I am annoyed that I had to pay for two door/window sensors when I only need one and for a siren that I wouldn't have purchased if I'd had a choice.



Management 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) 60% (b) 40%
2	45	1	2	(a) 40% (b) 60%
3	45	1	2	(a) 40% (b) 60%
4	45	1	2	(a) 60% (b) 40%

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

Amadou Gallo, Frinta's Senior Financial Manager, stops by your workspace and hands you a document.

"I have just come from a meeting of senior managers that was called to discuss the activities of the Research and Development (R&D) Department.

I need your help with the following matters that I will incorporate into a briefing that I am preparing for Taras Kononenko, our Finance Director:

- First, identify and discuss the impact that expanding the product range to include innovative new products such as the Frinta Flyer will have on Frinta's business model.

[sub-task (a) = 60%]

- Second, identify the financial reporting challenges that extending our R&D activities to include innovative new products such as the Frinta Flyer will create for Frinta and explain how those might be overcome."

[sub-task (b) = 40%]

The document brought by Amadou can be found by clicking on the Reference Material button above.

Report on ongoing research and development activities

Executive summary


Prepared by Rosienne Farrugia, Chief Design Engineer, Research and Development (R&D)

For several years, many of our design engineers worked unofficially on potential new products, using their lunch and coffee breaks and rescuing scrap components from the garbage to create working models. There was a great deal of informal competition between the engineers to devise the best invention. Recently, some of these ideas have been adopted as "official" projects, which has enabled R&D to make rapid progress with their development.






















For example, one of our engineers designed an indoor drone that she calls the "Frinta Flyer". Audio sensors linked by wi-fi to Frinta Friend detect any sounds of movement inside the home. Frinta Friend will then launch the drone and direct it to the source of the sound. The drone scans the room with its camera and uploads an image of any intruder's face to the Cloud. As you can see from this photograph, we already have a working prototype, which has identified the design engineer's pet dog as the intruder and so has prevented the stress associated with a false alarm.



Historically, Frinta has taken a cautious approach to investing in R&D with most of our recent activities focussing on improving our existing ranges of heating and ventilation controllers and smart speakers. The potential success of innovative ideas such as the Frinta Flyer is encouraging change. Since the beginning of the current financial year, Frinta's R&D Director has encouraged us to spend a portion of our budget on speculative R&D projects.

 Reference Material Pre-seen

Provide your response to Amadou's requests in the box below.

       **B** *I* U  x_2 x^2 

Paragraph          

 Reference Material Pre-seen

A month has passed. Amadou Gallo says to you:

"Our Research and Development (R&D) Director has circulated a proposal to the Board and Taras Kononenko has asked for my opinion on two specific matters. I am interested in your thoughts before I respond to Taras.

- First, identify the problems of establishing effective R&D project teams and recommend appropriate responses, giving reasons.
[sub-task (a) = 40%]

- Second, discuss the advantages and disadvantages of R&D operating as a profit centre."
[sub-task (b) = 60%]

The proposal referred to by Amadou can be found by clicking on the Reference Material button above.

Proposal for reorganisation of Research and Development (R&D) Department

Prepared by Narendar Sehgal, R&D Director



At present, the R&D Department comprises 140 design engineers, each of whom specialises in one of the following:

- Mechanical engineering
- Electrical engineering
- Electronic engineering
- Software engineering










Our recent decision to extend our product range to include devices that can be operated in conjunction with our Frinta Friend smart speaker range has created two major problems for R&D.











Our first concern is team management. Each project that is undertaken by R&D is the responsibility of a team that is established by the R&D managers for the duration of the project. When a project is completed its team is disbanded and the team members are reassigned to new projects. The decision to work on new products has led to problems with team management. For example, the software design engineer who invented the Frinta Flyer security drone wishes to be taken off his current assignment, but it still has 8 months to run. He wishes to be put in charge of the team that will develop the Frinta Flyer into a commercial product, even though he is one of our least experienced engineers.



Our second concern is that Frinta continues to regard R&D as a cost centre, even though the R&D Department is responsible for ensuring that our products are up to date and marketable. Some of the senior R&D managers are suggesting that the department should be managed as a profit centre.

 Reference Material Pre-seen

Provide your response to Amadou's requests in the box below.

       **B** *I* U  x_2 x^2 

Paragraph          

 Reference Material Pre-seen

A further month has passed. You receive the following email:

From: Amadou Gallo, Senior Financial Manager
To: Financial Manager
Subject: Fwd: Acquisition target

Hi

I have forwarded an email from Taras Kononenko.

I need you to help me with the briefing that Taras has requested.

- First, identify the challenges associated with accounting for goodwill and non-controlling interest in buying a 60% stake in Tronnecks, assuming that we use the fair value method of accounting.

[sub-task (a) = 40%]

- Second, explain the challenges associated with us stress testing Tronnecks immediately after its acquisition, focussing in particular on issues relating to prioritisation, measurement, productivity and flexibility.

[sub-task (b) = 60%]

Regards
Amadou

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

From: Taras Kononenko, Finance Director
To: Amadou Gallo, Senior Financial Manager
Subject: Acquisition target

Hi Amadou

The recent expansion of our product range to include new devices that can operate in conjunction with our Frinta Friend smart speakers has revealed a shortage of capacity in our Research and Development (R&D) Department. The Board has been holding some initial discussions with the directors of Tronnecks, a design consultancy based in Westland that specialises in the development of smart products for home use.



Clients pay Tronnecks to undertake research and development on a project basis. Tronnecks then assigns a team of engineers to undertake each client project.

Tronnecks is unquoted. All of the shares are currently held by the directors. We are discussing the possibility of Frinta buying 60% of the company's equity, which would give us a controlling interest.

Tronnecks presently employs 120 design engineers, which would almost double our R&D staffing to a total of 260 design engineers. If our acquisition proceeds then Tronnecks will complete all existing projects, but will not accept any further work from third parties. Engineers will be assigned to Frinta's R&D activities as soon as they become available.

The Board is seeking some guidance on the implementation issues arising from this acquisition and I need your assistance with two matters. I have been asked to prepare a briefing on the accounting issues associated with having a 40% non-controlling interest in a newly acquired subsidiary. The Board also wishes to know about the potential issues that might emerge from a stress test on Tronnecks.

Regards
Taras

 Reference Material Pre-seen



Respond to Amadou's requests in the box below.

From: Financial Manager

To: Amadou Gallo, Senior Financial Manager

Subject: Re: Fwd: Acquisition target



 Reference Material Pre-seen

Two months later, you receive the following email.

From: Amadou Gallo, Senior Financial Manager
To: Financial Manager
Subject: Fwd: Research and Development (R&D) update

Hi

I have attached a copy of an email that Taras received from our R&D Director.

Taras has asked me to help develop a response to the points raised and I need you to do the following:

- First, explain why effective lifecycle costing would require close liaison between R&D, other departments and the Board.
[sub-task (a) = 60%]
- Second, recommend with reasons the manner in which Frinta should disclose its R&D activities as an aspect of intellectual capital in the Group Integrated Reporting (<IR>) report.
[sub-task (b) = 40%]

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

From: Narendar Sehgal, Research and Development (R&D) Director

To: Taras Kononenko, Finance Director

Subject: R&D update

Hi Taras



Our recent acquisition of the Tronnecks subsidiary means that the number of design engineers whom we employ has almost doubled. We will have to increase the number of research projects that we undertake in order to make good use of those people.

This expansion in R&D capability will enable us to create more new products than ever before. These will continue to be technologically advanced, although we may decide to extend our product range beyond heating and ventilation controllers and smart speakers. This is an excellent opportunity for us to introduce lifecycle costing, provided R&D receives the support that it would require from other departments and the Board.

In my opinion, our funding of R&D is an important investment. Even failed projects teach us something useful and some of our successful projects lead on to the development of a new product such as the Frinta Friend smart speaker.

I am also certain that our stakeholders expect us to spend heavily on R&D and so they will be encouraged by any evidence that we are active in this area.

Regards
Narendar

 Reference Material Pre-seen

Provide your response to Amadou in the box below.

From: Financial Manager

To: Amadou Gallo, Senior Financial Manager

Subject: Re: Fwd: Research and Development (R&D) update





Thank you for completing the Management 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.



Management 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) 60% (b) 40%
2	45	1	2	(a) 60% (b) 40%
3	45	1	2	(a) 60% (b) 40%
4	45	1	2	(a) 60% (b) 40%

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

Amadou Gallo, Frinta's Senior Financial Manager, stops by your workspace and hands you a document.

"I have brought you an extract from today's Board meeting. The Board noted the changed performances of the product groups. Taras Kononenko, the Finance Director, has asked us to prepare some recommendations relating to the product groups and so I need your help with the following:

- First, recommend, stating reasons, whether Frinta should continue to manufacture heating and ventilation controllers.
[sub-task (a) = 60%]
- Second, discuss the advantages and disadvantages of reducing the selling prices of heating and ventilation controllers in order to stimulate demand for those products."
[sub-task (b) = 40%]

The extract brought by Amadou can be found by clicking on the Reference Material button above.

Extract from Board minutes


Heating and ventilation controllers

The Board discussed the fact that there had been little or no development in Frinta's range of heating and ventilation controllers since the current range of smart controllers was launched in 2016. The products have been updated regularly since then, but most of the changes have been cosmetic in nature or taken the form of minor improvements.










The Board discussed the figures published in Frinta's segmental analysis for the year ended 31 December 2020. (A copy of which is provided below.)










	Year ended 31 December 2020 W\$ million	Year ended 31 December 2019 W\$ million
<u>Revenue</u>		
Heating and ventilation controllers	369.0	408.6
Smart speakers	451.0	362.4
	<u>820.0</u>	<u>771.0</u>
 <u>Operating profit</u>		
Heating and ventilation controllers	125.8	134.7
Smart speakers	89.1	67.0
	<u>214.9</u>	<u>201.7</u>

It was noted that heating and ventilation controllers had contributed 45% of Frinta's revenue for the year ended 31 December 2020 (down from 53% in the previous year) and 59% of Frinta's 2020 operating profit (down from 67% in the previous year).

 Reference Material Pre-seen

Provide your response to Amadou's requests in the box below.

       **B** *I* U  x_2 x^2 

Paragraph ▾  ▾        

 Reference Material Pre-seen

Two weeks later, you receive the following email:

From: Amadou Gallo, Senior Financial Manager
To: Financial Manager
Subject: Fwd: Investment

Hi

I have attached a copy of an email that I received from Taras Kononenko, our Finance Director. He has asked for some guidance on issues related to the investment in Thermzoan, if it goes ahead. I need two things from you:

- Discuss the accounting implications of this purchase for the Frinta Group's consolidated financial statements.
- Identify and explain the main product and operational risks that Frinta will face if we proceed with this investment.

[sub-task (a) = 60%]

[sub-task (b) = 40%]

Regards
Amadou

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

From: Taras Kononenko, Finance Director
To: Amadou Gallo, Senior Financial Manager
Subject: Investment

Hi Amadou

The Board's recent concerns about the declining revenues and profits from heating and ventilation controllers has led us to consider investing in Thermzoan, an unquoted company that has recently launched a range of smart controllers that is significantly better than any competing models, including Frinta's.

David Wyn Jones, our Chief Executive, has met with Maggie Park, Thermzoan's founder and Chief Executive. She presently owns 60% of her company, with the remaining 40% held by senior staff.



David and Maggie have discussed the possibility of Thermzoan issuing sufficient new shares to Frinta to give us a 30% holding that we will purchase for cash. A contract would prevent any further share issues without the formal consent of all shareholders. Consent would also be required before any of the shareholders could sell any of their shares.

Under the terms of this arrangement, Frinta would be permitted to manufacture and sell Thermzoan's range of products under licence, with a royalty on each unit made. These products will carry Frinta's branding and packaging. Thermzoan will continue to manufacture and sell its own products, still under its own brand. This arrangement will also apply to any new products that are developed by Thermzoan.

Thermzoan will use the cash raised from the sale of shares to Frinta to expand its research and development activities.

Regards

Taras

 Reference Material Pre-seen

Provide your response to Amadou's requests in the box below.

From: Financial Manager

To: Amadou Gallo, Senior Financial Manager

Subject: Re: Fwd: Investment



Reference Material

Pre-seen

Three months later, Frinta has acquired a 30% holding in Thermzoan, the manufacturer of technically advanced heating and ventilation controllers. Thermzoan continues to operate as an independent entity, but also permits Frinta to use its intellectual property under a licence arrangement.

You receive the following email:

From: Amadou Gallo, Senior Financial Manager

To: Financial Manager

Subject: New product at Thermzoan

Hi

Thermzoan has agreed that I should be appointed to its Board of Directors. I am expected to attend Board meetings and to liaise with Frinta. I will, however, continue with my existing duties here at Frinta.

I have attached an extract from the minutes of a recent Thermzoan Board meeting.

I have agreed to prepare a briefing for the Thermzoan Board and I need your help with two matters:

- First, explain why Thermzoan should apply lifecycle costing to the new products. Your explanation should cover both the importance of lifecycle costing at this stage of product development and also any problems that might arise.

[sub-task (a) = 60%]

- Second, explain how the decision to proceed with the development of this new product might affect Thermzoan's return on capital employed, both in terms of the ratio itself and its volatility.

[sub-task (b) = 40%]

Regards

Amadou

The extract referred to by Amadou can be found by clicking on the Reference Material button above.



Extract from minutes of Thermzoan Board meeting

Maggie Park, CEO, presented a report to the Board concerning a new range of smart air conditioning control systems. These are still at an early stage of development.

Existing air conditioning systems often recycle air to avoid using electricity to heat or chill fresh air brought in from outside. That can make air-conditioned air unpleasant to breathe. Thermzoan's new system will comprise the following, all of which will have to be designed:















- Sensors – smart sensors will monitor both air temperature and air quality in each room of the house. Existing systems products monitor only air temperature.
- Control unit – the control unit will gather information from the sensors. It will then take account of user preferences, to determine the optimal amount of fresh air to draw in from outside. This will require software to be developed to manage the system effectively.
- Vent unit – the vent unit will replace the air conditioning system's exterior vent. It will draw in precise quantities of fresh air, as determined by the control unit. The device will be silent in operation. This will be Thermzoan's first mechanical device.

Maggie Park assured the Board that she is confident in the ability of Thermzoan's design engineers to develop these elements of the system. She was, however, concerned that the development costs would be significant. She also admitted to some concerns about the long-term profitability of the new system because it will be expensive to manufacture. Thermzoan will have to raise the finance required for both development and manufacturing equipment.

Reference Material











Pre-seen



Draft the response to Amadou's requests in the box below.



Paragraph ▾

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 Reference Material Pre-seen

Two weeks later, Amadou hands you a document and says:

"I have just received a very interesting document from Thermzoan. I have discussed the technological issues with Narendar Sehgal, Frinta's Research and Development (R&D) Director. He believes that some of our design engineers could provide the necessary skills and experience that Thermzoan requires.

Narendar has seen the detailed specifications of Thermzoan's proposed new control system product. He has warned me that Frinta will have to make a significant investment in plant and equipment if we decide to manufacture this new product under licence. He also believes that the manufacturing costs will be high because of the need to use advanced electronic components.

Frinta's other directors have expressed concern as to whether we should consider conducting a stress test on our business before deciding whether to proceed with assisting Thermzoan with this project and manufacturing the new product under licence once the development work is completed.

- First, recommend with reasons the approach that should be taken to managing the project to develop Thermzoan's new air conditioning system, assuming Frinta provides the required technical assistance.

[sub-task (a) = 60%]

- Second, explain with reasons the specific issues we should aim to assess when designing stress tests. Your recommendations should focus on issues relating to prioritisation, measurement, productivity and flexibility that could arise from the addition of the new product."

[sub-task (b) = 40%]

The document referred to by Amadou can be found by clicking on the Reference Material button above.

Outline plan for the development of new air conditioning control system

Executive summary















Prepared by Yoshihiko Sawada, Research and Development (R&D) Manager, Thermzoan

The new product involves the integration of existing technologies in a manner that has never been applied to control systems for domestic heating and ventilation systems. There are already products that are used in industrial settings, such as factories and office buildings.

The greatest challenge in the completion of this project is in the modification of both the hardware in Thermzoan's existing sensors and the updating of the software used in our control systems. These are areas in which we have had very little experience and so we will require technical assistance.











 Reference Material Pre-seen

Provide your reply to Amadou's requests in the box below.



Paragraph ▾

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Thank you for completing the Management 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.



Management 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) 60% (b) 40%
2	45	1	2	(a) 60% (b) 40%
3	45	1	2	(a) 60% (b) 40%
4	45	1	2	(a) 60% (b) 40%

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

Amadou Gallo, Frinta's Senior Financial Manager, stops by your workspace.

"I have printed this news report. It has taken us all by surprise.

Keesell is a major retailer and it has previously been one of our main customers. We have always sold our Frinta Friend smart speakers through their online site, in direct competition with Ypburn.

There will be a special Board meeting to discuss some of the issues arising from this news. I have been asked to provide some briefing materials and I require your help with the following:

- First, offer arguments for and against the suggestion that Frinta's Marketing and Distribution Department should have evaluated the risk of losing Keesell as a customer and taken steps to mitigate that risk.

[sub-task (a) = 60%]

- Second, recommend with reasons the way in which Frinta might negotiate a continuation of its trading relationship with Keesell."

[sub-task (b) = 40%]

The news report referred to by Amadou can be found by clicking on the Reference Material button above.

Westland Business Daily

Ypburn announces an exclusive arrangement with Keesell












Keesell and Ypburn have agreed to collaborate on sales of Ypburn's smart speakers and associated consumer electronic devices. Keesell is a leading global online retailer, serving major markets including Westland.










Ypburn will continue to operate as an independent entity, but it will rebrand its products under the name "Ypburn-K". Keesell will promote Ypburn's products heavily. It will no longer stock competing brands of smart speakers and smart products. It will also work



with Ypburn to simplify the process of making online purchases using their Ypburn-K smart speaker. For example, purchases can be made using a single verbal instruction provided users link their Ypburn and Keesell accounts.

 Reference Material Pre-seen

Provide your response to Amadou's requests in the box below.

       **B** *I* U  x_2 x^2 

Paragraph         

 Reference Material Pre-seen

A week later, Amadou Gallo hands you a document and says:

"The Board has decided to take decisive action following Keesell's decision to stock only Ypburn smart speakers. Keesell is one of the world's largest online retailers and was previously responsible for 26% of our global sales by value.

Frinta's Board is considering creating a direct sales channel that would enable consumers to order goods directly from us through our website. The Board is keen to ensure that the online sales channel adds value for our customers and is profitable.

I have prepared some initial notes concerning this proposal. I need your help with the following specific matters so that I can create a more detailed briefing for the Board.

- First, discuss the impact that having our own online direct sales channel will have on Frinta's business model.
[sub-task (a) = 60%]
- Second, discuss the issues that should be considered when setting selling prices for products and their delivery when sold through our own online direct sales channel."
[sub-task (b) = 40%]

The notes referred to by Amadou can be found by clicking on the Reference Material button above.

Initial notes to support creation of a direct sales channel.

Sales revenue by channel, before loss of Keesell

	%
Keesell	26%
Other online retailers	18%
Traditional retailers (physical shops or combination of shops and web sales)	56%

Costs and revenues for Frinta Friend Classic (our most popular smart speaker)

	W\$
Manufacturing cost	27.61
Wholesale price charged to retailer	39.55
Recommended retail price	46.99



Most online retailers offer free delivery. Traditional retailers generally charge a small amount for delivery on web sales.

Most retailers sell at the recommended retail price, but some sell at a discount.










Projected retailing costs per direct online sale










	Minimum	Maximum
Packaging	W\$2.50 for plain brown cardboard pack	W\$6.80 for high-gloss print on high quality cardboard
Order processing	W\$1.00 for despatch within 5 working days	W\$4.00 for despatch on day of order
Delivery	W\$5.00 for despatch by post	W\$12.00 for 48-hour courier service



Delivery charges are not significantly affected by location, whether for domestic sales within Westland or export sales.

 Reference Material Pre-seen

Provide your response to Amadou's requests in the box below.

       **B** *I* U  x_2 x^2 

Paragraph         

 Reference Material Pre-seen

A month later, you receive the following email:

From: Amadou Gallo, Senior Financial Manager
To: Financial Manager
Subject: Fwd: Online direct sales

Hi

Please find attached a document that was discussed at a recent Board meeting.

We will require fresh funding for the whole of this venture.

The Board has requested some advice on implementation issues and I need you to do the following:

- First, identify with reasons the characteristics of debt and equity that are relevant to the funding decision for Frinta's investment in its online direct sales channel.

[sub-task (a) = 60%]

- Second, recommend with reasons the appropriate accounting treatment for each element of the intangibles listed in this document.

[sub-task (b) = 40%]

Thanks

Amadou

The document referred to by Amadou can be found by clicking on the Reference Material button above.

Expected costs of establishing online sales channel**Prepared by Amrita Pande, Marketing and Distribution**

The costs of creating the online direct sales channel have been estimated as follows:

	W\$ million
Property, plant and equipment	168.0
Intangibles	
• Market research – consultancy fees to confirm the likely demand for direct sales, to be conducted before any further work	2.1
• Software – analysis of system requirements, to be conducted by Frinta IT staff	0.8
• Software – system for the collection and processing of orders, to be written and installed by third-party consultancy	18.7
• Initial advertising, to build customer awareness of direct sales channel	4.3
Total	193.9

Reference Material

Pre-seen

Draft the response to Amadou's requests in the box below.

From: Financial Manager
To: Amadou Gallo, Senior Financial Manager
Subject: Re: Fwd: Online direct sales



B*I*U



x_2 x^2



Paragraph ▾

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 ▾

 Reference Material Pre-seen

Two days later, you receive the following email:

From: Amadou Gallo, Senior Financial Manager
To: Financial Manager
Subject: Fwd: Online Sales

Hi

I have forwarded an email that I received this morning.

Alcine Chan, our Marketing and Distribution (M&D) Director, is unhappy about the transfer pricing arrangements between M&D and the Online sales channel ("Online"). She believes that her managers will be demotivated unless M&D is allowed to base transfer prices to Online on wholesale prices.

I need two things from you:

- First, evaluate the advantages and disadvantages to Frinta of both manufacturing cost and wholesale price as bases for setting transfer prices between M&D and Online.
[sub-task (a) = 60%]
- Second, assuming that manufacturing cost is used as the transfer price, recommend with reasons the approach that Alcine should take to maintain the engagement of M&D's marketing managers.
[sub-task (b) = 40%]

Thanks

Amadou

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

From: Taras Kononenko, Finance Director
To: Amadou Gallo, Senior Financial Manager
Subject: Online sales

Hi Amadou

We are ready to launch our online sales channel ("Online"). This will be based in Centralia, a country that borders our home country and that has an excellent infrastructure that will facilitate deliveries. Selling through Online will benefit Frinta because we will receive the full retail price from each unit instead of the wholesale price that we previously charged to Keesell, the major retailer that has recently stopped selling Frinta smart speakers.

Online has a sales target of 5 million units for the first year, which is the quantity that we used to sell to Keesell. We have sufficient spare capacity to increase production by a further 1.5 million units. Online will be given priority over Marketing and Distribution's (M&D)'s external customers if demand exceeds supply.



The Board has decided to operate M&D and Online as profit centres:

- All production will be transferred to M&D at manufacturing cost.
- M&D will continue to sell to all third-party retailers, generating revenues priced at wholesale price.
- M&D will supply Online with inventory, transferred at manufacturing cost.
- Online will sell directly to consumers, generating revenues priced at recommended retail price.

Costs and revenues for Frinta Friend Classic (our most popular smart speaker)

	W\$
Manufacturing cost	27.61
Wholesale price charged to retailer	39.55
Recommended retail price	46.99

Regards
Taras

 Reference Material Pre-seen

Draft the response to Amadou's requests in the box below.

From: Financial Manager

To: Amadou Gallo, Senior Financial Manager

Subject: Re: Fwd: Online sales





Thank you for completing the Management 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.



Management 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) 60% (b) 40%
2	45	1	2	(a) 60% (b) 40%
3	45	1	2	(a) 40% (b) 60%
4	45	1	2	(a) 40% (b) 60%

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

Amadou Gallo, Senior Financial Manager, stops by your workspace and hands you a document.

"The Board is considering a proposal to develop some new products.

Taras Kononenko, our Finance Director, has asked me to prepare a briefing and I need your help with the following matters:

- First, identify the challenges associated with managing the development of these security devices as a project and recommend suitable responses.

[sub-task (a) = 60%]

- Second, identify the main product and product reputation risks arising from the development and sale of these security devices and evaluate their significance."

[sub-task (b) = 40%]

The document referred to by Amadou Gallo can be found by clicking on the Reference Material button above.

Proposal to develop a home security system that will be compatible with Frinta Friend smart speakers

Prepared by Mohd Ishak Amri, Senior Marketing Manager

The Marketing and Distribution Department believes that Frinta should develop innovative accessories that will extend the capability of Frinta Friend smart speakers. These accessories will be sold through the same retailers as our smart speakers and they will be suitable for installation by the customer. We intend to start with a range of smart home security devices that will be compatible with Frinta Friend.

Smart security systems already exist. Ours will differ from most by having sensors that cover both the interior and exterior of the home. Most competing systems cover the interior only. Our sensors will have integrated cameras that photograph the cause of any alert. These will be uploaded to the internet and forwarded to the user's smartphone. This will enable users to check for false alarms, which can be a problem with many existing systems that send only a text message.

Our system will be similar in concept to the Ypburn Home Alarm system, with one major difference. Ypburn's alarm is sold as a kit, which could require customers to buy more than they wish. We will sell the devices making up an alarm system as separate items, which will enable customers to buy only what they need.










Our market research suggests that the following security devices should be developed prior to the product launch:










- A door/window sensor that detects the opening of the door or window to which it is attached.
- An indoor sensor that uses infrared motion detectors to detect movement and an integrated camera that will photograph the room.
- An outdoor sensor which will be similar to the indoor version, but will be rainproof.
- Software that will be downloaded to the user's Frinta Friend smart speaker and that will then enable the security system to be operated with simple verbal commands.



These are product ideas. We are relying on the technical experts in Research & Development to design the devices and create the software.

 Reference Material Pre-seen

Provide your response to Amadou's requests in the box below.

       **B** *I* U  x_2 x^2 

Paragraph         

 Reference Material Pre-seen

Six months have passed. Amadou Gallo says to you:

"I have brought you an extract from the Board minutes.

I have to prepare a briefing that Taras Kononenko can take to the next Board meeting and I need your help with the following:

- First, explain the issues that Frinta should consider when identifying customers and setting the selling price of the security system and recommend, with justification, an appropriate pricing strategy.

[sub-task (a) = 60%]

- Second, recommend, with reasons, how the Frinta Group's integrated report should reflect our development of this security system in the sections discussing the intellectual, human and social and relationship capitals."

[sub-task (b) = 40%]

The Board minute extract can be found by clicking on the Reference Material button above.

Extract from Board minutes**Security system peripherals**

Narendar Sehgal, Research & Development Director, reported on the development of the range of new security devices that will be compatible with the Frinta Friend smart speaker. There will be three new devices at launch:

	Expected manufacturing cost per unit
Door/window sensor – detects the opening of a door or window	W\$14.00
Indoor sensor – detects and photographs movement within a room	W\$42.00
Outdoor sensor – detects and photographs movement within its range outside the home	W\$64.00

Sensors will be sold individually, allowing a user to install as many of each type as wished. Additional sensors can be added at any time.










Alcine Chan, Marketing and Distribution Director, raised questions about pricing:









- The cheapest effective smart home security system presently on the market retails for W\$90. This is for a basic system that consists of three indoor sensors that notify users by text if an intruder is detected.
- The most expensive system is the Ypburn Home Alarm system, which is sold as a kit that retails for W\$450 and comprises two door/window sensors, three indoor sensors and an external siren. The kit can be extended by the purchase of additional sensors. Frinta's sensors will be similar in quality and capability to Ypburn's, although Frinta does not intend to offer a siren.

David Wyn Jones, Chief Executive, remarked that the ongoing development work was very impressive and that he looked forward to seeing it reflected in Frinta's integrated report.

 Reference Material Pre-seen

Provide your response to Amadou's requests in the box below.

       **B** *I* U  x_2 x^2 

Paragraph        

Reference Material

Pre-seen

A year has passed. Sales of the Frinta security system commenced 4 months ago. You receive the following email:

From: Amadou Gallo, Senior Financial Manager
To: Financial Manager
Subject: Legal claims

Hi

I have attached a news report that went online this morning.

We have already received many complaints about this issue, although there will be more now that the software problem is being reported in the press. There will undoubtedly be compensation claims, but we will not be able to resolve these before the end of this financial year.

Frinta is also suffering a serious internal conflict. Senior managers in Marketing and Distribution (M&D) are accusing managers from the Research & Development (R&D) Department of incompetence in the development of the security system. Senior managers from R&D are responding that M&D created unrealistic expectations when it marketed the security system. No security system can be totally reliable.

I am preparing a briefing for the Board and need you to help with the following:

- First, identify the accounting problems that will be created by the compensation claims against Frinta and recommend, with reasons, how they might be overcome.

[sub-task (a) = 40%]

- Second, recommend, with reasons, a suitable response to the growing conflict between the senior M&D and R&D managers.

[sub-task (b) = 60%]

Amadou

The news report referred to by Amadou can be found by clicking on the Reference Material button above.

Westland Daily News

Court action threatened in Frinta home security fiasco




Angry homeowners are blaming a recent wave of burglaries on their Frinta home security systems. A programming error in the device's software made their homes highly vulnerable to intruders.

A Police spokesperson explained that burglars had targeted homes fitted with external Frinta security sensors. If a house looked unoccupied then shouting "Frinta, disarm security" through the letterbox would

prompt a request for a pass phrase if the security system was armed. Generally, armed security systems suggest that nobody is at home.

Frinta's designers had set the security system software to accept "it is me" as a universal pass phrase. This simplified product development and testing. It had been intended to remove that feature once the software was completed, but the programmers forgot to do so. A burglar discovered the weakness and shared it in a blog read by criminals. Unfortunately, protecting homes with Frinta security systems made them more vulnerable to break-ins.

A Frinta spokesperson commented that the software error had been identified by the Police and had been rectified immediately. All Frinta Friend devices have already received an automatic software update over the internet.

 Reference Material Pre-seen

Draft your reply to Amadou's requests in the box below.



From: Financial Manager

To: Amadou Gallo, Senior Financial Manager

Subject: RE: Legal claims



A large, empty text area for drafting the reply.

 Reference Material Pre-seen

Two months later, you receive the following email:

From: Amadou Gallo, Senior Financial Manager

To: Financial Manager

Subject: Frinta Friend security system

Hi

I have forwarded an extract from the Board minutes.

Since the meeting, there has been a great deal of activity. Taras Kononenko wishes me to prepare a detailed briefing for the Board and I require the following from you:

- First, explain the issues that should be considered when determining a suitable transfer price for the secondment of Marketing and Distribution (M&D) managers to the Production and Research and Development (R&D) Departments.

[sub task (a) = 40%]

- Second, recommend, with reasons, ways in which the quality issues described in the Board minute could have been avoided and how the recurrence of such problems can be prevented.

[sub task (b) = 60%]

Amadou

The Board minute extract referred to by Amadou Gallo can be found by clicking on the Reference Material button above.

Extract from the Board minutes

The Board received a report from Alcine Chan, Marketing and Distribution (M&D) Director. A new complaint has emerged concerning the reliability of Frinta security systems.

Users are complaining that Frinta's indoor sensors are not always consistently arming or disarming themselves, even though the correct instructions and pass phrases are being given to their Frinta Friend smart speakers.

Asma Al-Kuwari, Production Director, explained that the original design for the indoor sensor had included quite a large wi-fi antenna to ensure a good connection with users' Frinta Friend smart speakers. Unfortunately, there was barely enough room for the antenna inside the sensor's casing, leading to defects when the antenna was bent during initial production. This was discussed with Narendar Sehgal, Research and Development (R&D) Director, and it was agreed that a slightly smaller antenna would be used. The smaller antenna reduced the effective range for communication between indoor sensors and their Frinta Friend smart speakers from 20 metres to 17 metres. R&D did not believe that the reduction would be a problem.

Alcine Chan stated that she should have been informed of the change in the effective range because the M&D Department understands users' needs and the ways in which they use Frinta's products. She told the Board that she wished to temporarily assign some of her senior managers to both Production and to R&D to work on modifications to resolve this problem with the indoor sensor and also to assist with the design and manufacturing issues associated with planned new products that are under development. She also said that she expected M&D to receive payment for the time her staff spent working in the other departments.

Reference Material

Pre-seen

Provide the responses requested by Amadou in the box below.

From: Financial Manager

To: Amadou Gallo, Senior Financial Manager

Subject: RE: Frinta Friend security system





Thank you for completing the Management 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.



Management 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) 60% (b) 40%
2	45	1	2	(a) 40% (b) 60%
3	45	1	2	(a) 60% (b) 40%
4	45	1	2	(a) 40% (b) 60%

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

You receive the following email:

From: Amadou Gallo, Senior Financial Manager

To: Financial Manager

Subject: Internet of things (IoT)

Hi

I have attached a recent consumer review that implies we could be missing out because of the restricted connectivity of our Frinta Friend.

The original intention was that the primary role of the Frinta Friend smart speaker would be to function as a personal assistant. However, we did build in connectivity to allow it to simplify the operation of the Frinta smart heating system and a small number of third-party devices, such as switching Dronquo electrical adapters on and off. We are now becoming concerned that we are missing the opportunities associated with the so-called "IoT". Taras Kononenko, the Finance Director, has requested a briefing before the Board meets to discuss the issues arising from the IoT. I need your help with the following:

- First, identify and discuss the significance of the changes to Frinta's business model that will be created by enhancing the connectivity of our products.

[sub-task (a) = 60%]

- Second, discuss the impact that enhancing the connectivity of Frinta Friend will have for the management of this product's lifecycle.

[sub-task (b) = 40%]

Thanks

Amadou

The consumer review referred to by Amadou can be found by clicking on the Reference Material above.

Westland Daily News

Consumer review – which is the best smart speaker?



Smart speakers are becoming increasingly popular, taking over from smartphones as the convenient way to organise your homelife. The only real difficulty is in deciding which brand to buy.

There are two main brands on the market: Ypburn and Frinta. They both look very similar, but each is designed to meet a different set of needs.

The Frinta Friend is best suited to the role of personal assistant. You can update your personal schedule with voice commands such as "Frinta, I have a dental appointment at 10.00 on Saturday morning" and then relax in the knowledge the device has already updated the calendar on your smartphone. It is also excellent for internet searches and online shopping.

Ypburn can also interact with users, although its voice recognition is not quite as good as Frinta's. You might have to repeat your request to be reminded of your dental appointment. The area in which Ypburn excels is in integration with other smart devices in the home. If you purchase, say, a new smart TV then your Ypvox smart speaker will recognise the brand and will set it up for you. You can then switch the television on and off, adjust its volume and change channels simply by voice commands to your smart speaker.

Ypburn's approach to making its smart speakers interact with other smart devices in the home is yet another example of the so-called Internet of Things (IoT). It is becoming increasingly common for devices to be able to connect to one another over the internet and to share data.

Pre-seen

Provide your response to Amadou in the box below

Subject: RE: Internet of things (IoT)



 Reference Material Pre-seen

A week has passed. Amadou Gallo stops by your workspace and hands you a document:

"I have brought you an extract from the minutes of a Board meeting that was held this morning. Taras Kononenko, our Finance Director, has asked me to prepare a briefing document and I need your help with two matters:

- First, explain how proceeding with the proposal to change Frinta Friend is likely to affect Frinta's weighted average cost of capital (WACC) and explain the implications of any increase for the company.

[sub-task (a) = 40%]

- Second, identify and discuss the main product, reputational, contractual and operating risks that will arise for Frinta if the proposed changes to Frinta Friend are put into effect."

[sub-task (b) = 60%]

The Board minute extract can be found by clicking on the Reference Material button above.

Extract from the Board Minutes

The Board discussed the issues associated with enhancing the connectivity of Frinta Friend smart speakers to enable them to control a wide range of smart products.










Narendar Sehgal, Research & Development (R&D) Director, stated that the software used by most manufacturers of smart devices is open source, which means that it can be freely copied and edited. That makes it possible to program Frinta Friend smart speakers to interact with third-party devices without seeking permission and without breaching third-party copyright.










It will require considerable time and effort to complete the programming required to extend Frinta Friend's connectivity. Once that work is complete, it will still be necessary to create some simple apps that can be downloaded to Frinta Friend in order to operate some items effectively.

Taras Kononenko, Finance Director, expressed concern that these changes could cause an increase in Frinta's weighted average cost of capital (WACC). The Board agreed to discuss this further at a later date.

 Reference Material Pre-seen

Provide your response to Amadou's requests in the box below.

       **B** *I* U  x_2 x^2 

Paragraph ▾  ▾        

Reference Material

Pre-seen

A further 2 months have passed. You receive the following email:

From: Amadou Gallo, Senior Financial Manager

To: Financial Manager

Subject: Acquisition

Hi

I have attached the latest financial statements published by Smalopen, an unquoted company that develops software to control smart industrial equipment. Frinta's Board is considering acquiring it by exchanging Frinta shares for 100% of Smalopen's equity. The number of shares that would be issued by Frinta is still under discussion but is likely to increase the number of Frinta shares in issue by roughly 5%.

I need your help with two matters, assuming we proceed with the acquisition:

- First, identify and recommend solutions to the accounting challenges that we will face in determining the goodwill on the acquisition of Smalopen and also the Frinta Group's earnings per share (EPS).

[sub-task (a) = 60%]

- Second, recommend, with reasons, the approach that Frinta should take in creating a team to engage with Smalopen's management after the acquisition.

[sub-task (b) = 40%]

Thanks

Amadou

The financial statements published by Smalopen can be found by clicking on the Reference Material button above.

Smalopen
Statement of financial position
As at 31 December 2021

W\$ million

Non-current assets

Property, plant and equipment	2.6
Intangible assets	22.7
	<hr/> 25.3

Current assets

Trade receivables	8.0
Bank	0.2
	<hr/> 8.2

Total assets	<hr/> <hr/> 33.5
---------------------	------------------

Equity

Share capital and share premium	50.0
Retained earnings	(30.7)
	<hr/> 19.3

Non-current liabilities

Borrowings	5.0
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Current liabilities

Trade payables	9.2
Tax	0.0
	<hr/> 9.2

Total equity and liabilities	<hr/> <hr/> 33.5
-------------------------------------	------------------

Notes:

- Smalopen has a strong technical reputation but spends heavily on research and so has consistently made losses since it was founded 5 years ago.
- Intangible assets consist of software licences purchased from third parties and capitalised development costs.

 Reference Material Pre-seen

Draft the responses requested by Amadou in the box below.

From: Financial Manager

To: Amadou Gallo, Senior Financial Manager

Subject: RE: Acquisition



Reference Material

Pre-seen

Six months have passed. Frinta did not acquire Smalopen. You receive the following email:

From: Amadou Gallo, Senior Financial Manager

To: Financial Manager

Subject: Internet of things (IoT) problems

Hi

I have attached a news report that went online this morning.

The Research and Development (R&D) Department conducted extensive tests of the Frinta Friend software by using it to operate a wide range of smart products, including smart televisions. R&D purchased the latest versions of the smart products made by all major manufacturers. The products were all new and so had the latest software as installed by their manufacturers.

R&D was not aware that some manufacturers' older products are not designed to download software updates automatically. Smart products in customers' homes can continue to use older versions of the manufacturers' software. R&D did not test Frinta Friend on those older versions.

I need two things from you:

- First, evaluate the argument that the R&D Department should have identified the television manufacturers and the other manufacturers of smart devices as stakeholders in the project to upgrade the Frinta Friend software.

[sub-task (a) = 40%]

- Second, discuss the advantages and disadvantages of using Total Quality Management (TQM) to update and maintain Frinta's software to enable Frinta Friend to take advantage of the IoT.

[sub-task (b) = 60%]

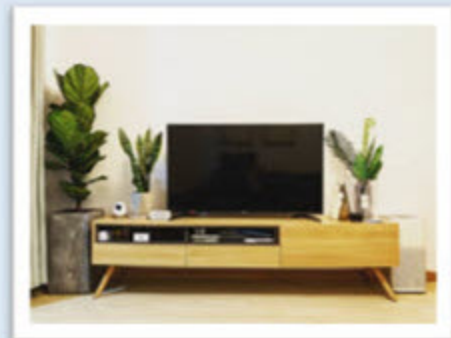
Regards

Amadou

The news report referred to by Amadou can be found by clicking on the Reference Material button above.

Westland Business Daily



Frinta smart speakers damage smart TVs



Users of the popular Frinta Friend smart speaker have reported that a recent software upgrade appears to have caused other smart devices in the home, particularly smart televisions, to crash. The software update had been intended to enhance the Frinta Friend's ability to control other smart devices in the home.

A spokesperson for Frinta admitted that the company had received complaints from users. The problem appears to be that the open-source software on many smart devices is not updated

when a new version becomes available. Frinta Friend's software is compatible with the latest software, but there is a risk that it will corrupt the software on devices that use older versions.

 Reference Material Pre-seen

Provide the responses requested by Amadou in the box below.

From: Financial Manager

To: Amadou Gallo, Senior Financial Manager

Subject: RE: Internet of things (IoT) problems



A large, empty rectangular box for writing the response to the email.



Thank you for completing the Management 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.



Management 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) 60% (b) 40%
2	45	1	2	(a) 40% (b) 60%
3	45	1	2	(a) 60% (b) 40%
4	45	1	2	(a) 60% (b) 40%

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

Amadou Gallo hands you a document and says:

"I have brought you an extract from the minutes of this morning's Board meeting. Taras Kononenko, our Finance Director, is keen to discuss some of the implementation issues that would arise from this proposal.

I need you to do two things for me:

- First, explain whether this new product is "disruptive" in the sense that it would fundamentally change the smart speaker industry and discuss the implementation issues for Frinta of working with disruptive technologies.
[sub-task (a) = 60%]
- Second, identify and explain the main product, product reputation and operational risks that the introduction of this new product will create for Frinta."
[sub-task (b) = 40%]

The Board minute extract can be found by clicking on the Reference Material button above.










Extract from the Board minutes











Narendar Sehgal, Research and Development Director, presented a proposal to develop a new security camera that would operate in conjunction with the Frinta Friend smart speaker. Users will attach cameras to exterior walls, in order to detect movement and take video. Movement alerts and video files will be uploaded to the Cloud. Each user will be able to access uploads for up to 48 hours, after which they will be deleted in order to create space.



Alcine Chan, Marketing and Distribution Director, pointed out that Frinta Friend has always been marketed primarily as an electronic personal assistant with voice control. Frinta has previously made little attempt to enable it to interact with other devices, apart from Frinta heating and ventilation controllers and third party Dronquo's smart electrical adapters.

 Reference Material Pre-seen

Provide your response to Amadou in the box below.

       **B** *I* U  x_2 x^2 

Paragraph          

 Reference Material Pre-seen

A month later, Amadou Gallo hands you a document and says:

"Taras Kononenko is preparing for a Board meeting and he has asked us for some assistance. I need you to draft a briefing covering two matters:

- First, explain the issues we should consider when deciding how much to charge customers for the long-term storage of video files recorded by their security cameras.

[sub-task (a) = 40%]

- Second, explain how the costs of setting up the system that Frinta will require for the long-term storage of video recordings should be dealt with in our financial statements, and also how we should account for the revenue from providing this service."

[sub-task (b) = 60%]

The document referred to by Amadou can be found by clicking on the Reference Material button above.

Report on market research into demand for online storage of security camera footage


Prepared by Amrita Pande, Marketing and Distribution

Frinta is actively considering the development of a new product in the form of a security camera system that will monitor the exterior of its user's home and will upload video of detected movement to a cloud account that can be accessed by the user.










It had originally been intended that video files would be retained for 48 hours and then deleted to free up storage, but our detailed market research suggests that users wish to be able to store these files for much longer.









We intend to offer users a choice with regard to the storage of video files. That will require a significant investment in computer hardware and software to ensure that we have the storage capacity required for this service and the ability to ensure safe and reliable access to data files.

Users who do not require long-term storage can simply purchase the camera system on its own. The purchase price will include the provision of temporary storage, with videos being accessible for 48 hours before being deleted automatically. Alternatively, users will be offered the opportunity to pay a separate fee for long-term storage. A single payment will be made and, in return, all video recordings made during the three-year period from the date of payment will be retained. When that period expires, users will be able to make a further payment to extend for a further three years or will be able to allow the service to lapse and have their recordings deleted.

 Reference Material Pre-seen

Provide your response to Amadou's requests in the box below.

       **B** *I* U  x_2 x^2 

Paragraph        

Two months have passed. You receive the following email:

From: Amadou Gallo, Senior Financial Manager
To: Financial Manager
Subject: Potential acquisition

Hi

The Board has decided to proceed with the security camera product. It has also been decided that users will be offered the ability to store video recordings made by the camera in a Cloud-based server system for up to 3 years.

Frinta's Board is considering the acquisition of Dubblfile, a foreign company that has the necessary skills and equipment to provide our cloud-based storage service. I have attached a brief document outlining some of Dubblfile's background.

Taras Kononenko has requested a briefing and I need you to prepare the following:

- First, explain how adding Dubblfile to the Frinta Group as a 100% subsidiary will affect the analysis of the Frinta Group's consolidated financial statements.

[sub-task (a) = 60%]

- Second, recommend, with reasons, the approach for selecting Frinta's managers who will be responsible for integrating Dubblfile into the Frinta Group and then assessing their performance.

[sub-task (b) = 40%]

Thanks
Amadou

The background on Dubblfile can be found by clicking on the Reference Material button above.

Background on Dubblfile

Dubblfile is an unquoted company that offers Cloud-based storage facilities for corporate clients. It has a strong reputation for technical expertise and security.

Norland is a developed country that has low energy costs. Its currency is the N\$ and it requires companies to prepare financial statements in accordance with IFRS.

Dubblfile's latest statement of financial position:

Dubblfile

Statement of financial position

As at 31 December 2021

	N\$ million
Non-current assets	
Property, plant and equipment	20.8
Intangible assets	15.7
	<hr/> 36.5
Current assets	3.6
	<hr/>
Total assets	<hr/> <u>40.1</u>
Equity	
Share capital and share premium	15.0
Retained earnings	3.0
	<hr/> 18.0
Non-current liabilities	
Borrowings	19.0
Current liabilities	3.1
	<hr/>
Total equity and liabilities	<hr/> <u>40.1</u>

Property, plant and equipment consists mainly of the buildings that house the company's servers and the servers themselves.

Intangible assets consist of the unamortised cost of licences for the software used to manage client files.

 Reference Material Pre-seen

Draft the responses requested by Amadou in the box below.



From: Financial Manager

To: Amadou Gallo, Senior Financial Manager

Subject: RE: Potential acquisition



A large, empty text area for drafting the response.

 Reference Material Pre-seen

Six months later, Amadou Gallo hands you a newspaper article and says:

"This is really damaging publicity. Demand for the long-term storage service was more than twice as high as we had planned for. Dubblfile, the subsidiary that we acquired to manage this service, had to buy and install a lot of new computers in order to increase capacity and some of the normal checks on backing up video recordings were overlooked because of time pressure.

I need two things from you:

- First, discuss whether or not Frinta could have prevented this failure by introducing Total Quality Management (TQM) at Dubblfile.

[sub-task (a) = 60%]

- Second, discuss whether Frinta should have planned for the introduction of additional capacity as a real option in the capital investment appraisal for the acquisition and preparation of Dubblfile to provide this service."

[sub-task (b) = 40%]

The newspaper article referred to by Amadou can be viewed by clicking on the Reference Material button above.

Westland Daily News


Frinta loses security recording












Frinta's latest product, a security camera system that backs video recordings up to the Cloud, has not lived up to expectations. Users, each of whom paid W\$240 for a three-year guarantee that their recordings would remain safe and accessible, are complaining that many of their









recordings have been lost during the uploading process.

A spokesperson for Frinta admitted that there had been a problem, blaming it on the fact that demand for the service had significantly exceeded expectations. The need to add additional servers to the system had led to implementation issues that had corrupted some files instead of backing them up.

 Reference Material Pre-seen

Provide the responses requested by Amadou in the box below.

       **B** *I* U  x_2 x^2 

Paragraph        



Thank you for completing the Management Case Study Exam.

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

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



CIMA MANAGEMENT CASE STUDY NOVEMBER 2021 – 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

Business model

Frinta's business model defines value in terms of sophisticated products that are easy to use. This proposal appears to sacrifice ease of use in order to offer a product that is sophisticated. That may be a significant change because ease of use has always been the key to Frinta's business model. The new security camera will require some installation decisions on the part of the user, if only because it will have to be located where its sensors can be expected to detect the noise of any intrusion. The location will also have to allow for the drone to be launched and recovered without colliding with lamps and other obstructions. The user will have to take precautions before arming the system when leaving home. For example, interior doors will have to be left open, otherwise the drone will not be free to track and video the source of any sound.

Frinta creates value through innovation and through the manufacture of good quality products. Innovation implies the development of products that will offer benefits over the products that are presently on the market. In this case, it is debatable whether the drone is likely to be better than simpler concepts such as having cameras with motion detectors in each room of the house. Indoor security cameras are simpler to install and to use as a security measure and they may be less prone to failure in the event of an emergency. The development of this product seems to have been inspired by the challenge of making something interesting out of scrap materials rather than by a desire to solve a genuine consumer problem.

Frinta delivers value from home electronics by engaging with retailers. There is nothing in the report to suggest that Frinta has contacted retailers to discuss their willingness to sell this new product idea. It is clearly possible that some consumers will be attracted by the novelty of a flying robotic security device and so there are likely to be some sales, but retailers will require evidence to support

any such expectation. It would have been more consistent to have held some initial meetings with major electronics retailers in order to take their advice on the key commercial issues, such as their perceptions of demand at the likely retail price of the Frinta Flyer. Frinta could seriously damage its reputation if it attempts to develop and launch this product without obtaining the support of major retailers.

Frinta captures residual value by setting prices that reflect the technical superiority of its products. It is debatable whether that is realistic in the case of Frinta Flyer because the design requires audio sensors in the rooms that are to be protected and a base station, as well as the drone itself. It seems likely that these devices will be more expensive to manufacture than conventional indoor security cameras. For example, the microphones in Frinta Friend cost more than the camera used in the Frinta Friend Screen. Frinta will either have to accept a smaller margin or attempt to market its product to those consumers who are prepared to pay a premium for the novelty value of the Frinta Flyer. Frinta's current business model is based on the idea of selling high-quality products for which there is a proven need. Consumers seem to be prepared to pay extra for good quality heating controls and for smart speakers for which there was an existing demand before Frinta entered the market.

Financial reporting

The most immediate challenge would be in identifying the true costs of developing products that have been created in this informal manner by the company's R&D staff. The original business model implies that Frinta will focus on a narrow range of products that have been shown to be popular. It should, therefore, be relatively easy to determine whether or not projects fall within the criteria for capitalisation as set out in IAS 38 *Intangible assets*. If the end product is likely to be an enhancement to an existing product, such as an improved version of a heating controller, then the cost can almost certainly be capitalised as a development cost. The new business model, which implies the creation of potential new products in an informal and unstructured manner, suggests that nothing can be capitalised until quite an advanced stage has been reached. In the case of Frinta Flyer, there is already a prototype.

Changing the business model could also have implications for Frinta when determining the appropriate value for other assets, such as the value of inventory. For example, if large quantities of Frinta Flyer are made before the product is launched then it would be possible that the inventory will have to be scrapped if the product is commercially unsuccessful.

One response to this issue would be to train R&D staff to identify projects that could be capitalised under IAS 38. The speculative work that they undertake initially should be written off in any case. Once a potential product starts to seem as if it could be commercially viable then the R&D Department should start to maintain records such as timesheets and details of materials used so that the costs can be tracked. In the event that any doubt remains over a project's classification then IAS 38 sets out a default treatment whereby costs are written

off immediately. That would have an impact on profits but would also mean that Frinta's Board can demonstrate full compliance with standards.

If the costs of research are significant then Frinta might benefit from reminding shareholders that the financial statements should be interpreted on the basis that the company is investing heavily in future new products. The fact that the costs cannot be capitalised does not mean that they should be regarded as losses. There should still be a realistic expectation that the investment in research will yield a return.

Section 2

Effective teams

The sense of ownership of product ideas is a serious problem. The engineer who develops an idea is not necessarily the best person to lead further research into feasibility. If Frinta allows engineers to dictate that lead then there could be motivational problems, such as team members being led by colleagues who are their juniors. There could also be technical issues. For example, an electrical engineer could have a perfectly sensible suggestion for a product that would require a background in electronic engineering to develop.

The most logical response to this problem would be to reward and acknowledge the contribution of the person who offered the initial idea, perhaps by giving a cash bonus and reflecting such contributions in staff appraisals. In that case, staff would feel less need to claim ongoing ownership through the development phase.

The fact that teams are selected from a relatively large pool of engineers from different backgrounds could make it difficult to ensure that staff are selected on the basis of suitability and that staff benefit from being involved in a range of projects. There could be a danger that team leaders push to work with colleagues from previous projects whom they enjoyed working with.

The R&D Department should maintain a database of engineers, containing details of skill and experience. That could then be used to identify senior team members by a manager who is responsible for scheduling projects. The manager could also consider the need to provide more junior engineers with useful experience that will enable them to develop their careers. Removing the ability of project managers to select their own teams will reduce the risk of discrimination and of managers selecting individuals on the basis of personal preference.

Profit centre

At present, R&D is managed on the basis of managing costs. Reflecting the revenues being created by R&D would (hopefully) demonstrate that the department was making a positive contribution to Frinta's profits. The Board should then be better equipped to make decisions concerning the ongoing R&D budget, taking account of its potential to yield a surplus. There is always a danger that boards might regard research as a discretionary expenditure that can be reduced during difficult periods in order to maintain profit. Treating R&D as a profit centre would reduce any such short-termism. If R&D cannot be successfully operated as a profit centre then it would be desirable to adopt alternative performance measures that allow the recognition and monitoring of R&D's performance.

Giving the R&D staff credit for the revenues that they create could reassure engineering staff that their jobs are secure and so assist in retention and motivation. The R&D Department has a large staff headcount, which means that it will require considerable costs in order to remain operational. Staff could, therefore, feel vulnerable to the threat of redundancy. Making R&D a profit centre

will motivate staff to focus on products that have the potential to generate revenue, which may not be the case if they are tempted to design items that will be interesting to work on. Team managers might be encouraged to view their roles as being to create revenue from future products and so their interests may be aligned to those of Frinta.

Making R&D a profit centre would raise significant problems in terms of identifying revenues and relating those to current performance. Development work on a new product could take years and even an upgrade to an existing product could take months to develop, with costs being incurred in two or more accounting periods. Identifying the revenues to be offset against those costs would require estimates of the future cash flows that the development work would create. There is also the concern that research is not always conducted with an immediate prospect of generating revenue, although it should always have some potential for long-term benefit.

Identifying the revenue created by R&D will require some very complicated analysis because Frinta's other departments may feel that they are being overlooked if R&D received full credit for all revenues. It could be argued that total revenue relies on the collaborative inputs of all five of Frinta's departments and that giving R&D full credit will demoralise the others. Any attempt to analyse revenue to reflect the respective inputs from R&D and the other four departments will be very speculative and open to disagreement. An inaccurate split will probably create more difficulties than it resolves because it could become divisive if managers feel that they are receiving an inadequate share of the credit for their efforts.

Section 3

Goodwill and NCI

Accounting for goodwill is complicated by the fact that Tronnecks is a design consultancy that will undoubtedly be worth far more as a going concern than the value of its separable net assets. The company's financial statements will not include any internally generated intangible assets, but they may have to be recognised as separate intangibles. Taras has not told us about the PPE that we will acquire when we take Tronnecks over, but it is unlikely to represent a significant element of the purchase price. We will have to consider the possibility that this goodwill will be impaired, either immediately after the acquisition or within the next few years. One cause for concern is that the goodwill is essentially attributable to the large number of experienced engineers employed by Tronnecks. If they decide to leave because of the takeover, then the goodwill will also become worthless. There is also the concern that the nature of Tronnecks' business model is changing dramatically, switching from a consultancy business to an in-house research facility. Again, there is no guarantee that Tronnecks will succeed in that role, which could have a negative impact on goodwill.

Determining the fair value of the 40% non-controlling interest is complicated by the fact that Tronnecks is unquoted, so there is no observable share price that we can look up. We might start with the cost to Frinta of the 60% shareholding that we will acquire, which could then be multiplied by 40/60 to give a pro-rata estimated value. That would not necessarily help much because a 60% share will give Frinta control, whereas the 40% NCI would not and so its value could be lower. The value of the NCI could also be affected by the non-controlling shareholders' ability to sell their shares. They may struggle to find a buyer because the company is unquoted, which would further reduce the fair value. The fact that the 40% is held by Tronnecks' directors does give them some additional influence over Frinta, if only because they could threaten to resign, which might help offset some of the concerns about the value of their shares.

Stress testing

The biggest issue with prioritisation will be the fact that Tronnecks has two separate and potentially conflicting priorities. In the short term, the third parties who have contracted work outstanding may be the primary customer, but engineers may wish to commence work for Frinta as soon as possible. The engineers at Tronnecks will not necessarily accept the priority laid down by Frinta, or even the management team at Tronnecks if that conflicts with their own career progression. Tronnecks is bound by contract to complete a number of third-party projects and so staff will be committed to undertake those before they are free to concentrate completely on Frinta's work. This could create a conflict because Tronnecks' engineers may be reluctant to devote themselves exclusively to the third-party contracts because they are keen to impress their new employer. That could lead to delays in completing the backlog. Errors caused by any lack of commitment could also lead to clients coming back and seeking corrections and rectification in the future, thereby disrupting the integration of Tronnecks into the Frinta Group.

Frinta will have to impose a number of relevant performance measures to ensure that Tronnecks integrates itself into the Frinta Group. Unfortunately, that could also lead to dysfunctional behaviour. For example, Tronnecks' staff will have to undertake training in the design and operation of Frinta's current product range, including an understanding of the company's standards and the tolerances of different designs. Frinta will have to take care that any performance measures align themselves with its needs and interests. There is no point in, for example, encouraging engineers to rush through training so that they can claim to have met a target. Performance measures could also cause unnecessary and unhelpful stress for professional staff. For example, tracking the number of Tronnecks staff who are actively engaged in R&D projects could disturb those who have not yet been allocated to a project. It will be particularly problematic if temporary performance measures are applied to Tronnecks' staff that are not applicable to Frinta's existing R&D Department.

Productivity will be complicated by the fact that the acquisition of Tronnecks will almost double the number of engineers in research and development, which will create pressure on both new and existing staff to be seen to be productive. Tronnecks' managers will be keen to become actively involved in research as soon as they can, but they may meet resistance from managers in the existing R&D Department, who may feel that they are in danger of being overtaken by their new colleagues. The fact that Frinta intends to keep Tronnecks as a subsidiary within the Group implies that the intention is to have two separate research and development operations, one staffed by R&D and the other by Tronnecks. That could lead to competition between the engineers, which could be harmful to overall performance. It may be more efficient to have a single R&D Department that employs all of the engineers together so that they can share ideas and opinions and so create the creative tensions in order to identify the best way to make progress.

The question of Tronnecks' flexibility may not be a serious problem because the company was a design consultancy. Its engineers are used to the provision of services to a range of different clients and so adapting to different challenges. One major issue that could hold Tronnecks back is the fact that offering an in-house R&D function will require greater emphasis on defining and solving problems. Previously, problem identification would have been undertaken by clients, who would have brought them to the consultancy in order to obtain solutions. Tronnecks will also have to review flexibility in terms of staffing and the breakdown between staff from different engineering disciplines. The proportion of staff from different backgrounds may not best meet Frinta's needs. It may not be feasible to retrain, say, civil engineers as software engineers. If that is the case, then Tronnecks will have to be prepared to take more drastic steps with regard to any mismatch between staffing and Frinta's needs.

Section 4

Lifecycle management

In order to be effective, lifecycle costing requires R&D to design costs out of the products that it has under development. That requires close support from both Production and Marketing and Distribution. The costs of Frinta's current products are made up largely of component costs, with a significant element of labour and factory overheads. R&D should aim to seek the advice of Production in order to determine whether there is scope for using less expensive components without compromising on build quality. It is also to be hoped that Production could examine a prototype of any new product with a view to recommending modifications that might make the product easier, and so cheaper, to manufacture. R&D should also seek the support of Marketing and Distribution in order to determine how the product will be used by its target market and how that ought to be reflected in the design. Marketing and Distribution could have useful suggestions concerning the product and the ways in which costs might be designed out. For example, buttons or other controls might be replaced with other input devices, such as touchscreens. The Marketing and Distribution Department might also reassure R&D that certain costs are worth accepting because they will add value in the minds of customers.

R&D should also aim to minimise the time to market in order to prevent competitors from obtaining the advantage of being first to market. This could require the active support of the Board to ensure that R&D has all of the resources that it requires to complete its development work within the shortest possible time. This may also require the assistance of Finance and Administration to ensure that the work is not delayed by cash flows or budgetary constraints. R&D also requires the active support of Human Resources, partly to ensure that key members of staff are identified and adequately rewarded in order to retain their loyalty. It would also be desirable to ensure that all staff who are engaged with R&D in any capacity are subject to appropriate rules and penalties that would discourage them from briefing competitors on Frinta's R&D work-in-progress.

Finally, R&D should aim to maximise the length of the lifecycle. Again, this could be a matter for liaison with Marketing and Distribution and also the Board. The fact that most devices produced by Frinta rely on software means that updates can be released that will improve reliability or effectiveness. The timing of such updates can be managed in line with an active strategy in maintaining interest and creating positive publicity, such as improved speech recognition software for smart speakers. Frinta could also consider the release of upgraded versions of its products that would enable it to maintain any lead over competition and could even persuade existing customers to buy the latest version. Again, this would imply a strategy that could be developed in conjunction with Marketing and Distribution and the Board. R&D should keep developing these improvements, but the decision about when and how to launch them is really a strategic matter that should be left to the Board.

Integrated reporting

Ideally, Frinta will have legal rights associated with the development of intellectual property in the form of patents and other rights. These can be listed under the heading of intellectual capital. Frinta will also own copyright on any apps and software that it develops. These rights will demonstrate that expenditure on R&D is being incurred responsibly because Frinta can demonstrate that it is taking steps to safeguard intellectual property, implying good stewardship. It also implies that something of value is being created because patents and other legal rights are generally only granted when there is something novel about the product or process that is being patented. Frinta could disclose the potential that these rights will have for future performance because they are protected and so they can be used to encourage shareholders. The key is to ensure that shareholders and other stakeholders appreciate the value that these documents have, in addition to their existence.

Frinta's intellectual capital also includes intellectual property that cannot be protected by legal claims, such as the knowledge of its R&D staff. Intellectual property can sometimes be protected simply by maintaining secrecy, perhaps by binding employees with contracts and non-disclosure agreements. Clearly, it would be impossible to describe such intellectual property in any great detail because it would assist competitors to discover it for themselves. Frinta could, however, give background information on factors that indicate the scale of its research and development programmes, such as the number of engineers and the overall expenditure. It would also be possible to offer insights through discussing the benefits created by products that are already in production.

CIMA MANAGEMENT CASE STUDY
NOVEMBER 2021 – FEBRUARY 2022
EXAM ANSWERS

Variant 2

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Section 1

Heating and ventilation controllers

In the short to medium term, Frinta continues to make more revenue and operating profit from its controllers than it does from smart speakers. It would be foolish to discontinue the company's most profitable product without good reason, especially when it is the company's largest source of profit. In the longer term, Frinta will have to take care because there is a separate factory for the manufacture of controllers and so there could be substantial fixed costs associated with the product. Since there is a substantial operating profit, it shows that the fixed costs have been fully covered, and that the rate of decrease is not so high that controllers are in danger of going into loss soon. The percentage decrease in operating profit was actually 7%, smaller than the 10% decrease in revenue, which implies that costs relating to controllers are well under control.

Frinta will have to consider whether there is an opportunity cost associated with the manufacture of controllers in view of the declining profits. The fact that there are separate factories for smart speakers and controllers suggests that continuing with this range does not interfere with smart speaker production. It is, however, possible that the controller factory could be repurposed without too much difficulty in order to enable it to make smart speakers. There is a possibility that discontinuing production of controllers could release resources that could be used in a more profitable manner, such as selling the factory to raise cash that could be invested in the development of smart speakers and their accessories. It may be possible to seek alternatives, such as a buyout of the controller factory, with a view to releasing resources and allowing Frinta to focus on smart speakers.

The declining revenues from controllers could suggest that the Frinta product line is losing its competitive advantage because of other developments in the market. Frinta's controllers are sold on the basis that they are easy to operate and to

program, but the growth in smartphone apps and smart speakers in the home means that less expensive speakers are likely to be just as easy to use. If Frinta has lost that advantage, then its controllers will rapidly become uncompetitive because the alternatives are cheaper to manufacture and so have a price advantage. Frinta should undertake an analysis of the market to establish whether it is possible to obtain the same benefits from less expensive products, in which case it might make sense to withdraw from the market.

It would appear that Frinta has departed from its business model, which suggests that the company will create value through innovation in hardware and software. If the ongoing development of controllers has ceased because there are no ways to add value through research and development, then the continuing production of controllers is almost certainly inconsistent with Frinta's business model. There is, of course, nothing to prevent the model from being revised in response to such market changes, but that should be considered carefully by the Board and undertaken as a deliberate policy. The Board could then consider whether it might make more sense to license the brand name and patents to other manufacturers in order to generate revenue from controllers.

Reducing selling prices

The most immediate advantage of lowering prices is that Frinta competes in terms of quality and ease of use. Frinta is presently uncompetitive with regard to price. Lowering prices might stimulate demand. Customers are generally faced with the need to recover the price of controllers from the end user and so they may be discouraged from paying significantly more for a heating controller. Some potential buyers, such as housebuilders, could be in the market for large numbers of units and so even a modest reduction could generate a significant increase in sales. High prices are sometimes presented as a sign of quality, but that need not necessarily be the case when controllers are being sold to plumbers and other professionals. They are in a position to judge quality for themselves. The fact that Frinta is no longer actively developing new controller products could mean that it would be possible to reduce prices without a decrease in profit if Frinta passes on its savings in ongoing R&D.

The biggest disadvantage of reducing prices is that there is always a risk that the decrease will have insufficient effect on demand to result in an overall increase in profit. It will be difficult to determine the price elasticity of demand without putting the price reduction to the test. If it does not work, then it will be difficult to restore prices to their original level. If the price reduction does make a difference, then competitors might feel obliged to retaliate by making their own reductions. Frinta might be unable to keep up with any such decreases because of its higher production costs. One further risk arises from the fact that the end user is unlikely to purchase a heating or ventilation controller as a standalone purchase. It is likely to be purchased as part of a larger transaction such as the purchase of a house or a new heating or ventilation system. End users are unlikely to regard any price reduction by Frinta as significant by the time the saving is offset against that total cost.

Section 2

Acquisition

Frinta's Board will have to decide whether Thermzoan should be accounted for as an associate. IAS 28 *Investments in Associates and Joint Ventures* requires that we should consider whether Frinta has significant influence over the company. Frinta will have 30% of Thermzoan's equity, which would normally be sufficient to allow influence to be assumed, but that may not be the case here. The issue will reduce Maggie Park's holding to $60 \times 70\% = 42\%$ of the total shares in issue, which is not a controlling interest, but it would grant her a significant influence of her own. It may be possible for Maggie Park to achieve control by working in collaboration with her senior managers, who will share $40 \times 70\% = 28\%$, which would make it difficult for Frinta to claim that its holding grants any real influence.

It seems unlikely that Frinta would make such a sizeable investment unless it would be able to influence Thermzoan, which suggests that the company is an associate. The fact that any shareholder can block the issue of additional shares, or the sale of existing shares implies that Frinta can influence the company and also its Chief Executive and management team, who hold the other 70% of the equity. That means that Thermzoan should be accounted for as an associate, meaning that the investment should be carried at cost, plus Frinta's share of any post acquisition profits. Frinta will recognise its share of Thermzoan's profits as income in its statement of profit or loss, regardless of whether Thermzoan distributes those profits as dividends. The transactions between Frinta and Thermzoan, including the royalty payments, will not be cancelled.

The investment in Thermzoan will have to be reviewed for impairment on an annual basis. That will raise concerns because Thermzoan will be dependent on revenues from the sale of heating and ventilation controllers and that appears to be a declining market. Thermzoan's products are of a higher quality than Frinta's, but they share a market that appears to be at risk of declining. Falling demand for top quality controllers could lead to an impairment. The new arrangement with Frinta could further threaten the value of Thermzoan because it will affectively be competing against an established brand. The revenues from the royalty agreement will offset the loss of contribution from direct sales, but this deal could undermine Thermzoan if Frinta makes a success of selling its products under licence.

Product and operational risks

There are two related product risks associated with this arrangement. The first is that Frinta's version of the Thermzoan product will not sell well because it is competing against the original product that will continue to be sold by Thermzoan. Thermzoan's product has already been established as a superior range to Frinta's and it may be difficult to compete against that, particularly when Frinta cannot afford to undermine Thermzoan's credibility without risking the impairment of its investment. The fact that the products are identical, other than the branding, will not necessarily help Frinta to mitigate this risk because it would confuse the market to promote the controllers on the basis that they were identical but sold under different brand names.

There is a related concern in that Frinta may not benefit overall from the sale of these new controllers because they will simply displace sales of its existing range. Frinta will be in a difficult position with regard to positioning the new range because it is effectively competing for sales with Thermzoan and so it cannot set too high a selling price, even though it also has to bear the cost of its royalties.

There could be operational risks, such as quality issues associated with manufacturing the new range. The superiority of Thermzoan's products could imply greater complexity or higher build quality, which will serve as a benchmark against which the market will judge Frinta. If there are any problems with build quality, then Frinta could suffer reputational damage. The fact that the products are essentially the same as Thermzoan's, with altered branding, will mean that many customers may prefer to buy Thermzoan's existing version just in case Frinta cannot match it in terms of quality.

The relationship between Thermzoan and Frinta could break down if there are quality problems, which could cause difficulties in ensuring that Frinta benefits from its investment. One possibility is that Thermzoan will start to seek ways to prevent Frinta from obtaining the right to benefit from newly developed products. Even if such attempts are unsuccessful, they will prove a distraction and will undermine trust.

Section 3

Life cycle costing

The fact that this is a new product suggests that this would be the ideal time to consider life cycle costing. Applying life cycle costing at this stage will enable Thermzoan to plan ahead to the costs that will be incurred throughout the life of this new product with a view to minimising or even eliminating some costs. The fact that the design has not been finalised and so production has not commenced suggests that any design changes will cause little or no immediate disruption. Those changes should bring about a reduction in costs that will persist throughout the life cycle.

The fact that this is a complicated product that incorporates several new elements will increase the potential savings from life cycle costing. If the product was similar to existing ranges, then it would be possible that Thermzoan would have already introduced all of the efficiencies that are possible simply on the basis of experience. The need to create the new designs associated with this product and to plan for manufacture suggests that life cycle costing could be introduced and integrated into the overall development work. That is particularly true with regard to the new devices, such as the vent unit, that creates new challenges for Thermzoan.

There could be a risk that life cycle costing will be difficult to undertake with regard to some of the novel new items, such as the air quality sensor and the vent unit. Any delay in finalising the design of those could hold back the development of the other items making up the product, which could delay the product launch. It may be difficult for Thermzoan to predict potential savings because it has limited experience with some items, such as the vent unit that requires skill in mechanical engineering. It may be more efficient to develop the product to maximise its sales potential and then to recover costs through pricing, given that this is a premium product.

The starting point would be to consider the stage reached in the development of each of the units making up the control system. Completed designs can then be costed with a view to determining how much they will cost to manufacture. Design elements that will result in significant costs might then be evaluated from a technical perspective, with a view to reducing them. In some cases, they could be reviewed from a marketing perspective in order to determine whether those elements are adding sufficient value to justify the cost. Design work that is still at an early stage can be subjected to an initial review in order to form an initial understanding of the likely costs, but it might prove confusing to study initial designs in detail. It would disrupt the design process to seek changes on cost grounds when the design work is still under way. At most, the design team should be reminded of the need to avoid excessive cost.

Thermzoan's product consists of several distinct parts, which creates the possibility that the life cycle could be maximised by upgrading parts whenever the possibility of improvements arises. For example, the control unit should be designed so that it can be modified to accommodate any improvements in, say, the air quality monitors that could become possible if new components become available. The design should also allow for the possibility that air conditioners will

adapt and change. It would be ideal if Thermzoan could engage with manufacturers to determine whether any major changes are likely and, if so, how their controller could be designed to be adapted to the change.

Return on capital employed (ROCE)

This looks like a significant project that will involve a great deal of investment in R&D. The impact on ROCE depends on the manner in which the project is accounted for. If the criteria set out in IAS 38 *Intangible assets* are met then the expenditure can be accounted for as development, meaning that there will be no immediate impact on profit, but intangible assets will increase. That will probably mean that Frinta will have a small decrease in ROCE because the numerator will not be affected but the denominator will increase slightly. If the criteria are not met, then the profit will decrease because the costs incurred will have to be written off as an expense. There will also be a small decrease in retained earnings, which will almost certainly be too little proportionately to offset the decrease in return.

The volatility really depends on the extent to which the outcome of the project can be predicted with any real certainty. If Frinta commences the design work without first being certain that the project will succeed, then costs incurred will have to be written off at each year end. If the project continues then there is likely to be a time at which it is determined that costs can be capitalised as development, which will change the manner in which ongoing costs are being accounted for and so will make the profit a little more volatile, which will make ROCE more volatile. By the same token, if Frinta capitalises development costs then there is always a risk that they will have to be written off if any doubt emerges concerning the applicability of the criteria in IAS 38. Any such write-off could have a significant impact on profits and so could cause a substantial decrease in the ratio. There will be similar issues once the project is completed because the development costs will then have to be amortised over the product's expected useful life, which could prove optimistic and will require a further adjustment in the event of impairment.

Section 4

Managing project

The starting point would be project initiation, which would require the project's objective to be defined. This will need to be done carefully because the fact that Frinta is providing what is essentially a separate and almost independent entity with support could lead to confusion over the management of the project. The respective responsibilities of Frinta and Thermzoan will have to be clarified, as will the feasibility of Thermzoan's expectations. The fact that Frinta's R&D Director is committed is encouraging, but that does not necessarily guarantee that Frinta's design engineers will have the necessary expertise to resolve the problems faced by Thermzoan.

The next step would be to plan the project, which will require consideration of key elements of the project including timing and deliverables. The timetable will require particular care because Frinta's engineers will almost certainly regard their own company's projects as a priority and that might limit their ability to be flexible if Thermzoan's engineers cause any delays. The plan will also have to consider the manner in which the project will be led. Presumably, it would make most sense for the project manager to be from Thermzoan, but for there to be a designated deputy to supervise the project from Frinta's perspective. The final deliverables will have to be considered in terms of ownership as well as content. It is, for example, possible that the project could lead to the development of products and processes that can be patented and it would be unfortunate if delivery was delayed or disrupted because of concerns about ownership of intellectual property.

The project work will have to be undertaken and controlled throughout. That will require care over communication and agreement concerning any changes that become necessary as the project progresses. It will be necessary to ensure that any changes are agreed between the managers from both companies and that each management team ensures that their colleagues are informed. The control process should include some means of tracking progress towards completion, with managers from both companies being updated on any issues as they arise. Ideally, there will be a 'no surprise' approach with all participants feeling free to report problems as soon as they are identified. It would be sensible to ensure that regular meetings are planned, with representatives from both Frinta and Thermzoan so that problems can be shared and resolved.

Finally, the project should be concluded in a manner that satisfies both entities. Ideally, the deliverables that were identified at the outset of the project will be of a form that enables an objective evaluation of whether the project has achieved what it was intended to. In this case, the fact that the project started with an agreement between Frinta and Thermzoan could mean that a formal process is required in order to ensure that any contractual terms have been satisfied. The conclusion of the project should also allow for some consideration of whether the collaboration has been a success and so whether future joint projects should be considered.

Stress test

The first question is whether the introduction of this new product will lead to difficulties in meeting the needs of key customers, either individual buyers or categories. The required expansion and the need to manage the new production facilities could prove a major distraction that might have a negative impact on Frinta's ability to meet the needs of existing markets.

The fact that this is a new product that will require major investment in PPE and in setting aside resources could mean that undue attention is directed towards it by the Board and by senior managers. It is quite possible that managers will view the need to meet targets and deadlines associated with the launch of the new product as being more important than in maintaining the existing business lines. In this case, it may be sensible for the Board to designate specific managers to oversee implementation and another to maintain the existing business, that way there will be some reassurance that all performance measures are being managed.

The manner in which this product was added to Frinta's range could have an impact on the introduction of a new product that was designed by an associate could cause problems in terms of the creative tension between Frinta's R&D Department and Thermzoan's. The fact that the original design was created by Thermzoan, but required the assistance of Frinta's engineers for specific aspects of the work could cause tensions that may be positive or negative depending on how they are managed. If Frinta's staff are encouraged to view working with Thermzoan's as an opportunity, then the interaction will generate benefits. It could, however, be perceived as a threat.

Frinta will have to evaluate its flexibility, particularly with regard to managing production and inventory. The new product could have a variable demand and Frinta needs to ensure that it is ready to reflect that in its manufacturing and marketing plans.

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EXAM ANSWERS

Variant 3

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Section 1

Risk evaluation

It could be argued that the Marketing and Distribution department should identify those customers whose business is important to Frinta and should ensure that those customers are kept satisfied. In this case, Frinta generates more than half of its revenues and almost half of its operating profit from smart speakers, which are sold through retailers. The fact that Frinta's only major competitor in this market is Ypburn suggests that Frinta should have considered the possibility that Ypburn might have taken steps to develop stronger links to the retailers who support this market. The loss of orders from Keesell could have further implications, if only because Frinta and Ypburn are effectively competing for dominance in a narrow market, which could lead to retailers deciding to back one or other of the two.

The counter argument is that Marketing and Distribution cannot necessarily manage every potential risk that might arise in maintaining good relations with customers. The loss of Keesell as a customer is clearly a significant problem for Frinta, but it was not necessarily predictable. The development of this specific relationship between Ypburn and Keesell would have been difficult to predict because both parties would have worked under conditions of secrecy. The possibility of a major online retailer developing such a close tie with Ypburn might have been classified as a low likelihood risk because other retailers of consumer electronics might now be unwilling to promote Ypburn smart speakers because of their association with Keesell. Arguably, Marketing and Distribution should not be criticised for failing to predict an action by a competitor that could have a dubious commercial logic.

It could be argued that Frinta's Marketing and Distribution Department should have mitigated this risk through the company's overall business practices with

regard to customer relations and without classifying the exclusive arrangement between Ypburn and Keesell as a risk requiring specific mitigation. The fact that Keesell is a major online retailer should have meant that Frinta maintained close contact and sought to ensure that Keesell was satisfied with Frinta's products and its service. Arguably, maintaining such a close and mutually satisfactory relationship with any major retailer would mitigate the risk that Ypburn would enter into an exclusive relationship with that retailer. Similarly, Frinta should aim to maintain its overall market position by ensuring that it sells attractive products at a realistic price.

The active mitigation of this risk would have been difficult, even if Frinta had identified the possibility of this type of arrangement. The only real way to prevent Ypburn from entering into an exclusive agreement with a major retailer would have been for Frinta to have made such an arrangement itself. While it would have been ideal for Frinta to have reached the arrangement with Keesell, any direct approach to suggest such a deal, could have triggered a damaging conflict between Frinta and Ypburn. Paradoxically, the agreement between Ypburn and Keesell may have created an inherent risk mitigation for Frinta. It will now be easier for Frinta to seek similar collaborations with other online retailers because it would be difficult for Ypburn to retaliate without risking damage to its relationship with Keesell.

Negotiation

As with any negotiation, the first thing that Frinta should do is to identify the respective interests of the two parties. In this case, Frinta should meet with Keesell in confidence with a view to identifying ways in which the two companies can continue to cooperate. The status of the contract and its terms will almost certainly be confidential, but Frinta can determine whether Keesell is open to negotiation simply by making contact and requesting a meeting. The fact that Frinta was taken by surprise by this news announcement suggests that it may be necessary to make some sort of concrete offer to Keesell, simply to persuade them to negotiate.

Assuming that Keesell is open to negotiation, the most constructive approach would be to seek an indication of the service that Ypburn was going to provide, with a view to establishing whether Frinta could offer superior terms. Frinta will have to take care over this aspect of the negotiation in order to ensure that the terms being discussed are mutually beneficial. It would, for example, be undesirable to alienate other online retailers by optimising Frinta Friend to promote sales through Keesell. It may be possible to seek a compromise, such as configuring Frinta Friend to enable users to select a preferred online retailer when setting up the device. That would give Keesell the opportunity to promote itself to users without Frinta losing business from other retailers.

If Keesell is unwilling to discuss possible compromises with Frinta then it may still be possible to negotiate on the basis of sanctions that might be taken in response. Frinta could threaten to develop Frinta Friend in ways that would make it superior to the proposed Ypburn-K and to work closely in collaboration with one or more of Keesell's competitors. Frinta could be in a realistic position to threaten to exclude Keesell from an important market if its planned R&D activities prove successful. It should also be borne in mind that Frinta has an immediate

advantage in terms of making sales to customers who already own one or more Frinta Friends, who will have a significant incentive to remain with the brand if they decide to expand their networks.

Section 2

Business model

Frinta defines value in terms of simplifying the lives of its end users. The creation of an online direct sales channel might assist in this indirectly by creating a more direct relationship between Frinta and the end users of its smart speakers. Frinta will, for example, be able to track the ways in which potential customers explore the website before making purchases. That will give Frinta a better understanding of the features those potential buyers concentrate on and so will equip Frinta to update and improve its products in ways that are relevant to buyers. The provision of an online sales channel could also simplify the process of selecting and purchasing a smart speaker because Frinta will be able to concentrate exclusively on its own product range.

Frinta creates value through innovation. An online sales channel is not particularly innovative in itself, but it would offer customers an alternative approach to selecting and purchasing smart speakers. The direct sales channel could also innovate in terms of perceived customer value. For example, even before the loss of Keesell, more than half of smart speaker sales were through traditional retailers, suggesting that customers prefer to seek advice or at least to see a smart speaker in a shop before making a choice. A suitable website could help with the process of selection, helping customers to understand the benefits of buying Frinta Friend and possibly to get a better idea of what the product looks like, with the possibility of graphics and interactive online models. The right content could help customers to appreciate the appearance and the build quality of the Frinta Friend in order to restore some of the lost online sales capacity.

Frinta delivers value by engaging with major retailers. This would be a major change because Frinta is now entering into competition with the retailers upon who it depended on in the past. Clearly, Frinta's primary goal will be to establish an online sales channel that offsets the loss of the 26% of sales that had been generated through Keesell, although it is highly unlikely that the sales made by other retailers will be unaffected. Frinta will have to work with its remaining retailers to make best use of the advantage that has been presented by Ypburn's actions. Retailers who promote Ypburn's speakers will risk biasing customers' future online purchases towards Keesell. The retailers will, presumably, be keen to retain Frinta's products because smart speakers are a popular electronic product and they are likely to be reluctant to promote Ypburn's to the same extent.

Frinta captures residual value through pricing its products on the basis of their high quality. Frinta will have to take care with regard to pricing online sales because it will have to ensure that it covers the additional costs associated with offering this channel. Processing orders, covering credit card fees and shipping individual units could prove expensive and might threaten profits. Presumably, the decision to sell through retailers was due to the fact that it was more efficient than direct sales and so the costs could be a problem. The business model will require Frinta to manage the new costs carefully and so there is no real change.

Pricing

The cost of fulfilling direct sales seems to be significant and is significantly affected by Frinta's choices. The table of projected retail costs indicates that the retail cost associated with a direct sale varies from $\text{W\$}2.50 + 1.00 + 5.00 = \text{W\$}8.50$ and $\text{W\$}6.80 + 4.00 + 12.00 = \text{W\$}22.80$. At present the recommended retail price exceeds the wholesale price by $\text{W\$}46.99 - 39.55 = \text{W\$}7.44$, so even the cheapest service will yield a lower profit by eating into the difference between wholesale price and manufacturing cost.

It will be difficult for Frinta to determine the impact that any decisions concerning online sales will have on demand because it has a lack of expertise in direct sales. It is unlikely that the retailers who make online sales will offer any helpful advice because Frinta will effectively be entering into competition with them and so it would be foolish to assist. The question of packaging creates some interesting questions. It could be argued that there is no point in spending more on the box used to deliver online sales because the customer has already placed the order. Conversely, the use of high-quality packaging could add to the customer's perception of value and might stimulate future sales of additional units for expansion or upgrades.

Frinta might be able to address some of those challenges by experimenting. For example, it could offer free delivery for orders that will be dispatched within 5 working days and could charge the $\text{W\$}3.00$ extra required for processing on the day of the order. It is also worth bearing in mind that Frinta does not necessarily wish to make sales at the expense of its remaining retailers. It is to be hoped that customers can be persuaded to buy Frinta Friend and that they will make the purchase from either Frinta's online channel or from one of its retailers.

Frinta is further challenged by the fact that Keesell has an incentive to sell as many Ypburn-K units as possible in order to stimulate ongoing sales once customers start using them to organise their online shopping. Keesell might decide to reduce the price at which it sells Ypburn-K to a point where Frinta struggles to cover its costs while remaining profitable.

Section 3

Characteristics of debt and equity

The first thing to be noted is that this is a significant investment for Frinta, amounting to more than 10% of existing non-current assets. Frinta should take care with regard to borrowing because a loan of W\$193.9m would more than double borrowing, which could make the company appear risky. Gearing is a concern because highly geared companies must continue to service debt, even if the company runs into difficulties. Debt would increase the gearing ratio from $180.0 / (180.0 + 1,502.2) = 11\%$ to $(180.0 + 193.9) / (180.0 + 193.9 + 1,502.2) = 20\%$, which is a significant increase that could undermine the shareholders' confidence.

Debt is a relatively cheap source of finance because lenders are entitled to an agreed rate of interest and also to repayment in accordance with an agreed schedule. Company directors are often keen to use debt because it has a lower cost than equity. The low cost benefits the shareholders because they will receive more of the returns from Frinta's investment. The low cost is partly available because the cash payments and repayments to lenders are generally backed by guarantees that are secured against the company's assets. In this case, the assets that are being purchased are not all particularly suitable as security. For example, the W\$4.3m for the initial advertising will not result in an asset that can be pledged as security.

Frinta is already funded largely by equity, so the increase may not have a significant impact on overall risks. Issuing equity will reduce gearing to $180 / (180 + 1,502.2 + 193.9) = 9.6\%$. That leaves gearing significantly lower than if the funding is raised through debt.

Equity is relatively expensive compared to debt because the shareholders are bearing all the risks associated with the business. The shareholders have no security if Frinta runs into serious difficulty. That may be a concern, given that Frinta has just lost 26% of its online retail market.

Equity is a permanent source of funding. The directors do not have the ability to repay or return the funds if they become surplus to requirements. That could put Frinta's Board under additional pressure to make profits in order to maintain dividends at a level that will satisfy the shareholders.

It is generally more complicated and expensive to issue shares rather than take out a loan. There are various legal requirements that must be met, and so professional fees and commissions must be incurred. It may be possible to minimise those by making a rights issue, in which the shareholders would have the opportunity to subscribe for new shares in proportion to their existing shareholding.

Accounting treatment

The accounting treatment for these costs must be determined in accordance with IAS 38 *Intangible assets*. That standard sets out some general recognition

criteria and clarifies the application of those criteria to certain specific items. The costs can be recognised as assets if it is probable that future economic benefits will flow to Frinta and those costs can be measured reliably.

The market research should be written off as an expense because it is difficult to identify an asset that meets the criteria as set out in IAS 38. This treatment is also consistent with the examples offered in the IAS, such as start-up costs that are not deemed assets.

The work undertaken by Frinta's IT staff to design a new IT system will generate future economic benefits in the form of new software that will yield economic benefits. The key requirement that will have to be checked is the company's ability to separate the cost of this time so that the cost can be determined accurately. If there are no, say, timesheets or similar records then the cost will be an estimate and it will have to be written off.

The purchase of software from a third party should meet the criteria for recognition as an intangible asset. In order to determine the useful life of the software, you will either need to calculate the shorter of the life of the license or the likelihood of the software becoming outdated and no longer usable. The software will be amortised over that period.

The initial advertising would need to be written off as an expense, despite the possibility that the advertising will create brand awareness that spans several years. There is no objective way to determine whether advertising will yield future economic benefits and, if so, the useful life of that asset.

Section 4

Transfer pricing

Setting transfer prices at manufacturing cost means that M&D has no incentive in terms of profits to provide Online with inventory for resale to online customers. That could prove harmful to Frinta if M&D's managers indulge in dysfunctional behaviour, such as shipping as many units as possible to third party retailers and leaving Online short of inventory. M&D's managers could be demotivated by the fact that any administrative costs associated with these internal sales will have the effect of decreasing M&D's profit because it will be unable to pass those costs on to Online. Selling to Online at zero margin will also have an adverse effect on any profitability ratios calculated in respect of M&D. The only slight mitigation is that transfers to Online will still increase M&D's revenue in absolute terms, which will remain an important basis for evaluation even for a profit centre.

Setting internal transfer prices at manufacturing cost will increase Online's profit compared to what it would be if wholesale price had been used. The absolute size of these profits may have a motivational effect on Online's management team and thereby encourage them to seek even more sales. Clearly, that is desirable from Frinta's perspective because sales through that channel are more profitable than those made by M&D to third party retailers. This incentive could be important to Frinta because it is a new venture that has yet to be established and so it would be ideal if the initial results are encouraging. There is also the need to ensure that Online is compensated for the additional costs associated with making large numbers of small dispatches.

It could be argued that transfers at wholesale price would avoid an artificial incentive to grant Online priority in the event of a shortage of inventory. The same effect could be obtained by allocating revenues on the basis of meeting Online's requests in full. It could also be argued that it is unnecessary to consider such action at the moment because there is sufficient capacity to avoid the need to allocate inventory. Sales by Online would have to exceed targets by $1.5/5 = 30\%$ before Frinta would reach its full production capacity. For the moment, Frinta could minimise the risk of dysfunctional behaviour by using wholesale price for transfers from M&D to Online. The fact that Online has priority means that there is no need to create an artificial incentive through pricing.

The fact that Online is based in another country suggests that Frinta could benefit from the use of wholesale as a transfer price in order to reduce the risk of pressure from tax authorities. Setting the transfer price between M&D and Online at anything other than the price that would normally be set on the open market could lead to either Westland or Centralia claiming that too little profit is being declared in their country, which could result in time-consuming and expensive negotiations. Using wholesale prices will mean that Online is reporting the same profit in Centralia as it would if its inventory was being purchased from an independent third party.

Maintaining engagement

The most immediate way to engage M&D's marketing managers would be to organise their duties in such a manner that they shared some of the credit for Online's sales. For example, it would be sensible to have a single strategy for promotion and advertising that should stimulate demand for Frinta's products, whether they are sold through third party retailers or purchased directly through Online. M&D could be evaluated based on factors linked to promotional activity such as the overall market share that Frinta enjoys and total revenues. Online's specific responsibility could be focused on providing an efficient fulfilment centre, with managers being held responsible for prompt and reliable dispatch of goods that have been ordered. That will have a significant motivational impact because M&D will effectively be expanding to include a new direct sales channel. In the short term, the Board should work on the basis that M&D's traditional distribution channels have been adversely affected by the loss of Keesell as a customer.

Regardless of the organisational issues, M&D's managers should be held accountable by Frinta's Board for their overall performance in the duties that have been assigned to them. The selling and distribution activities are important aspects of Frinta's overall performance and any attempt to disrupt them should result in disciplinary action. Performance measures should reflect the need to cooperate with Online and action should be taken in response to any deliberate attempts to undermine the new channel. Any conflicts between the interests of M&D and Online should be settled on the basis of Frinta's best interest. For example, it may sometimes be preferable for M&D to allocate inventory to a large retail customer in order to retain that customer's business, even though Online could sell that same inventory at a higher unit price.

CIMA MANAGEMENT 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

Project challenges

The most immediate challenge will be in deciding on the objectives of this project. The outcome has been defined, but in a superficial way, with no real indication of the end product. The end result is to be judged against the Ypburn system, but the only real criterion that has been offered is that the security devices will be sold individually and not as a kit.

Frinta's Board should set out in detail the basis on which the design for the new product will be judged, such as whether it will compete with Ypburn in terms of performance, price or both. These criteria should be sufficiently detailed to prevent the R&D Department from delivering a product that the Board deems unsuitable, but they should be sufficiently open-ended to enable R&D to use its expertise.

There will have to be a decision concerning timing and resourcing for this project. In principle, the quality of the final product is likely to be affected by the availability of time and resources. Unfortunately, spending too long and too much could threaten revenues if the product is late to market or the project could have a negative NPV if too much is spent on development.

The Marketing Department should clarify the positioning of this product within its target market and that should form the basis of the R&D Department's design brief. R&D should then be asked to propose a suitable deadline and budget that would offer a realistic chance of achieving the Marketing Department's brief.

The implementation phase of this project could be complicated by the fact that the R&D staff will have ongoing commitments to improve and update existing products. The new product will require a wide range of expertise and research staff may have to be released from their other commitments to ongoing projects, against the objections of their project managers.

The security system project should be timetabled in as much detail as possible so that it is known when engineers from different backgrounds will be required. These timings should be negotiated and adjusted where possible to minimise disruption to ongoing work. The R&D Director should review the resulting timetable and should make a decision with regard to any remaining conflicts between project managers.

This is a complicated project that involves the development of three physical products and the software that will be required to run them. Any delay or problem affecting just one of those elements could delay the completion of the product as a whole. The development project is further complicated by the possibility of upgrades and updates to Frinta Friend, which might cause compatibility problems.

The project manager should hold regular meetings with the R&D staff responsible for each product, with a view to ensuring that any delays are understood and their impacts on the launch of the security system can be managed. There should also be regular meetings with the managers responsible for the Frinta Friend hardware and operating system. These meetings should ensure that the R&D staff are fully briefed on any changes that might affect compatibility.

Product and product reputation risks

This is a completely new product, which creates a product risk that the launch will be a failure. There can be no guarantee that there will be sufficient demand for this product to cover its development costs and yield a positive NPV. If customers do not appreciate the purpose of the security system or prefer the systems that are already on sale, then this could be a major disappointment. Customers who already have home security systems may not believe that there is sufficient benefit to upgrade to this product.

This risk should not be too significant. There are sufficient smart alarm systems on the market to demonstrate that consumers wish to own such devices. Frinta has the advantage of having a security system that is compatible with the Frinta Friend, which may make it attractive to customers who may wish to stick with the Frinta brand.

Once the product goes on sale, it could create product reputation risks if it proves ineffective in any way. The people who buy this product will be relying on it to protect their homes and they will undoubtedly publicise any failures that lead to loss or if there are false alarms. If there is any doubt about the reliability of this system then it will not only suffer from poor sales, but it will also expose Frinta to concerns that its other products are insecure.

The reliability of this system is a matter for Frinta's R&D staff to investigate and to manage. It should be possible to test the design at different stages of the design process and to check its effectiveness. Frinta can also ensure that it updates and improves its system in the event that any vulnerabilities are identified, so that customers can be reassured. If there is any doubt about the reliability of this system then it will not only suffer from poor sales, but it will also expose Frinta to concerns that its other products are insecure.

Section 2

Pricing

This is a complicated area because Frinta is competing against Ypburn for smart speakers (with or without alarm systems) and against other smart alarm manufacturers for security systems. Frinta must be aware of the various markets in which it is competing and so ensure that it does not suffer any opportunity losses due to either under-pricing or over-pricing. Frinta can divide the market into several categories: those who own Frinta Friend, who would buy the system as an accessory, those who own Ypburn's Ypvox and those who do not own a smart speaker. Those who own the Ypvox would probably buy Ypburn's security system, rather than Frinta's, because it would be compatible with their existing smart speakers and so there is little point in considering them further.

Frinta should consider the needs and interests of those who do not own a smart speaker with some care because they might be willing to purchase Frinta's security system and one or more Frinta Friend smart speakers in order to operate it. Such customers might be inclined to consider the relative merits of Frinta versus Ypburn and so Frinta ought to consider whether its products are competitive with Ypburn's. The fact that Ypburn's security system comes as a set means that there is a clear retail price for the purchase of an Ypvox and a security system. Frinta's security system need not be purchased as a set and so the prices are not necessarily comparable. Frinta should conduct some market research to establish how many devices a typical customer would wish to purchase and could then consider setting its retail price in comparison to Ypburn's.

Frinta's pricing should take into account the fact that Ypburn is clearly charging a premium price for its security system. Frinta could pitch its sensors at a price that sets the total cost of two door/window sensors and three indoor sensors at a price that was lower than Ypburn's W\$450. Competing on price may be complicated because Ypburn's kit includes a siren and Frinta's would not. Frinta could, however, argue that the system's ability to notify users through their smartphones means that a siren is unnecessary and that a siren would probably do little to discourage intruders. Alternatively, prices could be set so that customers could add an outdoor sensor to the above items while still paying W\$450 or less. The external sensor could be marketed as offering greater security and peace of mind than a siren and so customers could be open to persuasion that the Frinta system is superior. The pricing of Frinta's system should also take into account the possibility that Ypburn's basic package forces customers to buy more than they might need to secure their homes. For example, a flat owner might not require two door/window sensors. The total price of the Frinta security system can be tailored to meet the customer's needs.

Frinta can afford to set its pricing at a premium level over the cheaper brands that are available as standalone products. It would cost more to manufacture three indoor sensors than to buy the most basic smart security system on the market, but that system would not have the capability of the Frinta system. Ypburn has already demonstrated that there is a demand at a higher price point. Frinta can afford to adopt a price skimming approach that sits just under Ypburn's system when its system is launched. Prices can be reduced when demand start

to tail off, perhaps offering a discount on the purchase of a Frinta Friend when purchased with sensors.

Integrated report

This project will assist in the development of intellectual property, including software that will be protected by copyright, possibly products and processes that can be patented and knowledge and experience that will be controlled by Frinta. This intellectual property will be described in general terms, enabling stakeholders to see that the security system will create value that will benefit Frinta and its customers into the future. This capital will be of immense value in supporting future updates, such as improved sensors. It will also assist in the development of other accessories for the Frinta Friend range.

Developing this new product will help many of Frinta's employees to develop human capital in terms of their competence in various new technical areas and in evaluating new markets. The opportunities that are created for staff development will motivate and encourage staff to work towards maximising the company's interests. It is clear that hard work and initiative will be rewarded by the opportunity to develop new skills and abilities. This project will give the Marketing and Distribution Department a better insight into customer needs and wishes and so will enhance Frinta's ability to extend its product range in a meaningful manner.

The product itself will assist with social and relationship capital by adding a product to the range that enhances the safety and security of its customers. The security system will, hopefully, deter crime while enabling users to relax when they are away from home. The addition of this capability to Frinta Friend will create a greater social legitimacy for the smart speakers, which might otherwise have been regarded as a novelty that served relatively little real purpose. If the security system is successful, then consumers may be encouraged to study future products that Frinta brings to the market and so overall brand reputation could be enhanced.

Section 3

Accounting for claims

The claim will have to be accounted for in accordance with the requirements of IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*.

Frinta's Board must determine whether there is a need for any entry in the financial statements, which depends on whether it is realistic to expect the payment of compensation. The fact that some customers have voiced complaints and that there has been negative news coverage does not necessarily mean that there is an accounting issue to be resolved. At present, the only thing that is known for certain is that there has been some adverse publicity. The Board should seek legal advice as to whether customers have a legitimate claim that could result in the payment of compensation. If claims are unlikely to succeed, then there will be no need for the matter to be reflected in the financial statements. The Board must establish whether it is likely that a claim will succeed. If not, then no provision is necessary.

If there is a realistic possibility of a claim against Frinta then it must be decided whether the total cost can be estimated accurately enough to enable a provision to be made for the loss. The loss can then be accrued as both an expense and as a current liability in the financial statements, which would enable the cost to be recognised in the period in which it occurred. The alternative would be to disclose the problem as a contingent liability in the notes to the financial statements.

The distinction between a provision and a contingent liability really depends on Frinta's ability to estimate the amount payable with reasonable accuracy. The most effective way to make such an estimate would be to conduct a detailed analysis of the number and nature of the claims that had been received before the financial statements have to be finalised. Frinta's legal advisers could then offer an estimate of the likely amount that it will cost to settle the claims.

Conflict resolution

This conflict has arisen for reasons that are perfectly understandable. Members of the R&D Department made an error in the development of an important new product and that has become public knowledge. The Marketing & Distribution (M&D) Department is responsible for promoting this new product, which sells in competition with other products and so this error will make their task more difficult. The R&D Department has already done everything that it can to rectify this error, but potential users of the security system will be unlikely to forget that the controversy arose because the product made users' homes less secure. While there can be no doubt that the R&D Department was responsible for this error, the chances are that R&D will wish to accuse the M&D Department of exaggerating the problem, while M&D will have a clear incentive to blame R&D for any problems associated with sales.

The most immediate response to this conflict would be for Frinta's senior management to intervene. It would be ideal for Alcine Chan and Narendar Sehgal, the directors responsible for M&D and R&D respectively to meet and to agree that any ongoing conflict between the two departments can only harm the

company. The next step would be for the two directors to meet with the senior management teams of the M&D and R&D departments with a view to confronting the destructive conflict that is developing. The most constructive response would be for the directors to inform both departments that R&D would be expected to take full ownership of any remaining technical issues associated with the security system and that those are to be resolved as a matter of priority. The M&D Department should be told that it must accept responsibility for marketing the security device, although the Board will monitor performance on the basis that the product had a difficult launch. This response will actively discourage managers from M&D and R&D from arguing about blame and might, therefore, encourage a more constructive attitude on both sides.

It might be helpful for the two departments to temporarily second staff to one another in order to develop a mutual understanding of the issues created by the error for both M&D and R&D. The M&D staff will be able to help R&D to assign appropriate priorities to resolving any remaining problems with the product and to explain the need for further investigation and testing of the software. The R&D staff will be able to assist M&D to understand the limitations of any of the complex software that is used to operate Frinta's products. In the longer term, any such mutual understanding will enable the departments to collaborate more intelligently on the development and testing of new products, with M&D helping to identify the features that must be tested more thoroughly.

The immediate aftermath of this adverse publicity might be addressed by bringing in an external marketing consultancy that has experience of dealing with product failures. The consultancy firm would have no reason to provoke R&D by complaining because the opportunity to earn a fee has only arisen because of the problem with the software. The appointment of the consultant would reassure the M&D Department that Frinta's Board acknowledges the difficulties that have arisen because of this software error. The consultant would provide a focus for the whole management team to concentrate on resolving the difficulties that have arisen rather than assigning blame.

Section 4

Transfer prices

This case is complicated by the fact that there is no observable market force that will optimise the process of seconding Marketing and Distribution (M&D) staff to either production or R&D. At present, neither R&D nor Production appear to be consulting M&D over their designs or manufacturing decisions, nor do they have any specific incentive for doing so. Transfer prices can be set using market-based prices or cost-based prices. Market-based prices would not be appropriate here because there is no intention of allowing R&D and production to buy the service provided by M&D from another organisation since this would increase Frinta's total cost.

So, the transfer price would be a cost-based one, and decisions would be needed as to:

- a) Use actual costs or budgeted costs, and in either case whether to include M&D Department overheads
- b) Whether to uplift the cost for a profit mark-up, and
- c) Should the transfer price be imposed by Head Office or negotiated between the three departments?

As a starting point, Frinta's Board should consider what it needs to accomplish in terms of internal consultation between M&D and the R&D and production departments. Essentially, the design and manufacturing specifications should be of a standard that meets the needs of the consumers to whom products will be marketed and so M&D should be empowered to review all designs and subsequent changes before they can be finalised. There is no need to give M&D an incentive to release its staff to support R&D and Production because any assistance that it provides will ensure that products are designed and manufactured to appeal to customers. If the transfer price is set at the employment cost of the M&D staff, then the managers from R&D and Production will be less inclined to object on the grounds that M&D is conducting an excessive amount of work in order to inflate its charge.

In order to optimise the use of M&D staff, the Board could set a differential price in respect of work undertaken by M&D in the event that a problem arises because of a design or production change that was introduced without first seeking clearance from M&D. If M&D staff secondment can then be billed at the same hourly rate as would be charged by an external consultancy firm, then R&D and Production would face a significant charge if they simply make changes without first seeking clearance. While that would not necessarily result in an optimal use of M&D staff time, it would certainly discourage dysfunctional behaviour from managers who wished to exclude M&D. Any incentive that this arrangement might create for M&D to extend its involvement in rectifying a problem would also discourage R&D and Production from making changes without seeking clearance from M&D and so there would be an overall benefit to Frinta.

The manner in which the departments are organised as responsibility centres might affect M&D's motivation slightly. If they are profit centres, then M&D will have an overt incentive to charge a price that exceeds salary costs. If they are

cost centres, then M&D will receive a credit from these secondments and so there will still be an incentive to transfer as much as possible to Production and to R&D. In either case, Production and R&D will suffer the charge from M&D as a cost and so their incentive will be to minimise this charge.

Quality

In this specific case, the quality problem was the result of an unauthorised modification to the product at the conclusion of the design stage, when the Production Department was preparing to manufacture the product. The concern with the original antenna appears to have been that it was difficult to fit. Presumably, the R&D Department's engineers had been able to install the antenna when making prototypes. It should, therefore, have been possible to work around the fact that space was restricted inside the sensor, either by taking greater care with the assembly work or by modifying the case slightly to make the fitment easier. The best way to prevent this particular problem would have been to have focused more on training assembly staff to work with the optimal design rather than the substitution of an important part with a smaller and less effective component.

There was clearly a breakdown in communication because the Production Department chose not to seek advice from R&D or Marketing and Distribution before substituting this part. In this case, it can be seen that Production introduced a design change that was intended to simplify production and so reduce costs, but it had the result of shipping a product that was incapable of meeting its design specification. That has resulted in the sale of a product that is regarded as being unfit for purpose by customers, who have complained that the modified product does not have sufficient range to connect to their Frinta Friend speakers. These complaints have occurred at a particularly bad time because there has already been a controversy over the security system and now there are further concerns that will be difficult to put right.

The best way to prevent a recurrence of this problem would be to invest time and money in quality management procedures. There should be a commitment to quality from the Board that is communicated down through the whole organisation. Department Heads should be required to meet in order to discuss the importance of quality, perhaps undertaking joint training to ensure that the need to maintain quality is viewed as a major priority. It could be argued that the recent problem associated with the change to the antenna was an isolated incident and so there could be a risk that the quality issues have been exaggerated by that one event. It may be sufficient to work on enhancing communication between departments in order to ensure that there are no further misunderstandings concerning product quality.

Going forward, it may be desirable to introduce a formal quality management process that would focus on maintaining a commitment by all departments. That could be important because Frinta's products are sold on the basis of ease of use and so customers expect them to work flawlessly. The products are likely to be modified in response to changes in technology and the introduction of new components, so design changes will have to be discussed between R&D,

Production and Marketing and Distribution to ensure that all departments agree that quality is not being degraded.

CIMA MANAGEMENT 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

Business model

Increased connectivity would be consistent with the way Frinta defines value by aiming to simplify the lives of end users and so the change would not be particularly significant. Enhancing Frinta's ability to communicate with other manufacturers' devices would make it easier for customers to operate all the smart devices in their homes. Enabling Frinta Friend to communicate more effectively with smart devices would add sophistication without impairing ease of use. It could be argued that Frinta's initial design brief creates the risk that the company's products will be uncompetitive when compared with Ypburn's. Frinta's main competitor in this market has a significant advantage with regard to use in the home. Customers are free to define value in their own terms and they may regard Ypvox as superior because it offers greater connectivity in the home. This is a complicated issue because the opportunities created by the new technology are difficult to predict.

Frinta creates value through innovation in hardware and software and in product quality. The initial design of the Frinta Friend was intended to innovate by offering customers the ability to use voice commands to control Frinta heating and ventilation controllers, with limited connectivity. Setting aside the self-imposed limitations on the capabilities of the first model could involve a significant increase in the complexity of the speaker, particularly in terms of its software. The difficulties may, however, be reduced by the fact that Frinta can draw upon the knowledge gained from developing its first model and by making use of the Ypvox system in order to explore the features that it offers. Ideally, Frinta should aim to retain the superior voice recognition, which may be due to better hardware such as high-quality microphones, and to enhance the ability of Frinta Friend to detect and operate with other smart products.

Frinta delivers value by engaging with major retailers. It would be logical to discuss the proposed upgrade to Frinta Friend with retailers in order to establish

whether they would be interested in supporting such a change. The proposed changes are likely to have significant implications for the retailers. For example, it may be necessary to increase the price in order to recover the development costs and Frinta should establish whether that is acceptable to the retailers. The retailers can draw on their closer relationship with customers to advise Frinta on matters such as features and pricing. They may also be able to offer support through bundling the new model with other smart products in order to attract customers. If Frinta's relationship with retailers is close enough to require reflection in the business model, then it makes sense for Frinta to maintain that relationship by involving retailers in product planning.

Frinta captures residual value by setting prices that reflect the build quality of its products. This will pose some difficulties. Frinta Friend was launched with the deliberate intention of giving it a limited capacity to interact with other smart products. That simplified the programming of the device's software. A major software upgrade will require significant investment by Frinta. That may require an increase in selling prices in order to recover that cost. A price increase could, however, make Frinta Friend uncompetitive in comparison to Ypvox. Frinta may not necessarily require a price increase if the improved software leads to an increase in volume. Frinta Friend only has one competitor, and an improved software element could be sufficient to win significant market share. In the short term, Frinta may also have to consider whether inventories of the original model should be sold at a discount in order to clear them from the distribution channels.

Product lifecycle

The management of the Frinta Friend lifecycle is complicated by the fact that this is effectively a new product that did not exist until Ypburn launched its smart speaker and the only major change since then has been for Frinta to launch a competing speaker. That makes it difficult to track and predict the lifecycle for Frinta Friend.

In the first instance, Frinta developed a relatively simple smart speaker that had only a very limited capability to interact with smart devices. That had the effect of shortening the time to get Frinta Friend to market. That was an aggressive move which reduced the risk of another company developing a competing smart speaker. It also reduced the complexity of the software and so helped Frinta to minimise costs and so offset some of the costs associated with good build quality.

Enhancing connectivity will help Frinta to extend the product lifecycle. The initial model has clearly been a success, but the growing use of smart technology in the home could mean that the lack of connectivity would have quickly rendered it obsolete. The biggest drawback of Ypburn's competing speaker seems to be the quality of its voice recognition, which is likely to be a matter that will be addressed as a matter of urgency. That could make life difficult for Frinta once Ypburn succeeds. The fact that there is a standard programming language for smart devices suggests that any software upgrade for Frinta Friend will be unlikely to date in the near future.

The lifecycle could be further extended by the upgrade because it could enable Frinta to persuade customers to buy additional speakers, or to replace the ones

that they already have. The review suggests that Frinta Friend is pleasant to work with because it has excellent voice recognition. Existing users may be attracted by the fact that a new model would continue to give them that benefit, with improved connectivity in addition. Customers might decide to buy a new speaker for, say, the family room where it can be used to control the home entertainment system. Older models could be located elsewhere in the house and used for messaging.

Section 2

WACC

WACC can be affected by changes to the costs of equity and debt and also by changes to the weightings of debt and equity.

The cost of equity is essentially the rate at which the capital markets determine the present value of expected future dividends. As with any present value calculation, that takes account of perceived risk. If the capital markets view this relaunch of Frinta Friend as a risky project then the cost of equity will increase, regardless of how the project is financed, which will increase WACC.

The cost of debt is unlikely to be affected because lenders receive a fixed rate of return that is unlikely to be affected by this type of change. It is highly unlikely to affect the risk that Frinta will default on its loans.

The manner in which the relaunch is funded will also affect WACC. Debt is generally cheaper than equity and so additional borrowing will increase the weighting attached to debt, which will reduce WACC. Offset against that, the additional gearing will increase the risk attached to equity, which will increase the cost of equity. That is unlikely to completely eliminate the cost saving associated with debt, so WACC will probably decrease.

An increase in WACC is likely to result in a decrease in the share price, which could put Frinta's Board under some pressure. The shareholders might blame the Board for making a rash decision that has affected their wealth. That may be a short-lived problem if the new model is a success and the shareholders can see that the Board made a sensible investment that justifies the risk.

Many companies use WACC as the required rate of return on their investments. If there is an increase in WACC then there will be a higher threshold for the acceptance of potential investments. That may not necessarily be a realistic way to determine the required rate of return on, say, a potential investment that has a very low risk of failure, so any change in WACC could lead to invalid decisions.

The overall impact of an increase in WACC is that Frinta's Board may feel the need to become more risk averse in order to rectify the increase and so their decisions may not necessarily be optimal.

Risks

Increasing connectivity could create a significant product risk, with there being a strong possibility that customers will feel intimidated by the new model. The original model was essentially designed as a competitor for Ypvox, but with a narrower range of functions that may well have been a factor in the success of Frinta Friend. The original model was intended to be different from Ypvox and that has been successful because sales have grown steadily. Frinta might lose that advantage. Customers will not necessarily accept that the new model is as simple to use as the original, especially because Frinta will have to promote this new feature in the marketing associated with the launch.

There could be a major reputational risk if there are any issues in the development of the new product. It would appear that the software in Frinta Friend will require a major rewrite in order to make the product compatible with

the open-ended Internet of Things (IoT) that it is to be designed to connect to. This is not necessarily an area in which Frinta's engineers have any experience. This will be a major programming project that will almost inevitably result in some bugs and errors. These may not necessarily become apparent until the new speaker has been launched and is subject to use in the real world. If there are problems in establishing connectivity then Frinta Friend may be perceived as unreliable, especially because Ypburn's speaker has been operating effectively for some time.

There could be contractual risks arising from the fact that Frinta will be making use of the open-source software that has been made freely available by third parties. There is nothing to prevent modifications to open-source operating systems and software and those changes could require further modifications to Frinta Friend in order to retain the connectivity that will be the justification for the new product. Frinta will effectively have no contractual right to prevent modifications to the software that will then require upgrades to Frinta Friend in order to maintain connectivity. In the worst possible case, the third parties who manufacture the smart devices that Frinta wishes to connect to may decide not to continue to support the open-source software and so Frinta Friend could lose much of its market.

Frinta will face a number of operational risks associated with the need to maintain the software and deliver regular updates. That will require important decisions at the design stage that could lead to problems in the future. For example, the electronics in the new model will have to have sufficient capacity to be capable of supporting any future updates, otherwise customers will lose service. There could also be issues associated with the process of transmitting and installing updates over the internet. Any errors or other problems could create significant bad publicity and could lead to a loss of sales. Frinta will also have to design the speaker so that it updates itself for any changes to the software before it can be used. That could create problems if customers become impatient and corrupt the software during the installation phase.

Section 3

Accounting challenges

The most immediate challenge in determining goodwill is the need to determine the fair value of the separable assets. The fair value of Smalopen's software licences will be complicated by the fact that there is unlikely to be an observable market for licences, if only because they might not be transferrable. If the licences remain valid after the acquisition, then it would be possible to work out the value of remaining licence periods by determining the cost and the life of a new licence and applying the proportion of the remaining life of Smalopen's licences pro-rata. The capitalised development costs will be complicated because the intellectual property owned by Smalopen will have value in determining the selling price set by the company's owners, but it may not have a fair value in any other context. The intellectual property may be the reason why Frinta decided to buy Smalopen, but it would only be possible to separate and sell that knowledge if it was protected by patents. It may be necessary for Frinta to consider attributing a value of zero to this property, otherwise any goodwill figure based on an estimate of the value of the development work could be difficult to justify.

The value of the goodwill on the acquisition of Smalopen is complicated by the fact that Frinta is effectively paying for the expertise of Smalopen's engineers and the value of its intellectual property. Both of those assets could rapidly decline in value if, for example, staff decide to leave or technology changes and the IP ceases to have any value to the Group. The impairment review will have to take account of the fact that Smalopen's previous expertise was in the area of industrial smart devices, whereas Frinta requires assistance with domestic systems. This suggests that a priority for the impairment review will be to verify the relevance of employee skill sets and knowledge bases, after the acquisition has been completed and Frinta's Board has access to such information. Those issues should be revisited with the passage of time. Frinta should also check staff turnover to establish whether the subsidiary still have the expertise that was acquired with the company.

The calculation of the EPS ratio requires earnings for the year ended 31 December 2021 to be divided by an appropriate denominator. The calculation of that denominator depends on the basis on which the share issue is valued. The numerator and denominator of the ratio must be consistent with one another, which is regarded as such a complex matter that the EPS calculation is governed by IAS 33 *Earnings per share*.

In this case, it can be argued that Frinta's shares were issued at full market price, which would simplify the calculation of EPS significantly. The number of shares in the denominator would be the weighted average of the shares in issue throughout the year, with the weighting based on the time periods before and after the issue. In subsequent years there would be no need to adjust the number of shares because the number in issue as at 31 December 2021 would continue unchanged throughout subsequent accounting periods.

Team creation

The team's goals must be clear from the outset, otherwise there will be confusion both within the team and between Frinta and the new Smalopen subsidiary. Frinta's Board should start by considering the role that Smalopen will have within the Group. Then the team can be selected and briefed on the basis that it will have a clear goal in terms of integrating Smalopen.

The Board should ensure that the team includes staff with the necessary technical skills to enable it to achieve its goals. Smalopen's expertise appears to lie in the area of industrial smart devices, which may mean that Frinta will have to provide briefings and support on the application to domestic devices. The Board will have to ensure that staff are suitably qualified because senior managers within Frinta may not necessarily be keen to release staff whom they consider valuable.

Frinta's Board should also ensure that the team members have an appropriate level of seniority. Junior members of staff may not be taken seriously by the management team at Smalopen. Team members must have sufficient authority to speak on Frinta's behalf and to grant permission to proceed on the basis of agreed plans.

It may be preferable to create a team using managers from both Frinta and Smalopen, rather than sending a team of managers from Frinta. Sending a team from the parent company to the newly acquired subsidiary may be perceived as confrontational. A joint team could create a much stronger spirit of cooperation.

The team should be provided with a definitive set of objectives and a timetable for completion. This should be expressed in terms of key deliverables, such as the development of a new model smart speaker by a specific date. The team should be given interim targets and dates in order to enable the Board to track progress.

Section 4

Stakeholders

It could be argued that the status of other manufacturers as stakeholders depends on their interest in Frinta's software and the effects that changes or updates might have on connectivity. The fact that the updates to Frinta's software caused serious damage to other manufacturers' devices clearly indicates that those other manufacturers had an interest. Future sales may be affected if consumers decide not to invest in smart televisions and other devices that could damage one another. It may be regarded as easier and safer simply to buy conventional devices and operate them using traditional methods such as control panels and remote controls. There is a mutual benefit to be had from maintaining compatibility because part of the attraction of Frinta Friend is that it can operate a number of household appliances. Frinta should have been aware that many smart devices could have been running older versions of the software that enables connectivity and so should have been in a position to test the effects of its updated software on devices that have not been updated.

There is a counterargument that the other manufacturers should accept full responsibility for their own products and that they should ensure that their own software is robust. If the open-source software that powers smart devices is expected to change then devices should be programmed to update themselves on an ongoing basis, with manufacturers creating updates as required. Manufacturers of devices that are used as "universal" controllers, such as smartphones, tablets and smart speakers, cannot be expected to allow for the support of different versions of the software at once. It would certainly be easier for manufacturers of smart devices that are likely to be controlled by a range of input devices to remain compatible with those inputs than it would be to ask companies like Frinta to ensure that their devices remain compatible with every brand of smart television. It is clear that the development of this software is important to many different manufacturers and so it could be argued that there should be a more formal basis for managing the relationship between them.

TQM

TQM requires companies to focus on the prevention of failures rather than their correction. The main advantage of that approach is clear in this case because Frinta is now being subjected to significant reputational damage because its software has corrupted its customers' televisions and other devices. A stronger focus on prevention might have led to more thorough testing of the revised software, which might have eliminated any errors in the code or identified potential compatibility problems. If the compatibility problems had been discovered at the testing stage, then the other manufacturers could have been alerted that their software required an update or Frinta's software could have been programmed to disconnect from incompatible devices before any damage occurred.

The other focus in TQM is the need for continuous improvement with respect to processes. That lends itself well to the maintenance and management of Frinta's software because smart speakers are a product that will require continuous

updating to reflect changes in the open-source language and the introduction of new smart devices. It would be ideal if Frinta could develop a protocol for the updates to ensure that they could be developed as efficiently as possible and with the lowest possible risk of conflict with other manufacturers' products. The nature of this business is that Frinta will be faced with an ongoing need for change and development in its software and the delivery of updates. Applying continuous improvement would be an excellent way to remind Frinta's engineers of the need to maintain quality in their work.

TQM is complicated for Frinta because of the need for smart speakers to interact with other devices created and programmed by other manufacturers. Clearly, this recent product failure was partly attributable to manufacturers who chose not to update their products' software and so conflicted with Frinta Friend. Other manufacturers may not have a significant incentive to ensure ongoing compatibility with Frinta because their devices have already been sold and so there may be no direct need as it is only one of many potential devices that might be used as controllers. The need to obtain the cooperation and support of third parties will always restrict the application of TQM.

A formal TQM approach could prove costly to introduce, given the fact that this is a relatively new direction for Frinta. The need to launch the new speaker model might have meant that the introduction of TQM would have delayed the commencement of work on coding. Frinta may not necessarily be developing new software as an ongoing process but could be forced to respond to new versions of the open-source software or major new developments in smart products. It may be more appropriate to focus on reviewing the development of major changes and ensuring that the updates are properly tested.

CIMA MANAGEMENT CASE STUDY
NOVEMBER 2021 – FEBRUARY 2022
EXAM ANSWERS

Variant 6

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Section 1

Disruptive technologies

It is difficult to classify this technology as being either disruptive or not. In order to qualify as disruptive, it would have to bring about a fundamental change in Frinta's industry. Ypburn, Frinta's main competitor, already has a security system on sale that offers the same functions as those of the product proposed by Frinta's R&D Department. That would not necessarily prevent the product from being disruptive because the smart speaker industry comprises only two companies, whose smart speakers have traditionally fulfilled different purposes. The Frinta Friend is essentially a device that stands alone and enables users to use voice commands to access internet services such as online shopping, with the limited ability to control Frinta's own heating and ventilation controllers and one third party's smart plugs. The new product would involve a significant addition to Frinta's product range and would also signal a major change in the smart speaker industry. Both companies who manufacture and sell smart speakers will be competing on the basis that smart speakers are a digital hub that enable users to interact with a wide range of connected devices. The ability to access videos and alerts remotely using a smartphone or other device also confirms that the smart speaker industry is providing users with a basis for the management of their digital lives.

Frinta has to decide how it will engage with smart technologies and the internet of things. It is crucial/important to decide whether Frinta Friend should continue to be restricted to a limited range of devices or whether it should increasingly support a wider range of connections. The simpler approach would be to develop a range of devices, such as the security system, that will be compatible with Frinta Friend and will extend the range of options open to customers. A more complicated approach would be to enable Frinta Friend to connect to a wide range of smart devices, using the same approach to software as Ypburn's Ypvox speaker. The latter approach will make Frinta Friend far more versatile, but it

could also mean that devices developed by Frinta could be controlled by Ypvox, which could cost Frinta some of its marketing advantages.

This change will require a review of the skills available to the R&D Department to ensure that it has the necessary qualified engineers and programmers to create the security system and similar devices. If the capabilities of Frinta Friend are to be expanded, then it would be logical to add as many accessories and features as possible within a short period of time in order to reinforce that message. Frinta should continue with the development of the security system, but it would also be desirable to investigate products that are not already being sold by Ypburn so that Frinta can demonstrate some leadership in this sector. Alternatively, a software update that enables the ability to control third party smart products that use open-source software would fulfill the same purpose.

Risks

There could be a significant product risk if potential buyers are reluctant to buy the new system on the grounds that they do not perceive the need of such a sophisticated alarm system. The system is a direct competitor for Ypburn's security kit, which may have attracted much of the potential market already. Also, potential customers who already own a Ypvox smart speaker would probably stick with that brand for the sake of compatibility. Frinta Friend was sold on the basis that the product was easy to set up and operate and so its customer base might be reluctant to purchase a sophisticated alarm system that will require the physical installation of cameras and sensors. The fact that Frinta Friend has previously been sold as a standalone product could encourage previous buyers to retain that attitude and to purchase a separate security system that does not require integration with a smart speaker.

This is a product that could create significant reputational risks. It would only take one case where a customer's home was burgled with detecting the thief to generate significant bad publicity. The risks of such a failure are relatively high, given that thieves have an incentive to develop ways to defeat security systems and because the sensors will have to be correctly located in order to ensure that they are effective. Any problems with this product could create further difficulties for Frinta in the launch of further accessories for the Frinta Friend.

There may be significant operational risks associated with the new product because it will involve manufacturing challenges that are new to Frinta. For example, If the outdoor cameras are not waterproof, the electronics will short circuit and Frinta will have to provide replacements. These challenges could lead to significant losses due to items failing quality inspections during the first phase of production, which could be extremely expensive.

Section 2

Pricing

By bundling the storage and security system, Frinta has considerable flexibility in pricing'. If there is likely to be a significant uptake of the online storage then there could be some adjustments of the individual prices to attract customers. That approach could take several forms. For example, the online storage could be discounted for a period after the security system is launched as a sales incentive for customers to buy the bundle of sensors and online storage. If the fact that the availability of the discount is a limited time offer, then it will reduce the risk that Frinta will appear to be overcharging when the promotion comes to an end.

Frinta will have to be careful not to overcharge for storage because customers may then be discouraged from buying the security system overall. They are, after all, being asked to pay for three years of service at the time of purchase and so it could be sufficient to influence a buying decision in favour of another product or discourage the purchase of storage. The fact that the storage service is to be sold in three-year blocks suggests that Frinta has already decided to aim for a relatively low price in order to obtain a high volume of sales.

It would be helpful to draw upon the information obtained from the market research because that will help Frinta to appreciate the desirability of the service to customers. The pricing decision should reflect the fact that there will be significant initial costs in setting up the system to store the data, but there will be a relatively little marginal cost associated with adding a customer and archiving that customer's files. The pricing should be low enough to ensure that there is a significant uptake of the long-term storage so that the setting up costs can be spread over as many customers as possible. A low-cost pricing strategy will probably lead to the greatest overall profit from this service. It will also reduce the risk that Frinta is perceived as profiting from its customers' anxiety about their security.

Accounting issues

The setting up costs will include the cost of the property, plant and equipment, which will have to be accounted for in accordance with IAS 16 *Property, plant and equipment*. It should be relatively easy to identify the costs that meet the criteria for recognition as non-current assets. Those costs should be capitalised and depreciated over their estimated useful lives.

The setting up costs will also include significant expenditure on intangibles, which will have to be accounted for in accordance with the requirements of IAS 38 *Intangible assets*.

Frinta's expenditure will have to be identifiable in order to fall within the definition of an intangible asset. That means it will have to be separable from the business itself. That means that many of the initial costs, such as the market research and initial advertising to promote the data storage service, cannot be considered as potential intangible assets and so will have to be written off.

Assets that can be separable must then be reviewed to determine whether they meet IAS 38's criteria for recognition as assets. That means that they should be expected to yield future economic benefits and have costs that can readily be identified. That would almost certainly apply to several of the initial outlays, such as the software that will manage customers' data. These will yield benefits in the form of the revenues from subscriptions and so satisfy the first criterion. The second criterion will certainly apply to software that is written by third parties. Costs associated with the use of Frinta's own IT staff would also satisfy the criterion provided the staff maintain records such as timesheets that enable them to demonstrate the costs associated with systems work.

Once capitalised, the intangibles will have to be amortised over their estimated useful lives. That estimate will require an appreciation of both the likely viability of the storage service and also the expected time before the software will have to be rewritten and replaced. The amortisation period will be the shorter of those two estimated time spans.

The subscription will have to be accounted for in accordance with the requirements of IFRS 15 *Revenue from contracts with customers*. The IFRS applies because there will be a contract between Frinta and its customers, and that contract will specify the respective rights and payment terms arising. The contract has a commercial substance and will specify the consideration that will be paid at the outset of the three-year period.

The basic question that must be addressed in accounting for the revenues from this service is whether Frinta can recognise the whole of the payment when the contract is signed and the customer pays or whether some other basis will have to be applied. At the outset of the contract, Frinta will be obliged to provide the customer with data storage and access to the recording for three years from the date of commencement. That is the performance obligation specified in the IFRS. Revenues from the contract can only be recognised in the periods in which those performance obligations are satisfied, which means that the revenue will be recognised based on the proportion of each contract that is fulfilled in each financial year.

Frinta will receive payment at the outset of each contract, which will be credited to a liability account in the first instance and transferred to the statement of profit or loss as the contracted services are provided. The remaining balance will be shown in the statement of financial position, with the value that is to be earned within 12 months classed as a current liability and any that will take longer classed as a non-current liability.

Section 3

Interpretation

The manner in which the acquisition will be funded and settled will affect the consolidated statement of financial position. If Frinta exchanges its own shares for Dubblfile's then the Group equity will increase by the fair value of the shares issued. If the exchange is made using cash, then Frinta will have to take out a loan or issue bonds and so non-current liabilities will increase. The decision will affect the Group gearing ratio, which will affect perceptions of financial risk. Group debt is small in comparison to equity, so a further share issue will make a small gearing ratio even smaller and the impact will probably be negligible. The issue of debt will increase gearing. The impact on interpretation will depend on the scale of the increase in comparison to the Group as a whole.

The profitability of the Group is best measured using the return on capital employed (ROCE) ratio. In the short term, capital employed will increase immediately because of the fresh equity or debt on the consolidated statement of financial position. The numerator of the ratio will increase by the amount of Dubblfile's operating profit during the year in which the acquisition occurs. That operating profit might be relatively small because the subsidiary will have only part of the year in which to earn operating profit and it will also be faced with reorganisation costs in setting up the new service. The overall impact in the year of acquisition will probably mean a decrease in ROCE, although it is to be hoped that operating profits will increase substantially once the service settles down.

ROCE will also be affected by goodwill on acquisition. It is to be expected that Frinta will have to pay a premium over the fair value of the separable assets in order to acquire Dubblfile and that will lead to an increase in the Frinta Group's intangible assets. The goodwill will be subject to an annual impairment review and any impairment that is detected will result in a write-off that will reduce operating, which will reduce ROCE. That reduction will be offset by the fact that the write-off will also reduce equity. It could also be argued that the Group will not be able to put the goodwill asset to any specific use in order to earn operating profits and so it could be argued that goodwill will reduce ROCE by inflating capital employed without any corresponding increase in return.

The fact that Dubblfile is based in Norland and prepares its financial statements in N\$ means that its financial statements will have to be translated to W\$ so that they can be consolidated into the Group accounts. Changes in the exchange rate between the two currencies will lead to currency gains and losses that will have to be taken to the currency reserve in the statement of financial position. Movements in the currency reserve will not affect return, but the reserve itself will be included in capital employed. Any significant changes to capital employed because of this could introduce volatility into the ROCE and gearing ratios.

Managers

Frinta will have to be careful in the selection of managers because the service that Dubblfile is to provide is going to be a new one that has not yet been fully developed and defined by Frinta. The Board will have to take care to ensure that suitable managers are made available as and when required to brief Dubblfile without unduly distracting key managers from the development work in the

process. It may be necessary for Frinta to recruit some new senior managers with IT skills in order to help with the development of the new service and it may be logical to recruit some of them from Dubblfile. Those managers could then liaise between head office and Dubblfile, advising both the Board and the subsidiary management team.

The managers will have to be sufficiently senior to be qualified to make decisions on Frinta's behalf when working with Dubblfile. It will lower morale if matters constantly have to be referred back to a development team or to Frinta's Board for authorisation.

The progress of Dubblfile's integration should be measured in terms of a detailed timetable, with interim targets leading up to a final launch of the service. The management team will obviously be expected to report progress in terms of achieving those milestones. Those targets will include matters beyond the commercial service itself. Dubblfile will have to adapt itself to use and report in terms of Group budgetary control systems, HR policies and so on. It will also be necessary for the subsidiary's senior management team to complete an induction programme to enable them to manage their company in a manner that is consistent with Frinta's culture.

Integration will also require that Dubblfile remain in a form that can be of continuing value to the Frinta Group. The management team should be evaluated based on key factors such as managing staff turnover. Dubblfile is being acquired in order to enhance Group skills in a new area and so Frinta cannot afford to lose too many of its staff.

Section 4

TQM

TQM would have introduced a commitment to quality at Dubblfile that might have inspired greater care in the installation of additional storage capacity. Dubblfile's expertise in providing cloud-based data storage meant that the company's IT staff are aware of the pitfalls associated with careless work in preparing computers to maintain files. Thorough checks of something as complex as a server might be expensive, but the reputational costs associated with failure are likely to be even higher. The data files that customers are entrusting to Frinta are important because they are intended to protect the security of their homes and the data is irreplaceable.

The nature of Dubblfile's operations would suggest that there are processes that should be regarded as relatively routine and that those can be reviewed for quality on an ongoing basis. Adding storage to meet growing demand from clients is clearly one of those processes and the company's IT staff should be capable of engaging with one another to discuss the risks of lost files due to incorrect installation and the ways in which they might be managed. TQM would allow for the fact that changing technologies will require ongoing reviews of the quality management processes that are required to ensure that the company's procedures are up-to-date. TQM would be a valuable basis for reminding managers of the need to maintain such an attitude.

Successful implementation of TQM would have required time and energy to have been invested in implementation while the new data storage service was being set up and marketed. It would have been a major distraction and could have delayed the service launch. Dubblfile's managers might have resented the implication that Frinta did not trust them to implement secure and effective management of data storage, given that they were effectively paying to acquire that expertise. This would have been a bad time to have risked undermining morale within Dubblfile. It could have led to the loss of key staff. It should have been sufficient for senior managers from Dubblfile to have been briefed on the need to establish the service in an effective and efficient manner and for them to have been trusted to do so.

Implementing TQM is a major undertaking that requires commitment across the entity. It would have required all aspects of Dubblfile's operations to be included. The problem with the data loss is very specific and could have been addressed more cost-effectively by creating a specific protocol for acquiring and installing new servers. The cost and time associated with addressing those risks through TQM could prove disproportionate. It could even be argued that the lost data is unfortunate, but that some data loss is almost inevitable unless Dubblfile adopts extreme measures, which could lead to price increases that would deter customers. It is unlikely that the data that is being stored will have any ongoing value to customers, except for unusual circumstances such as suspicions of an intrusion.

Real option

Frinta is offering a new service and, as such, it is hoped that demand will exceed expectations. Frinta should have considered the possibility that more customers than expected would buy the security system and also take the data storage option. There is a further complication in this case because Frinta had no real way of telling how much data a typical customer would generate. If cameras are sited where they will pick up constant movement passing in front of customers' homes then the data requirements could, on average, be greater than expected. Frinta should have incorporated the need to expand rapidly to meet growing demand into its decision to acquire Dubblfile, otherwise, there would have been relatively little need to acquire a professional IT company. It would almost certainly have been less expensive for Frinta to have created its own internal storage facility if its intention was to establish a basic data storage facility that could not be scaled up at will.

There could be a counterargument that Frinta did not necessarily have to allow for a real option to expand because it is not under any obligation to continue to offer its customers a storage service when they purchase a security system. If demand for storage starts to become a problem, then Frinta could simply discontinue the subscription service and restrict new customers' storage to the 48-hour period initially specified. That facility could be complemented by giving customers the ability to download videos to their own devices in the event that they have any specific interest. It could also be argued that there is no specific need to create a real option to upscale a cloud computing provider such as Dubblfile. The very nature of the service that it provides means that it will always be possible to add storage capacity. Frinta can, therefore, tailor its response to add storage capacity to reflect the costs and benefits of doing so as time passes and storage needs become clearer.



Management Level Case Study November 2021 – February 2022

Marking Guidance

Variant 1

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Summary of the core activities tested within each sub task

Sub Task	Core Activity		Sub task weighting (% section time)
Section 1			
(a)	A	Evaluate opportunities to add value	60 %
(b)	D	Measure performance	40 %
Section 2			
(a)	B	Implement senior management decisions	40 %
(b)	C	Manage performance and costs to aid value creation	60 %
Section 3			
(a)	E	Manage Internal and external stakeholders	40 %
(b)	D	Measure performance	60 %
Section 4			
(a)	B	Implement senior management decisions	60 %
(b)	E	Manage Internal and external stakeholders	40 %

SECTION 1			
Task (a) Identify and discuss the impact that expanding the product range to include innovative new products such as the Frinta Flyer will have on Frinta's business model			
Trait			
Define and create	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines elements of the model	1-2
	Level 2	Offers an explanation of impacts on define and create	3-5
	Level 3	Offers a full explanation of impacts on define and create with good justification	6-8
Deliver and capture	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines elements of the model	1-2
	Level 2	Offers explanation of impacts on delivery and capture	3-5
	Level 3	Offers a full explanation of impacts on delivery and capture with good justification	6-7
Task (b) Identify the financial reporting challenges that extending our R&D activities to include innovative new products such as the Frinta Flyer will create for Frinta and explain how those might be overcome			
Trait			
Challenges	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Lists accounting issues	1
	Level 2	Offers a clear description of accounting issues	2-3
	Level 3	Offers a clear description of accounting issues with good justification	4-5
Responses	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Mentions relevant standard(s)	1
	Level 2	Offers logical responses	2-3
	Level 3	Offers logical responses with good justification	4-5

SECTION 2

Task (a) Identify the problems of establishing effective R&D project teams and recommend appropriate responses, giving reasons.

Trait			
Problems	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Lists problems	1
	Level 2	Identifies problems, with some explanation	2-3
	Level 3	Identifies problems, with good explanation	4-5
Solutions	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Lists possible responses	1
	Level 2	Offers relevant responses	2-3
	Level 3	Offers relevant responses with justification	4-5

Task (b) Discuss the advantages and disadvantages of R&D operating as a profit centre

Trait			
Advantages	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes possible advantages	1-2
	Level 2	Offers explanation of possible benefits	3-5
	Level 3	Offers explanation of possible benefits with good justification	6-8
Disadvantages	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes possible problems	1-2
	Level 2	Offers explanation of possible problems	3-5
	Level 3	Offers explanation of possible problems with good justification	6-7

SECTION 3

Task (a) Identify the challenges associated with accounting for goodwill and non-controlling interest in buying a 60% stake in Tronnecks, assuming that we use the fair value method of accounting

Trait			
Goodwill	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines goodwill	1
	Level 2	Identifies issues relating to Tronnecks	2-3
	Level 3	Identifies issues relating to Tronnecks, with justification	4-5
NCI	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes basic response to problems	1
	Level 2	Offers a good explanation of responses	2-3
	Level 3	Offers a good explanation of responses with justification	4-5

Task (b) Explain the challenges associated with us stress testing Tronnecks immediately after its acquisition, focussing in particular on issues relating to prioritisation, measurement, productivity and flexibility

Trait			
Prioritisation	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines prioritisation	1
	Level 2	Describes difficulties in context	2-3
	Level 3	Describes difficulties in context, with justification	4
Measurement	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines measurement	1
	Level 2	Describes difficulties in context	2-3
	Level 3	Describes difficulties in context, with justification	4
Productivity	Level	Descriptor	Marks

Flexibility		No rewardable material	0
	Level 1	Defines productivity	1
	Level 2	Describes difficulties in context	2-3
	Level 3	Describes difficulties in context, with justification	4
	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines flexibility	1
	Level 2	Describes difficulties in context	2
	Level 3	Describes difficulties in context, with justification	3

SECTION 4

Task (a) Explain why effective lifecycle costing would require close liaison between R&D, other departments and the Board.

Trait			
Designing costs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies designing costs out of product as an issue	1
	Level 2	Discusses cooperation and designing costs out of product	2-3
	Level 3	A full discussion of cooperation and designing costs out of product	4-5
Time to market	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies time to market as an issue	1
	Level 2	Discusses cooperation and time to market	2-3
	Level 3	A full discussion of cooperation and time to market	4-5
Length of lifecycle	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies length of the lifecycle as an issue	1
	Level 2	Discusses cooperation and length of the lifecycle	2-3
	Level 3	A full discussion of cooperation and length of the lifecycle	4-5

Task (b) Recommend with reasons the manner in which Frinta should disclose its R&D activities as an aspect of intellectual capital in the Group Integrated Reporting (<IR>) report

Trait			
Legal rights	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies asset	1
	Level 2	Discusses reporting issues	2-3
	Level 3	Discusses reporting issues with good justification	4-5
IP	Level	Descriptor	Marks



		No rewardable material	0
	Level 1	Identifies asset	1
	Level 2	Discusses reporting issues	2-3
	Level 3	Discusses reporting issues with good justification	4-5



Management Level Case Study November 2021 – February 2022

Marking Guidance

Variant 2

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Sub Task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	A	Evaluate opportunities to add value	60 %
(b)	A	Evaluate opportunities to add value	40 %
Section 2			
(a)	E	Manage Internal and external stakeholders	60 %
(b)	C	Manage performance and costs to aid value creation	40 %
Section 3			
(a)	C	Manage performance and costs to aid value creation	60 %
(b)	D	Measure performance	40 %
Section 4			
(a)	B	Implement senior management decisions	60 %
(b)	D	Measure performance	40 %

SECTION 1

Task (a) Recommend, stating reasons, whether Frinta should continue to manufacture heating and ventilation controllers

Trait			
Recommendation	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes profitability	1-2
	Level 2	Offers logical recommendations	3-5
	Level 3	Offers a good range of logical recommendations	6-8
Justification	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies factors for evaluation	1-2
	Level 2	Offers sensible justification	3-5
	Level 3	Offers full justification	6-7

Task (b) Discuss the advantages and disadvantages of reducing the selling prices of heating and ventilation controllers in order to stimulate demand for those products

Trait			
Advantages	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies demand as an issue	1
	Level 2	Discusses advantages	2-3
	Level 3	Discusses advantages with good justification	4-5
Disadvantages	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies demand as an issue	1
	Level 2	Discusses disadvantages	2-3
	Level 3	Discusses disadvantages with good justification	4-5

SECTION 2

Task (a) Discuss the accounting implications of this purchase for the Frinta Group's consolidated financial statements.

Trait			
Associate	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines associate	1-3
	Level 2	Discusses classification of investment	4-6
	Level 3	Discusses classification of investment with good justification	7-9
Impairment	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies risk of impairment	1-2
	Level 2	Discusses valuation/impairment issues	3-4
	Level 3	Discusses valuation/impairment issues with good justification	5-6

Task (b) Identify and explain the main product and operational risks that Frinta will face if we proceed with this investment

Trait			
Product risks	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines product risks	1
	Level 2	Discusses product risks	2-3
	Level 3	Discusses product risks with good justification	4-5
Operational risks	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines operational risks	1
	Level 2	Discusses operational risks	2-3
	Level 3	Discusses operational risks with good justification	4-5

SECTION 3

Task (a) Explain why Thermzoan should apply life cycle costing to the new products. Your explanation should cover both the importance of life cycle costing at this stage of product development and also any problems that might arise

Trait			
Usefulness	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines lifecycle costing	1-2
	Level 2	Discusses usefulness of lifecycle costing	3-5
	Level 3	Discusses usefulness of lifecycle costing with good justification	6-7
Application	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies stages	1-2
	Level 2	Discusses application of lifecycle costing	3-5
	Level 3	Discusses application of lifecycle costing with good justification	6-8

Task (b) Explain how the decision to proceed with the development of this new product might affect Thermzoan's return on capital employed, both in terms of the ratio itself and its volatility.

Trait			
Ratio	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines ROCE	1
	Level 2	Discusses impact on ROCE	2-3
	Level 3	Discusses impact on ROCE with good justification	4-5
Volatility	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies volatility as an issue	1
	Level 2	Discusses factors that might cause volatility	2-3
	Level 3	Discusses factors that might cause volatility with good justification	4-5

SECTION 4

Task (a) Recommend with reasons the approach that should be taken to managing the project to develop Thermzoan's new air conditioning system, assuming that Frinta provides the required technical assistance

Trait			
Initiation & planning	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies initiation and planning	1-2
	Level 2	Recommends approach to initiation and planning	3-5
	Level 3	Recommends approach to initiation and planning with good justification	6-8
Control & conclusion	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies control and conclusion	1-2
	Level 2	Recommends approach to control and conclusion	3-5
	Level 3	Recommends approach to control and conclusion with good justification	6-7

Task (b) Explain, with reasons, specific issues we should aim to assess when designing stress tests. Your recommendations should focus on issues relating to prioritisation, measurement, productivity and flexibility that could arise from the addition of the new product

Trait			
Prioritisation & measurement	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies prioritisation and measurement	1
	Level 2	Recommends specific issues associated with prioritisation and measurement	2-3
	Level 3	Recommends specific issues associated with prioritisation and measurement with justification	4-5
Productivity & Flexibility	Level	Descriptor	Marks
		No rewardable material	0



	Level 1	Identifies production and flexibility	1
	Level 2	Recommends specific issues associated with production and flexibility	2-3
	Level 3	Recommends specific issues associated with production and flexibility with justification	4-5



Management Level Case Study November 2021 – February 2022

Marking Guidance

Variant 3

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Section 1			
(a)	D	Measure performance	60 %
(b)	E	Manage Internal and external stakeholders	40 %
Section 2			
(a)	A	Evaluate opportunities to add value	60 %
(b)	C	Manage performance and costs to aid value creation	40 %
Section 3			
(a)	B	Implement senior management decisions	60 %
(b)	D	Measure performance	40 %
Section 4			
(a)	E	Manage Internal and external stakeholders	60 %
(b)	C	Manage performance and costs to aid value creation	40 %

SECTION 1			
Task (a) Offer arguments for and against the suggestion that Frinta's Marketing and Distribution Department should have evaluated the risk of losing Keesell as a customer and taken steps to mitigate that risk			
Trait			
Arguments for	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Outlines need for evaluation	1-2
	Level 2	Discusses the need for evaluation in context	3-5
	Level 3	Discusses the need for evaluation in context with good justification	6-8
Arguments against	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Lists reasons not to evaluate	1-2
	Level 2	Discusses arguments against evaluation in context	3-5
	Level 3	Discusses arguments against evaluation in context with good justification	6-7
Task (b) Recommend with reasons the way in which Frinta might negotiate a continuation of its trading relationship with Keesell			
Trait			
Recommendation	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines negotiation	1
	Level 2	Offers a logical approach to negotiation	2-3
	Level 3	Develops a logical approach to negotiation	4-5
Reasons	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines win-win	1
	Level 2	Offers relevant reasons for recommendations	2-3
	Level 3	Offers relevant reasons for recommendations with good justification	4-5

SECTION 2			
Task (a) Discuss the impact that having our own online direct sales channel will have on Frinta's business model			
Trait			
Defining/creating	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies defining and creating value	1-2
	Level 2	Discusses impact on defining and creating	3-5
	Level 3	Discusses impact on defining and creating with good justification	6-8
Delivering/capturing	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies delivering and capturing value	1-2
	Level 2	Discusses impact on delivering and capturing	3-5
	Level 3	Discusses impact on delivering and capturing with good justification	6-7
Task (b) Discuss the issues that should be considered when setting selling prices for products and their delivery when sold through our own online direct sales channel			
Trait			
Costs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies cost as an issue	1
	Level 2	Links cost to perceived value	2-3
	Level 3	Good discussion of the link between cost and perceived value	4-5
Demand	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies demand as an issue	1
	Level 2	Discusses the impact of price on demand	2-3
	Level 3	Good discussion of the link between price and demand	4-5

SECTION 3

Task (a) Identify with reasons the characteristics of debt and equity that are relevant to the funding decision for Frinta's investment in its online direct sales channel

Trait			
Debt	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes some characteristics of debt	1-2
	Level 2	Describes characteristics of debt, with links to the scenario	3-5
	Level 3	Describes characteristics of debt, with links to the scenario and well justified	6-8
Equity	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes some characteristics of equity	1-2
	Level 2	Describes characteristics of equity, with links to the scenario	3-5
	Level 3	Describes characteristics of equity, with links to the scenario and well justified	6-7

Task (b) Recommend with reasons the appropriate accounting treatment for each element of the intangibles listed in this document

Trait			
Market research & advertising	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies IAS 38	1
	Level 2	Offers logical treatment for market research and advertising	2-3
	Level 3	Offers logical treatment for market research and advertising with good justification	4-5
Software	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Lists criteria in IAS 38	1
	Level 2	Offers logical treatment for software	2-3
	Level 3	Offers logical treatment for software with good justification	4-5

SECTION 4

Task (a) Evaluate the advantages and disadvantages to Frinta of both manufacturing cost and wholesale price as bases for setting transfer prices between M&D and Online

Trait			
Advantages	Level	Descriptor	Marks
		Identifies transfer pricing issues	0
	Level 1	Identifies transfer pricing issues	1-2
	Level 2	Discusses advantages of transfer pricing as a response	3-5
	Level 3	Discusses advantages of transfer pricing as a response with good justification	6-8
Disadvantages	Level	Descriptor	Marks
		No rewardable material	0
		Identifies transfer pricing problems	0
	Level 1	Identifies transfer pricing problems	1-2
	Level 2	Discusses disadvantages of transfer pricing as a response	3-5
	Level 3	Discusses disadvantages of transfer pricing as a response with good justification	6-7

Task (b) Assuming that manufacturing cost is used as the transfer price, recommend with reasons the approach that Alcine should take to maintain the engagement of M&D's marketing managers

Trait			
Maintaining	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines employee engagement	1
	Level 2	Offers relevant recommendations	2-3
	Level 3	Offers a good range of recommendations	4-5
Justification	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Recognises the need for maintaining engagement	1
	Level 2	Offers justification for recommendations	2-3
	Level 3	Offers full justification for recommendations	4-5



Management Level Case Study November 2021 – February 2022

Marking Guidance

Variant 4

About this marking scheme

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General marking guidance

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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	Implement senior management decisions	60 %
(b)	D	Measure performance	40 %
Section 2			
(a)	A	Evaluate opportunities to add value	60 %
(b)	C	Manage performance and costs to aid value creation	40 %
Section 3			
(a)	D	Measure performance	40 %
(b)	E	Manage Internal and external stakeholders	60 %
Section 4			
(a)	E	Manage Internal and external stakeholders	40 %
(b)	C	Manage performance and costs to aid value creation	60 %

SECTION 1

Task (a) Identify the challenges associated with managing the development of these security devices as a project and recommend suitable responses.

Trait			
Identify challenges	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies challenges	1-2
	Level 2	Discusses challenges	3-5
	Level 3	Discusses a full range of challenges	6-8
Responses	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Suggests some response	1-2
	Level 2	Offers sensible responses for identified challenges	3-5
	Level 3	Offers sensible responses for identified challenges with justification	6-7

Task (b) Identify the main product and product reputation risks arising from the development and sale of these security devices and evaluate their significance.

Trait			
Identify risks	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes business risk	1
	Level 2	Discusses risks	2-3
	Level 3	Discusses a range of risks	4-5
Evaluate	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Refers to TARA	1
	Level 2	Evaluates identified risks	2-3
	Level 3	Evaluate identified risks with good justification	4-5

SECTION 2			
Task (a) Explain the issues that Frinta should consider when identifying customers and setting the selling price of the security system and recommend, with justification, an appropriate pricing strategy.			
Trait			
Recommendation	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Lists pricing strategies	1-2
	Level 2	Offers clear recommendation	3-5
	Level 3	Offers clear and logical recommendation	6-8
Justification	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies criteria for success	1-2
	Level 2	Justifies recommendation	3-5
	Level 3	Justifies recommendation with good support	6-7
Task (b) Recommend with reasons how the Frinta Group's integrated report should reflect our development of this security system in the sections discussing the intellectual, human and social and relationship capitals.			
Trait			
Treatment	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes capitals	1
	Level 2	Discusses application to Frinta	2-3
	Level 3	Offers clear application to Frinta	4-5
Reasons	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Offers some reasons	1
	Level 2	Offers relevant reasons	2-3
	Level 3	Offers relevant reasons with justification	4-5

SECTION 3

Task (a) Identify the accounting problems that will be created by the compensation claims against Frinta and recommend with reasons how they might be overcome.

Trait			
Problems	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies IAS 37	1
	Level 2	Identifies specific classification issues	2-3
	Level 3	Identifies specific classification issues with good justification	4-5
Overcoming	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Discusses definitions	1
	Level 2	Offers sensible response to problems	2-3
	Level 3	Offers sensible response to problems with justification	4-5

Task (b) Recommend with reasons a suitable response to the growing conflict between the senior M&D and R&D managers.

Trait			
Response	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines conflict	1-2
	Level 2	Offers practical response	3-5
	Level 3	Offers practical response that is relevant to Frinta	6-8
Reasons for response	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Offers some explanation	1-2
	Level 2	Offers good justification	3-5
	Level 3	Offers full justification	6-7

SECTION 4

Task (a) Explain the issues that should be considered when determining a suitable transfer price for the secondment of M&D managers to the Production and R&D Departments.

Trait			
Optimal	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Lists transfer pricing strategies	1
	Level 2	Offers sensible recommendation	2-3
	Level 3	Offers clear and sensible recommendation	4-5
Reasons for optimal	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies criteria for success	1
	Level 2	Explains logic in the context	2-3
	Level 3	Offers good justification in the context	4-5

Task (b) Recommend, with reasons, ways in which the quality issues described in the Board minute could have been avoided and how the recurrence of such problems can be prevented.

Trait			
Avoidance	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Offers some suggestions concerning quality	1-2
	Level 2	Offers sound recommendations concerning quality	3-5
	Level 3	Offers sound recommendations with good justification	6-8
Recurrence	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Offers some suggestions concerning recurrence	1-2
	Level 2	Offers sound recommendations concerning recurrence	3-5
	Level 3	Offers sound recommendations with good justification	6-7



Management Level Case Study November 2021 – February 2022

Marking Guidance

Variant 5

About this marking scheme

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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.

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General marking guidance

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

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

How to use this levels-based marking scheme

1. Read the candidate's response in full

2. Select the level

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

3. Select a mark within the level

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

Summary of the core activities tested within each sub-task

Sub Task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	A	Evaluate opportunities to add value	60 %
(b)	C	Manage performance and costs to aid value creation	40 %
Section 2			
(a)	A	Evaluate opportunities to add value	40%
(b)	D	Measure performance	60 %
Section 3			
(a)	E	Manage Internal and external stakeholders	60 %
(b)	B	Implement senior management decisions	40 %
Section 4			
(a)	B	Implement senior management decisions	40 %
(b)	C	Manage performance and costs to aid value creation	60 %

SECTION 1

Task (a) Identify and discuss the significance of the changes to Frinta's business model that will be created by enhancing the connectivity of our products.

Trait			
Identify changes	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies business model	1-2
	Level 2	Identifies changes in business model	3-5
	Level 3	Identifies full range of changes in business model	6-8
Discuss changes	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes business model	1-2
	Level 2	Discusses changes in business model	3-5
	Level 3	Offers a full discussion of changes in business model	6-7

Task (b) Discuss the impact that enhancing the connectivity of Frinta Friend will have for the management of this product's lifecycle.

Trait			
Launch product	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines product lifecycle	1
	Level 2	Discusses speed of launch to market	2-3
	Level 3	Discusses speed of launch with good justification	4-5
Extend lifecycle	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes extending lifecycle	1
	Level 2	Discusses extension of lifecycle	2-3
	Level 3	Discusses extension of lifecycle with good justification	4-5

SECTION 2

Task (a) Explain how proceeding with the proposal to change Frinta Friend is likely to affect Frinta's weighted average cost of capital (WACC) and explain the implications of any increase for the company.

Trait			
Effect	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines WACC	1
	Level 2	Explains changes to WACC	2-3
	Level 3	Explains changes to WACC with justification	4-5
Implications	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes changes	1
	Level 2	Explains implications	2-3
	Level 3	Explains implications with justification	4-5

Task (b) Identify and discuss the main product, reputational, contractual and operating risks that will arise for Frinta if the proposed changes to Frinta Friend are put into effect.

Trait			
Identify risks	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines business risk	1-2
	Level 2	Identifies risks	3-5
	Level 3	Identifies a full range of risks	6-8
Discuss risks	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Offers limited discussion	1-2
	Level 2	Offers good discussion	3-5
	Level 3	Offers good discussion with justification	6-7

SECTION 3			
Task (a) Identify and recommend solutions to the accounting challenges that we will face in determining the goodwill on the acquisition of Smalopen and also the Frinta Group's earnings per share (EPS).			
Trait			
Goodwill	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes rules	1
	Level 2	Applies rules to goodwill	2-3
	Level 3	Applies rules to goodwill with justification	4-5
Impairment	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes rules	1
	Level 2	Applies rules to impairment	2-3
	Level 3	Applies rules to impairment with justification	4-5
EPS	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes rules	1
	Level 2	Applies rules to EPS	2-3
	Level 3	Applies rules to EPS with justification	4-5
Task (b) Recommend with reasons the approach that Frinta should take in creating a team to engage with Smalopen's management after the acquisition.			
Trait			
Membership	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies membership as an issue	1
	Level 2	Discusses membership	2-3
	Level 3	Discusses membership with good justification	4-5



Role	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies team role as an issue	1
	Level 2	Discusses team role	2-3
	Level 3	Discusses team role with good justification	4-5

SECTION 4

Task (a) Evaluate the argument that the R&D Department should have identified the television manufacturers and the other manufacturers of smart devices as stakeholders in the project to upgrade the Frinta Friend software.

Trait			
For	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines stakeholders	1
	Level 2	Discusses argument for stakeholder recognition	2-3
	Level 3	Discusses argument for stakeholder recognition with good justification	4-5
Against	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes arguments against recognition	1
	Level 2	Discusses argument against stakeholder recognition	2-3
	Level 3	Discusses argument against stakeholder recognition with good justification	4-5

Task (b) Discuss the advantages and disadvantages of using Total Quality Management (TQM) to update and maintain Frinta's software to enable Frinta Friend to take advantage of the 'Internet of Things' (IoT).

Trait			
Advantages	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines TQM	1-2
	Level 2	Discusses advantages of TQM	3-5
	Level 3	Discusses advantages of TQM with justification	6-8
Disadvantages	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes problems	1-2
	Level 2	Discusses disadvantages of TQM	3-5
	Level 3	Discusses disadvantages of TQM with justification	6-7





Management Level Case Study November 2021 – February 2022

Marking Guidance

Variant 6

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Summary of the core activities tested within each sub-task

Sub Task	Core Activity		Sub-task weighting (% section time)
Section 1			
(a)	A	Evaluate opportunities to add value	60 %
(b)	D	Measure performance	40 %
Section 2			
(a)	A	Evaluate opportunities to add value	40 %
(b)	D	Measure performance	60 %
Section 3			
(a)	E	Manage Internal and external stakeholders	60 %
(b)	B	Implement senior management decisions	40 %
Section 4			
(a)	C	Manage performance and costs to aid value creation	60 %
(b)	B	Implement senior management decisions	40 %

SECTION 1

Task (a) Explain whether this new product is “disruptive” in the sense that it would fundamentally change the smart speaker industry and discuss the implementation issues for Frinta of working with disruptive technologies.

Trait			
Classifying	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines disruptive technology	1-2
	Level 2	Offers a sensible classification	3-5
	Level 3	Offers a sensible classification with good justification	6-8
Implementation	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identified implementation issues	1-2
	Level 2	Discusses relevant implementation issues	3-5
	Level 3	Offers a full discussion of relevant implementation issues	6-7

Task (b) Identify and explain the main product, product reputation and operational risks that the introduction of this new product will create for Frinta.

Trait			
Identify	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines business risk	1
	Level 2	Identifies relevant risks	2-3
	Level 3	Identifies full set of relevant risks	4-5
Explain	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Offers some explanation risks	1
	Level 2	Offers good explanation of risks	2-3
	Level 3	Offers good explanation of risks, well linked to the scenario	4-5

SECTION 2

Task (a) Explain the issues we should consider when deciding how much to charge customers for the long-term storage of video files recorded by their security cameras.

Trait			
Issues	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Lists issues	1
	Level 2	Identifies issues, with some explanation	2-3
	Level 3	Identifies issues, with good explanation	4-5
Deciding	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Lists possible responses	1
	Level 2	Offers relevant responses	2-3
	Level 3	Offers relevant responses with justification	4-5

Task (b) Explain how the costs of setting up the system that Frinta will require for the long-term storage of video recordings should be dealt with in our financial statements, and also how we should account for the revenue from providing this service.

Trait			
Set-up costs	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies IAS and capital v revenue	1-2
	Level 2	Offers sensible discussion of capital v revenue	3-5
	Level 3	Offers sensible discussion of capital v revenue with good application to scenario	6-8
Revenue	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies IFRS and issue at stake	1-2
	Level 2	Offers sensible discussion of timing of recognition	3-5
	Level 3	Offers sensible discussion of timing of recognition with good application to scenario	6-7

SECTION 3

Task (a) Explain how adding Dubblfile to the Frinta Group as a 100% subsidiary will affect the analysis of the Frinta Group's consolidated financial statements.

Trait			
ROCE	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies profitability issues	1-2
	Level 2	Discusses impact on profitability	3-5
	Level 3	Discusses impact on profitability with good justification	6-8
Gearing	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Identifies financial position issues	1-2
	Level 2	Discusses impact on interpretation of financial position	3-5
	Level 3	Discusses impact on interpretation of financial position with good justification	6-7

Task (b) Recommend with reasons the approach for selecting Frinta managers who will be responsible for integrating Dubblfile into the Frinta Group and then assessing their performance.

Trait			
Selecting	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes need for liaison	1
	Level 2	Makes sensible recommendation	2-3
	Level 3	Makes sensible recommendation with justification	4-5
Assessing	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes performance issues	1
	Level 2	Makes sensible recommendation	2-3
	Level 3	Makes sensible recommendation with justification	4-5

SECTION 4

Task (a) Discuss whether or not Frinta could have prevented this failure by introducing Total Quality Management (TQM) at Dubblfile.

Trait			
Arguments for	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Describes TQM	1-2
	Level 2	Offers sensible argument for adoption	3-5
	Level 3	Offers sensible argument for adoption with good justification	6-8
Arguments against	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Offers some argument against adoption	1-2
	Level 2	Offers sensible argument against adoption	3-5
	Level 3	Offers sensible argument against adoption with good justification	6-7

Task (b) Discuss whether Frinta should have planned for the introduction of additional capacity as a real option in the capital investment appraisal for the acquisition and preparation of Dubblfile to provide this service.

Trait			
Needed	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Defines real options	1
	Level 2	Offers sensible argument for creation of real option	2-3
	Level 3	Offers sensible argument for creation of real option with good justification	4-5
Not needed	Level	Descriptor	Marks
		No rewardable material	0
	Level 1	Offers some argument against creation	1
	Level 2	Offers sensible argument against creation of real option	2-3
	Level 3	Offers sensible argument against creation of real option with good justification	4-5

Management 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 Management case study (MCS) examinations for November 2021 and February 2022 were based on a pre-seen scenario relating to Frinta, a quoted company that manufactures controls for central heating systems and smart speakers that act as hubs for smart homes. The first of these lines of business is long-established, and the company has a strong reputation for quality. The second is a more recent development that started as a means of offering customers the ability to control their central heating using apps and has developed into a product range. The market for smart speakers is growing. There is some potential synergy arising from the introduction of smart central heating controls that can be operated using commands entered using smart speakers such as those made by Frinta.

Six variants were set on Frinta:

- Variant 1: Frinta’s research and development department has been developing new products.
- Variant 2: Frinta must deal with a declining market for its central heating controllers.
- Variant 3: Frinta is faced with the loss of a major retailer that has signed an exclusivity deal with a rival manufacturer.
- Variant 4: Frinta is considering the development of home security devices that will be compatible with smart speakers.
- Variant 5: Frinta is considering the opportunities offered by the Internet of Things.
- Variant 6: Frinta is considering the development of a new security camera that will be sold in conjunction with a data storage service.

All six variants complied with the published blueprint and covered the core activities in the prescribed weightings. Each variant consisted of four tasks, and each task was further subdivided into separate requirements. The weighting attached to each requirement was stated, and candidates were advised to allocate the time available for each requirement on the basis of those weightings. Markers were instructed to adopt a holistic approach to marking, which meant that the answer to each requirement was read and judged on its merits. Markers were provided with specific guidance as to the characteristics of level 1, level 2 and level 3 answers for each separate requirement.

From the candidate's perspective, the key to scoring well is to read and then answer the questions. The expectation is that candidates will be familiar with the context of the company and its industry from their prior study of the pre-seen. This is a manufacturing company that has two product lines. The first is a mature product whose market has little room to grow, and the second is a new product line that offers significant opportunities for growth. It is important to address the specific requirements set in each task. Higher marks are awarded to fuller answers that are relevant and correct. Relevance and correctness are frequently judged in the context of the scenario, taking into account the nature of the business and the specific issues raised by the new information provided in the variant itself and the tasks set by the requirements.

A level 3 score generally requires a combination of good technical understanding and good application to the issues arising from the scenario. Scripts that receive level 3 scores generally demonstrate clear and comprehensive discussion and frequently offer an explanation or justification for the candidate's recommendations or arguments. Candidates should always bear in mind that the MCS is essentially a simulation of a series of work-based tasks that represent the professional competence appropriate to this level.

Level 1 scores tended to be awarded to answers that demonstrated some or all of the following:

- failure to address the requirement in the task.
- limited technical understanding of the syllabus content.
- unsupported assertions that had little or no justification.
- Little or no contextualisation shown in answers.
- illogical or unrealistic application to the issues arising from the scenario.

Variant 1 Comments on performance

Task 1

Task 1 began by explaining that design engineers in the research and development department often work unofficially on potential new products, using their break time and scrap components. Some of the ideas generated in this way have been taken on as official projects. One of these is an indoor drone called the “Frinta Flyer,” which can be used to detect and take a photograph of an intruder in the home. The R&D Director has encouraged spend on speculative R&D projects.

The first sub-task asked the candidate to identify and discuss the impact that expanding the product range to include innovative new products such as the Frinta Flyer, will have on Frinta’s business model.

Level 3 responses often used the headings define and create and deliver and capture in order to structure points and gave a full explanation of impacts, considering these with reference to the specific scenario presented in the case study. Level two responses were often less well applied but did offer some relevant explanation. Level 1 answers were usually brief and limited in scope and frequently did not answer what was asked.

The second sub-task asked for identification of the financial reporting challenges that extending R&D activities to include innovative new products, such as the Frinta Flyer, will create and how those might be overcome.

Level 3 responses did not just demonstrate knowledge of the criteria for capitalisation of development expenditure, but used the information provided in order to illustrate their points, for example, considering the difficulty of capturing information when the work has been carried out unofficially during staff breaks and using materials which have been scrapped. Level 2 responses often demonstrated knowledge of the rules relating to the reporting of development expenditure but did not apply this knowledge well to the scenario. Level 1 responses showed some limited knowledge of the relevant rules but did not apply this to the scenario.

Task 2

Task 2 explained that the Board has decided to extend Frinta’s product range, and this decision, has created projects for R&D. Each time a project is undertaken, a team is established and then disbanded when the project is completed. An engineer may wish be part of a team but is already committed to an ongoing one, and the engineer who invented the Frinta Flyer wishes to be in charge of the team which develops it into a commercial product but is not sufficiently experienced. In addition, a proposal has been made that the R&D department should be managed as a profit centre.

The first sub-task asked the candidate to identify the problems with establishing effective R&D project teams and to recommend appropriate responses.

Level 3 responses recognised that there were advantages and disadvantages to some possible responses to the difficulties, for example, giving engineers ownership of the projects they had instigated. They offered a good explanation of the difficulties and well-

justified responses to them. Level 2 answers were often focussed on models such as Tuckman's stages of group development, without relating the model to the specifics of Frinta's R&D department. Level 1 answers often listed problems but did not develop meaningful suggestions to overcome these.

The second sub-task asked for the advantages and disadvantages of R&D operating as a profit centre.

Level 3 answers demonstrated knowledge of profit centres and presented a balanced discussion identifying and exploring both advantages and disadvantages. They included points which are specific to this scenario, such as the likely difficulty in identifying revenue created by the R&D department and the fact that the management team might not have the required skills. Level 2 responses showed knowledge and understanding of cost centres but presented less application, and often only identified advantages of the proposal. Level 1 answers were often brief and did not develop a discussion or show sufficient understanding of the implications of the proposal.

Task 3

In task 3, the expansion of the product range has created a shortage of capacity in the R&D Department. The Board is considering purchasing Tronnecks, a design consultancy which specialises in developing smart products for home use.

The first sub-task asked candidates to identify the challenges associated with accounting for goodwill and non-controlling interest if Frinta buys a 60% stake in Tronnecks.

Level 3 responses showed knowledge of accounting for goodwill and non-controlling interests and also discussed specific details relating to the scenario, for example, the fact that, as Tronnecks is a design consultancy, it is likely to have low net assets and high goodwill as it will be worth far more as a going concern. Discussions included the possible impairment of the goodwill and the likely difficulty in valuing intangibles. Level 2 answers showed some technical knowledge but less application to the scenario and many focussed on goodwill, with little discussion of the non-controlling interest. Level 1 answers often defined goodwill and non-controlling interest but did not explore the challenges or suggest how to overcome them.

The second sub-task asked candidates to explain the challenges associated with stress testing Tronnecks immediately after its acquisition.

Level 3 solutions were often structured around the four categories asked for; prioritisation, measurement, productivity and flexibility. They made use of the information provided, discussing issues such as introducing appropriate KPIs, competing with the existing in-house engineers and Tronnecks existing contractual obligations. Level 2 answers were often less detailed and made less use of the case study context. Level 1 answers often did not go beyond defining the four categories.

Task 4

In task 4, the acquisition of Tronnecks has almost doubled the number of design engineers employed by Frinta and this means that the number of research projects should be increased to make good use of them. This presents an opportunity to introduce lifecycle costing.

The first sub-task asked candidates to explain why effective lifecycle costing would require close liaison between R&D, other departments and the Board.

Level 3 responses showed knowledge of lifecycle costing and discussed ways in which liaison would be required in order to assess the design costs of a product, the likely time to market and lifecycle. Level 2 answers identified some issues but did not provide full discussions or application to the scenario. Some focussed on a definition of lifecycle costing rather than the specific question asked. Level 1 answers showed limited knowledge of lifecycle costing and the issues likely to arise.

The second sub-task asked candidates to recommend with reasons how Frinta should disclose its R&D activities as an aspect of intellectual capital in the Group Integrated Reporting report.

Level 3 answers showed good knowledge of integrated reporting and considered both legal rights and intellectual property. For example, they often identified that Frinta would wish to limit the disclosure they make. Level 2 answers were less detailed but did identify some reporting issues. Level 1 responses showed less knowledge of integrated reporting, with some including a discussion of the rules regarding capitalisation of development expenditure.

Variant 2 Comments on performance

Task 1

Frinta started as a manufacturer of heating controllers. It introduced smart speakers initially as a means of offering customers the ability to operate heating controllers remotely. The market for heating controllers is limited by the fact that most potential customers already have heating systems in their homes and so are unlikely to require new controllers. Demand will be restricted to replacements for householders whose existing controllers have failed for some reason and sales to housebuilders who intend to install central heating. The market for smart speakers is wider because many consumers have yet to buy such a device or they are prepared to purchase a new speaker in order to upgrade.

The first sub-task asked candidates to recommend whether to continue with heating controllers given that revenues and profits were declining. The exhibit provided figures reflecting the declining revenue and profit from heating controllers compared with the growth of smart speakers. Most candidates recognised that heating controllers currently make a positive contribution to Frinta's performance, even if that contribution is less than it was in the previous year. That is a valid argument that was arguably the most sensible starting point in framing a recommendation. Level 1 answers tended to offer little additional insight into this recommendation. Level 3 answers generally identified other factors that could inform the recommendation. These included the fact that there are synergies between the two product lines that will be lost if heating controllers are discontinued. Stronger answers indicated that candidates had taken time to plan their answers and to develop their arguments in response to the fact that this sub-task was expected to take 60% of the available time.

The second sub-task asked about the advantages and disadvantages of reducing the selling prices of heating controllers in order to stimulate demand. Given the wording, candidates were expected to look at both sides of the arguments relating to this possibility. Weaker answers tended to offer arguments that could have been taken from teaching materials, with little or no application to the scenario. Level 3 answers made specific reference to the facts drawn from the case study. For example, Frinta's reputation for high quality could mean that customers are prepared to pay the company's high prices and so reducing selling prices might have little impact on sales volumes.

Task 2

Frinta is considering buying shares in a manufacturer that has a lead in product design and product quality for smart heating controllers. The investment will give Frinta a 30% holding in the company.

The first sub-task asked about the accounting implications of the purchase. Candidates were asked to explain how the investment should be reflected in the Frinta Group's consolidated financial statements. Most candidates argued that Thermzoan would be an

associate, although alternative answers would have been accepted and marked on their merits. Level 1 answers tended to identify IAS 28 and perhaps add a brief summary of the standard's required treatment. Level 3 answers opened up some of the aspects of the case that require the application of professional judgement. For example, the fact that Frinta's 30% shareholding might not necessarily grant a great deal of influence because the remainder will be held by Themzooan's founder and existing management team.

The second sub-task dealt with the product and operational risks associated with Frinta manufacturing Themzooan's products under licence and selling them under the Frinta brand. Level 1 answers tended to do little more than define the two types of risk, offering little or no application to the scenario. Level 3 answers identified the risks facing Frinta and offered a clear and realistic explanation of the product and operational risks arising from the scenario.

Task 3

Frinta's Senior Financial Manager has been appointed to Themzooan's Board. Themzooan is in the process of developing a new range of air conditioning controllers.

The first sub-task asked about the usefulness to Themzooan of lifecycle costing in the management of the process of creating and selling this new product. Level 1 answers generally did little more than describe the product lifecycle, doing little more than summarising study materials. Level 3 answers paid closer attention to the nature of the product, taking account of the fact that it is a new design that is aimed at a different customer need.

The second sub-task asked about the impact that the development would have on the return on capital employed (ROCE). Level 1 answers did little more than describe the formula for the ratio and perhaps offer some explanation of the usefulness of the ratio. Level 3 answers went a little deeper, identifying the accounting treatment of the costs as an issue that could affect ratio analysis and the impact of that accounting treatment on the numerator and denominator of the ratio.

Task 4

The final task dealt with an idea for a new product that Themzooan might develop and bring to the market. This product will require existing technologies to be adapted and integrated.

The first sub-task asked about managing the development of this new product as a project. Level 1 answers generally offered generic content on project management with little or no attempt to identify the key issues arising from the scenario. For example, the project will require the integration of products produced by both Frinta and Themzooan, which will create both engineering and

management challenges. Level 3 answers recognised the need for technical staff from both entities to collaborate to achieve a viable product.

The second sub-task asked about conducting stress tests that would assist the Board in the introduction of this new product. The question identified aspects that were to be explored in the design of those stress tests. Most candidates used those aspects to structure their answers and offered logical explanations. Level 1 answers tended to indicate a lack of understanding of stress testing by repeating points under two or more of the issues. Level 3 answers were fuller and applied stress testing to the scenario as requested.

Variant 3 Comments on performance

Task 1

Candidates were presented with a revelation that Keesell, one of Frinta's major retailers, has signed an exclusive deal with their competitor, Ypburn. Candidates were first asked to provide arguments for and against the suggestion that Frinta's Marketing and Distribution Department should have evaluated the risk of losing Keesell as a customer and taken steps to mitigate that risk.

Level 1 responses gave basic answers relating to the management of the sales channel without necessarily identifying the assessment of risk within that context. Level 2 responses went on to discuss the need to identify and manage all major customers and sales outlets recognising whether the outlet is a steady, growing or diminishing channel, sometimes giving some thought to the competition in the marketplace. There were some excellent answers showing awareness of the importance of active marketing activity combined with financial assessment of the value to Frinta driven by those customers' sales channels.

Many Level 2 answers argued that the management of these customers was a sales or general management responsibility and failed to develop the importance or means of assessment in that case. These could easily have been elevated to Level 3 had the context and means been developed.

Candidates were then asked to recommend with reasons how Frinta might negotiate a continuation of its trading relationship with Keesell. Many Level 1 responses demonstrated knowledge of the basic negotiation procedure without applying any real context from the scenario or offering any cohesive approach to take in preparation. There was a clear gap between these types of answers and the more developed Level 2 and 3 responses.

Level 2 responses included assessment of facts and likely interests of both parties in an attempt to find common ground on which to open negotiations. Consideration was given to outcomes and overall proposed a more structured and layered approach, particularly in the preparation stages for negotiation, opening offers for discussion and potential directions to take after establishing rapport. As these grew in detail and in follow through to actual negotiation they evolved or grew into Level 3 responses with the best showing very good awareness of the potential difficulties which would be encountered in negotiating with a party that has already signed a deal with a third party and the need to offer real benefits in the opening discussion to bring them to the table.

Task 2

In task 2, the scenario is advanced by a week, and candidates were presented with a proposal to develop a direct online sales channel in response to losing Keesell as a major indirect channel to market. Candidates were first asked to discuss the impact that having our own online direct sales channel would have on Frinta's business model.

This was answered well. Most candidates quickly attained Level 2 responses by building on Define, Create and Deliver value, structures to discuss the creation of a direct channel with end-user customers for the first time with an emphasis on the importance of setting a new customer interface at that level. Level 3 responses tended to develop all of this context further into big data principles. The other side of the argument, what to do about existing customer channels, was often ignored by candidates. Level 3 answers acknowledged that the different channels would require different marketing with the care needed not to alienate the existing customers and turn them towards favouring the competition.

Candidates were then asked to discuss issues that should be considered when setting selling prices for products and their delivery when sold through Frinta's online direct sales channel. Candidates were supplied with a detailed costing and revenue structure associated with the product including packaging and distribution options.

Level 1 responses tended to acknowledge the options for end customers without really giving consideration for existing channel outlets, a quick sale without adding value as the lowest common denominator to attain volume. Level 3 responses highlighted the complex relationship between internal and external channels and the need to keep parity between the two as close to recommended retail sale price.

Task 3

Task 3 moved the scenario forward by a month and presented candidates with decisions to be made in considering funding options to support the set-up of the online direct sales channel. Candidates were asked to identify with reasons the characteristics of debt and equity that were relevant to the funding decision for Frinta's investment in its online direct sales channel. The environment set up in the scenario was carefully balanced to allow candidates to make recommendations in either direction with justifications.

Level 1 responses were quick to establish basic characteristics of both debt and equity but gave little or no consideration to the scenario nor how to differentiate the relevant benefits and drawbacks presented. These were quite clearly distinguished from Level 2 and 3 responses where consideration of the scenario was included to a greater or lesser extent. The strong message in all these situations is that the application of theory to the scenario presented is the key differentiator to Level 2 and Level 3 attainment.

Level 2 and 3 answers took the basic characteristics of the funding sources and applied these to the scenario to discuss the characteristics which would suit the circumstances presented. Level 2 answers would draw out some aspects of Debt being relatively cheap as attractive to the business, however, Frinta already has borrowing and the sum involved would represent a significant

increase. Normally such borrowing can be secured against assets being procured but, in this case, a lot of the investment is not suitable to offer as security so the cost of debt would be increased.

Level 3 answers demonstrated knowledge of the interaction of the different funding instruments and their applicability to each scenario. The impact on gearing and the effect this has in the wider stock market environment was often included in the Level 3 responses.

The second section of task 3 presented candidates with four intangibles relating to the project and asked them to recommend with reasons the appropriate accounting treatment for each element of those intangibles. This was usually answered well with most candidates having a good grasp of the elements of IAS38 needing to be applied to determine whether expense or capital asset; future economic benefit and reliable measurement of cost.

Task 4

Finally, in task 4, candidates were presented with the inevitable transfer pricing dilemma brought about by introducing the direct channel to the market. They were asked to evaluate the advantages and disadvantages to Frinta of both manufacturing cost and wholesale price as bases for setting transfer prices between M&D and Online.

Level 1 answers were quick to pick up on the basic elements of transfer pricing problems and issues in a generic sense without considering the scenario.

Level 2 answers were able to develop those basics of transfer pricing and develop some of the arguments using manufacturing cost and wholesale price which, in turn, showed how this would affect each of the parties concerned.

Level 3 candidates recognised these points and developed them within a broader business context; demonstrating the difference between a constrained supply situation and one where there is plenty of stock, recognising the potential tax authority conflict with international transfer pricing where goods should only be transferred at recognised price points and not used to manipulate tax advantages.

The second part of task 4 develops the transfer pricing element further to deal with the motivational and goaling aspects associated with transfer pricing where parties may appear to be or are significantly disadvantaged by company policy. Candidates were asked to assume that manufacturing cost has been used as the transfer price and recommend with reasons the approach that Alcine should take to maintain the engagement of M&D's marketing managers



Level 1 candidates tend to refer to general aspects of transfer pricing where company goals should override departmental feuding over profit share.

Good Level 2 to Level 3 responses highlighted the fact that this is a new area of business and structural adjustments have to be made to the whole environment of the channel to market.

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Variant 4 Comments on performance

Task 1

Task 1 began by explaining a proposal that Frinta should develop a range of smart home security devices which will be compatible with the Frinta Friend. The proposed system will be similar to the Ypburn Home Alarm System but will be made up of individual items, enabling customers to buy only what they need.

The first sub-task asked the candidate to identify the challenges associated with managing the development of these security devices as a project and to recommend suitable responses.

Level 3 responses discussed a wide range of challenges, including deciding the objectives of the project, the resources it would require, the marketing issues it would present and the project timetabling. They included sensible responses to the challenges identified. Level 2 responses were often more narrowly focussed, for example, only covering the resourcing of the project. Some presented a generic discussion of how to manage a project. Work on the response to challenges was often limited. Level 1 answers were often brief and limited in scope, identifying some issues but not developing appropriate responses.

The second sub-task asked for the identification of the main product and product reputation risks arising from the development and sale of these security devices and to evaluate their significance.

Level 3 responses discussed a range of risks, including both product risks and product reputation risks, and provided well-justified evaluation. Many used the TARA framework as a basis for their discussion. Level 2 responses often identified a narrower range of risks and did not evaluate them in sufficient detail. Level 1 responses presented little evaluation and a limited discussion of risks.

Task 2

Task 2 explained that the Marketing and Distribution Director had raised questions about the pricing of the new security system.

The first sub-task asked the candidate to explain the issues that should be considered when identifying customers and setting the selling price of the security systems and to recommend and justify an appropriate pricing strategy.

Level 3 responses recognised that pricing is complicated by the fact that Frinta is competing with Ypburn and also other smart alarm manufacturers. They made sensible recommendations about identifying customers, for example, considering those who already own a Frinta Friend and those who have a Ypburn Ypvox. They provided well-justified recommendations for an appropriate pricing strategy. Level 2 answers often focussed on pricing strategies rather than identifying customers, with some providing a discussion of all the possible pricing strategies with little application of their work to the specific scenario presented by the case study. Level 1 answers often recommended a pricing strategy with little or no justification and discussion of the identification of customers was scant or omitted.

The second sub-task asked candidates to recommend with reasons how the integrated report should reflect the development of the new security system in the sections discussing the intellectual, human, social and relationship capitals.

Level 3 answers demonstrated knowledge of integrated reporting and explained clearly how the project would be reported in the three sections. Level 2 responses showed some knowledge of integrated reporting, explaining the three sections, but did not explain how this specific project would be reported. Level 1 answers were often brief and showed limited knowledge of integrated reporting.

Task 3

In task 3, candidates were informed that customers have been burgled because of a programming error in the device's software. Frinta has received many complaints, and there has been critical press reporting. In addition, senior managers in Marketing and Distribution have blamed the Research and Development Department for the problems, and the senior managers in R&D have complained that M&D created unrealistic expectations when marketing the system.

The first sub-task asked candidates to identify the accounting problems which will be created by the compensation claims and recommend how these might be overcome.

Level 3 responses showed knowledge of the accounting rules for the classification of the compensation claims, for example, recognising that there will be a problem with estimating the amount payable with reasonable accuracy which could mean reporting as a contingent liability rather than making a provision unless Frinta's legal advisers could offer an estimated figure. Level 2 answers showed some technical knowledge, often identifying IAS 37 and listing the classification issues but not correctly applying them to the scenario. Advice on how to overcome the issues was often undeveloped. Level 1 answers often identified IAS 37 but did not correctly set out the classification issues or explain how the issues could be resolved.

The second sub-task asked candidates to recommend with reasons a suitable response to the conflict between M&D and R&D managers.

Level 3 solutions were often quite detailed, exploring the reasons for the conflict and making helpful suggestions as to how they could be resolved, such as by the intervention of more senior management, the secondment of staff from one department to the other and the introduction of an external consultancy with experience of dealing with product failures. Level 2 answers were often less detailed and made less use of the case study context with less justification of the suggestions made. Level 1 answers often identified the reasons for the conflict but gave extremely limited suggestions for appropriate responses.

Task 4

In task 4, the Board has been given a report setting out another complaint about the Frinta security systems. The indoor sensors are not arming or disarming themselves consistently. This is due to using a smaller antenna than in the original design. The M&D director has suggested assigning some of her senior managers to Production and R&D in order to resolve the problem.

The first sub-task asked candidates to explain the issues that should be considered when determining a suitable transfer price for the secondment of Marketing and Distribution managers to the Production and Research and Development Departments.

Level 3 responses showed knowledge of transfer pricing and recognised the issues faced in this scenario, for example, that market-based prices would not be appropriate because there is no intention of allowing R&D and production to buy the service provided by M&D from another organisation. Level 2 answers showed knowledge of transfer pricing but often explained all the theoretically possible methods without fully reflecting on the specific situation presented by the case study. Level 1 answers often went no further than listing transfer pricing strategies.

The second sub-task asked candidates to recommend with reasons how the quality issues could have been avoided and how the recurrence of such issues could be prevented.

Level 3 answers recognised that the quality problem arose because of an unauthorised modification of the product and a communication breakdown. They made sound recommendations for improved quality management procedures to prevent a recurrence of the problem. Level 2 answers were often less detailed but did show knowledge of quality management procedures and make some appropriate recommendations. Level 1 responses made some appropriate recommendations but did not develop these fully or provide sufficient justification for their proposals.

Variant 5 Comments on performance

Task 1

Frinta's rivals produce smart speakers that offer superior versatility, making them more attractive to potential buyers. Frinta smart speakers have been designed to interact with its heating controllers and also to stand alone as a separate device in the home. Competing smart speakers can be used to control a wide range of smart products, such as television sets.

The first sub-task asked candidates to discuss the impact that enhancing connectivity would have on Frinta's business model. This requirement was generally answered well, with most candidates referring to the business model in the pre-seen and identifying how additional connectivity could affect each element of the model. Level 3 answers tended to focus on the impact and offered reasoned explanations for the conclusions that were being drawn. Level 1 answers were generally weaker, often simply summarising the business model itself, with little real discussion of the changes under consideration.

The second sub-task asked how the enhancement of connectivity would affect the lifecycle of Frinta's smart speakers. The quality of answers to this requirement varied significantly. Level 1 answers often provided descriptions of the stages in the product lifecycle that were based on study materials and that made little real attempt to engage with the requirement. Level 3 answers addressed the possibility that the lifecycle of the smart speaker might be extended through its ability to serve a wider range of functions. Those answers often raised the possibility that the enhancement would enable the smart speaker to adapt to the growing range of smart products being introduced by third parties.

Task 2

Enhancing connectivity will require a significant investment in programming to develop operating systems and interfaces that will enable the smart speaker to interact with a wide range of products.

The first sub-task asked how proceeding with this venture might affect Frinta's weighted average cost of capital (WACC) and how any change would affect the company. Level 1 answers tended to define WACC and explain how it was calculated, with little or no direct application to the question. They also tended not to develop their discussion of the effect that an increase in WACC might have. Level 3 answers generally focussed on the scenario and discussed issues such as the possibility that the respective weightings of debt and equity might change or that business risks might be altered. Level 3 answers were also realistic about the significance of any increase in WACC.

The second sub-task asked about the product, reputational, contractual and operating risks that might arise from the increased connectivity. Level 3 answers tended to attach roughly the same emphasis to each of these risks and provided a relevant discussion of how each risk might arise from this extension to the smart speaker's capability. Those answers appeared to have been well planned and the candidates had considered the scenario as well as the requirement. Level 1 answers tended to focus on defining and describing the different types of business risk with little attempt to relate them to the scenario.

Task 3

Frinta is considering issuing shares in return for a 100% acquisition of an unquoted company that has expertise in developing software for smart products. The company has invested heavily in the development of software.

The first sub-task asked about the accounting issues associated with determining the goodwill on the acquisition of the company and also Frinta's earning per share (EPS). The quality of answers depended largely on the candidates' ability to apply the technical aspects of the accounting standards to the circumstances in the scenario. Level 1 answers tended to regurgitate material from study texts that had little or no relevance to the case. For example, discussing the calculation of diluted EPS even though issuing shares in the manner described in the scenario would not lead to dilution. Level 3 answers addressed the relevant technical issues and identified the difficulties that might arise from, say, determining the value of the subsidiary's intangible assets.

The second sub-task asked about the creation of a team to engage with the subsidiary's management. This requirement was generally answered well, with the distinction between Level 1 answers and Level 3 being attributable to the extent to which candidates addressed the need to ensure effective integration of the newly-acquired subsidiary and the role that effective cooperation between the parent and the subsidiary might play. Level 3 answers focussed on the challenge of ensuring that the team had sensible goals and was sufficiently skilled to implement those goals. Level 1 answers were generally more generic and summarised the challenges that are faced by all teams.

Task 4

Frinta has released an update to its software that has corrupted the software in some older television sets. That has led to unhappy customers and significant adverse publicity.

The first sub-task asked whether Frinta should have treated the television manufacturers as stakeholders when it was developing its smart speaker software. This requirement was answered well, and most candidates put forward valid arguments both for and against treating the television manufacturers as stakeholders. Level 3 answers generally addressed both sides of the argument which was sensible given that the requirement was seeking an evaluation. Level 1 answers often ignored the scenario and summarised models of stakeholder engagement instead.



The second sub-task asked about the advantages and disadvantages of using TQM in the updating and maintenance of Frinta's software. There were some very good answers to this requirement, with Level 3 answers focussing on the need to manage quality in this context. Level 1 answers tended to consist more of summaries of TQM, with little direct application.

Variant 6 Comments on performance

Task 1

The scenario opened with the disclosure that Frinta were considering diversifying their product offerings with the introduction of a security camera that would upload the video to the Cloud. Candidates were asked to explain whether this new product would be disruptive in that it would fundamentally change the smart speaker industry.

Despite this clear instruction, many Level 1 candidates failed to give any definition or implications of disruptive technology. Some discussed the changes that Frinta would have to undergo, while others talked of new markets. Level 2 candidates were able to begin to outline disruptive technologies while the best students took this forward to differentiate elements of the product which were already in the marketplace against those which were not, namely the uploading to the cloud of security footage and the consolidation of digital technologies with remote access to home environments. Level 3 candidates were able to highlight examples of the disruptive product whether as a physical offering or as a service delivery: downloading media, fast-food delivery.

The discussion of implementation issues was similar with Level 1 and 2 candidates describing change control in general terms, while Level 3 candidates considered the wider implications of the new product as an evolution or revolution from existing Frinta product offerings.

Candidates were asked to identify and explain the main product, product reputation and operational risks that the introduction of this new product will create for Frinta.

Level 3 candidates were able to identify and highlight the problems brought about by diversifying product delivery into a direct competitive space with their rival market leaders. Level 1 and 2 candidates tended to maintain focus on more general terms of change management without drawing on the detail of the situation under consideration

Task 2

Candidates were given some market research findings relating to product and service launch. They were asked to explain the issues Frinta should consider when deciding how much to charge customers for the long-term storage of video files recorded by their security cameras. Level 2 candidates centred their discussion around cost recovery, while Level 3 candidates considered market requirements and potential future expansion requiring initial investment. Level 1 and 2 responses tended to be fairly basic considerations on how to reach break-even positions without considering the market attitude to value for money or even the likely market size.

Pricing wise, Level 1 and 2 candidates gave some general pricing alternatives, while Level 3 candidates considered the need to get and retain service-oriented customers for the long term, lock them in with attractive initial pricing and gain as much market share as possible.

Candidates were further asked to explain the accounting treatment of how the costs of setting up the system that Frinta will require for the long-term storage of video recordings should be dealt with in their financial statements, including how to account for the revenue from providing this service.

This was answered well by most candidates. Differentiation between good and better scripts was more on the precision of detail including definitions within IAS 16 for the PPE elements to identify noncurrent assets and the IAS 38 definitions for intangibles. Most candidates were accurate in their definitions of expense against intangible, but again, this is where the better candidates differentiated by drawing the distinction accurately.

Many candidates made a reasonable attempt to discuss the treatment of the revenue stream from the sale. Level 1 and 2 candidates often failed to identify the difference in treatment between the product and the service revenues.

Task 3

The scenario moved forward two months, and candidates were informed that Frinta has decided to progress with the security camera launch and is considering the acquisition of Dubblfile; a cloud service provider to help deliver the service. Candidates were asked to explain how adding Dubblfile, as a 100% subsidiary, to the Frinta Group, would affect the analysis of the Frinta Group's consolidated financial statements.

On the whole, this was very poorly answered, only a small proportion of candidates gave any consideration to the ratios; effect on ROCE, the timing of purchase, method of purchase, effect on equity etc. Instead, the vast majority discussed the exclusion of intercompany trading, a combination of assets and minority holding treatment. Usually, questions that ask for analysis are looking for an answer that discusses accounting ratios.

Many discussed the treatment of goodwill created on purchase but only a few dealt fully with the aspects of timing of transfer and the significance of this on the trading year profit against ROCE or the longer-term effects on equity, group debt and gearing.

Level 3 candidates recognised that anticipated savings on the acquisition can often be hard fought and usually short-term increases in costs can occur due to reorganisation and restructuring.

Most candidates mentioned that Dubblfile is a foreign subsidiary, but only Level 3 candidates highlighted the implications on potential gains or losses depending on currency movement which would need to be adjusted in the currency reserve in the SoFP. Level 1 candidates failed to make the link to currency movements successfully.

Task 3 proceeded to request that candidates recommend with reasons the approach for selecting Frinta managers who would be responsible for integrating Dubblfile into the Frinta Group and then assessing their performance.

This was answered quite well with a variety of good suggestions including a selection of criteria on which to choose. Level 3 candidates highlighted the need to define areas of weakness exposed in each camp and to recruit specifically to fill these vacancies, potentially from the other party. Level 3 candidates highlighted the need for good communication and motivation skills and gave clear justifications around retention of best skills and motivation of "takeover" staff to ensure that they are not lost to competitors in the short term.

On the whole, management incentivisation and assessment of performance was not quite so well answered, with many falling back on the general discussion of structured goal setting without specifically detailing any goals within the goal areas. Level 3 candidates stressed the need for regular feedback and escalation governance for any problem situations at an early stage. Careful induction and dovetailing of the different company cultures would be a critical aspect for key staff retention and management responsible for the process should be assessed across a broad spectrum of evolving critical success factors as the integration continues. Level 2

candidates gave less focussed answers and tried to suggest performance indicators, and Level 1 candidates failed to make any good suggestions as to the benefits of incentivising management or measuring performance.

Task 4

In task 4, candidates are moved forward a further six months and presented with an operational failure with potential reputational damage resulting from bad publicity around the lack of security and management of the customer data files moved to the cloud. Candidates were first asked to discuss whether or not Frinta could have prevented this failure by introducing Total Quality Management (TQM) at Dubblfile.

Level 3 candidates gave well-rounded descriptions of TQM and gave arguments for the inclusion of TQM principles. These candidates were able to relate this to the detail of the scenario presented and were capable of making a judgement of how much effort would have been required to embed all the TQM processes in both Frinta and Dubblfile in time to have made any difference in this scenario. Level 2 candidates cited TQM as the cure for everything and failed to recognise any real work required in the transition to the TQM process. Level 1 candidates tried to describe TQM but did not really discuss this in the context raised in the question.

Candidates were asked to discuss whether Frinta should have planned for the introduction of additional capacity as a real option in the capital investment appraisal for the acquisition and preparation of Dubblfile to provide this service. Most candidates concluded quickly that such planning should have taken place. Level 3 candidates differentiated themselves through giving detailed justifications for the creation of the real option.

Level 3 candidates gave consideration of rapid evolution within the developing digital marketplace, the growth of home digitisation, IoT, the downward trend in pricing for cloud computing and storage management, concluding that real options are not required as long as immediate access to additional storage and service capability can be assured without prior negotiation on whatever new technology and service delivery appears on the market. Level 1 and 2 answers tended to discuss one issue only and had very little depth.

Tips for future candidates

There are several key points to consider when preparing for future Management 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.