

PROFESSIONAL LEVEL EXAMINATION

WEDNESDAY 12 SEPTEMBER 2018

(2½ HOURS)



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# ***BUSINESS STRATEGY AND TECHNOLOGY***

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This exam consists of **three** questions (100 marks).

## **Marks breakdown**

Question 1	43 marks
Question 2	35 marks
Question 3	22 marks

1. Please read the instructions on this page carefully before you begin your exam. If you have any questions, raise your hand and speak with the invigilator before you begin.
2. Please alert the invigilator immediately if you encounter any issues during the delivery of the exam. The invigilator cannot advise you on how to use the software. If you believe that your performance has been affected by any issues which occurred, you must request and complete a candidate incident report form at the end of the exam; this form must be submitted as part of any subsequent special consideration application.
3. Click on the **Start Exam** button to begin the exam. The exam timer will begin to count down. A warning is given five minutes before the exam ends. When the exam timer reaches zero, the exam will end. To end the exam early, press the **Finish** button.
4. You may use a pen and paper for draft workings. Any information you write on paper will not be read or marked.
5. The examiner will take account of the way in which answers are structured. Respond directly to the exam question requirements. Do not include any content or opinion of a personal nature. A student survey is provided post-exam for feedback purposes.
6. Ensure that all of your responses are visible on screen and are not hidden within cells. Your answers will be presented to the examiner exactly as they appear on screen.

## Question 1

Innotoy Ltd (Innotoy), a small UK-based company, designs and sells novelty toys for children. It began trading in January 2016 with the launch of four products. Innotoy outsources its manufacturing, then sells its products to a variety of retailers.

Innotoy's products are developed in-house by its research and development (R&D) team. Innotoy protected its intellectual property (IP) by obtaining trademarks for the product brand names. Due to the time and expense involved, however, Innotoy decided not to patent its product designs. Innotoy has a preferred supplier agreement with a Chinese manufacturer which requires Innotoy to pre-order in December each year for the following 12 months. All Innotoy toys are sold to retailers at a mark-up of 55% on cost.

### Digiwhirl toy

Digiwhirl, a hand-held spinner toy, is Innotoy's most successful product. Digiwhirl was unique in the market in 2016 and it quickly became the "must-have" children's toy in the UK.

During 2017 Innotoy's board decided to keep the price to retailers constant but to limit supply, to maintain the perception that Digiwhirl was an exclusive product. Also, as demand was hard to predict, the board did not want to have a large number of unsold toys. However consumer demand far exceeded supply in 2017, especially after Digiwhirl was featured on social media in April and suddenly became popular with young adults. Having failed to meet demand fully during 2017, in December 2017 Innotoy pre-ordered 25% more Digiwhirls for 2018.

In October 2017 several competitors launched cheaper hand-held spinner toys that were copies of Digiwhirl. Innotoy's competitors range from large entertainment corporations to young entrepreneurs making products with 3D printers and advertising on social media. On average, these copies retailed at 20% less than Digiwhirl's selling price.

Despite the increasing competition, Innotoy decided to maintain its constant price in 2018, but attempted to retain market share by promoting its product as "Innotoy's original Digiwhirl spinner". Forecasts for 2019 suggest that the UK hand-held spinner toy market is now saturated and sales volumes are expected to be 60% lower than in 2018.

### Comments at a recent Board meeting

#### Poor sales

The finance director stated: "We need to evaluate Digiwhirl's sales performance since its launch. I want to understand whether the decline we have seen during 2018 is because of poor management decisions or is an inevitable result of short product life cycles in the toy industry. I have prepared some sales information (**Exhibit 1**) to help with this evaluation".

#### Data capture and analysis

The IT director responded: "Part of the problem is that our management information system is too focused on internal performance and does not produce all the information required to make the right decisions. We were taken by surprise when Digiwhirl became popular on social media. There are always so many photos, videos and conversations online. We need to do more to capture this external information, then combine it with existing information, so

we can monitor market trends and make better predictions of consumer demand. I have supplied some illustrations of the type of data that I believe is relevant (**Exhibit 2**).”

### Future sales growth

The marketing director commented: “What matters is the future. I propose that, to improve profitability, we should look for other markets for Digiwhirl. It could be marketed as a desk toy for stressed executives and as a concentration aid for children with attention problems. This would help address the fact that 40% of sales volume in the children’s toy market is concentrated in the last quarter of the calendar year.”

The sales director added: “I agree that this idea would help to reduce seasonality, but I believe there is still scope for growth in sales of Digiwhirl as a children’s toy. I suggest that we offer a wider range of Digiwhirl models with added features such as LED lights, Bluetooth speakers and personalisation so that brand-loyal consumers will buy more than one version. We should continue to sell all versions of the Digiwhirl product at our premium price so we do not destroy its brand image.

“If we really want to be successful though, R&D needs to develop Innotoy’s next new product. More than half the toys sold each year in our market are newly-developed products, but R&D seems to have been struggling for ideas recently.”

### A new product opportunity

The R&D director responded: “Recently I was approached with a good idea for a new toy by an inventor who did not have sufficient funds to develop it or to patent the design. The inventor offered to give Innotoy her design for free, in exchange for half the profits on all future sales of the toy.

“I suggest that, instead of taking up the inventor’s offer, we launch a copy of the toy ourselves so that Innotoy can retain all the profits. Competitors copy our Digiwhirl product design and we can do nothing about it. Our lawyer has suggested that if we make small variations to the product design, the inventor will not be able to sue us for breach of IP, and she is unlikely to have the money to start legal proceedings.”

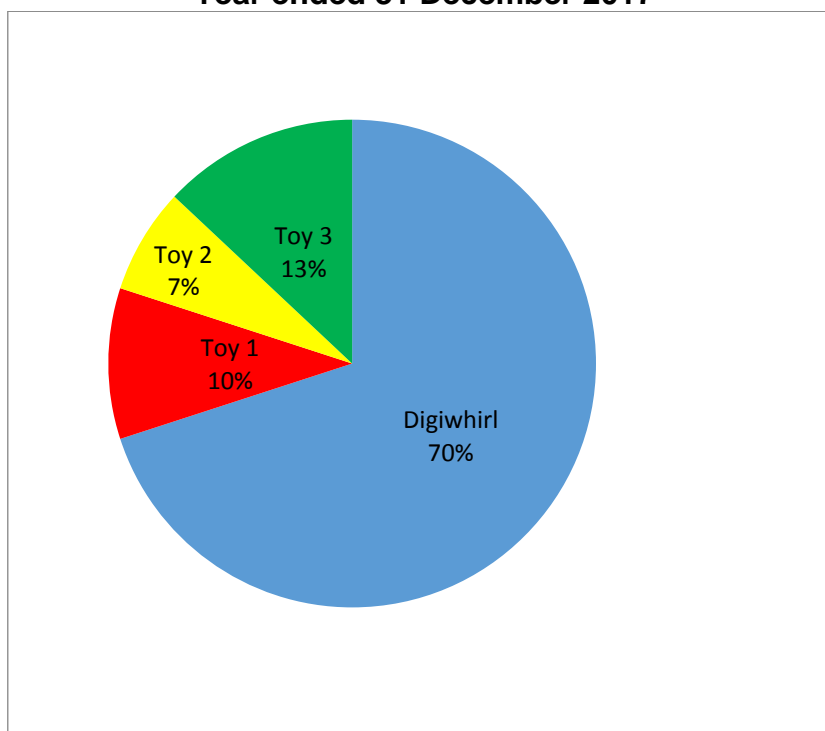
## **Requirements**

- 1.1 Using the data in the Exhibits and the other information provided, identify and analyse, for Innotoy’s finance director, the reasons for Digiwhirl’s sales performance since its launch in January 2016. **(17 marks)**
- 1.2 Discuss the IT director’s comments about Innotoy’s management information system. Explain how Innotoy could improve its capture and analysis of information to gain competitive advantage. **(8 marks)**
- 1.3 Assess the merits of the marketing and sales directors’ strategies for future sales growth. Refer to relevant models. **(10 marks)**
- 1.4 Discuss the ethical implications for Innotoy of the R&D director’s proposal for a new product and recommend appropriate actions. **(8 marks)**

**Total: 43 marks**

## Exhibit 1: Sales information

### Innotoy sales revenue Year ended 31 December 2017



### Digiwhirl: Quarterly sales revenue analysis

	Q1	Q2	Q3	Q4	Total
	£'000	£'000	£'000	£'000	£'000
2016	750	1,950	3,300	4,500	10,500
2017	2,750	5,550	3,700	3,000	15,000
2018	1,200	2,400	3,600*	4,800*	12,000

\* based on latest estimates

### Hand-held spinners – volumes ('000)

	2016	2017	2018
<b>Digiwhirl:</b>			
Purchased from supplier	700	1,000	1,250
Sales volume	700	1,000	800*
Unfulfilled orders from retailers	100	250	0
<b>Total UK toy market:</b>			
Hand-held spinners sales volume	700	1,450	1,600*

\* based on latest estimates

**Exhibit 2: Data provided by IT director**

	<b>2016</b>	<b>2017</b>	<b>6 months to 30 June 2018</b>
Number of visits to Innotoy website ('000)	3,200	5,000	2,000
Average rating of Digiwhirl on product review websites	5/5	4.5/5	3/5
Number of #Digiwhirl references on social media ('000)	1,400	3,000	1,000
Number of brands of hand-held spinners on a leading online retailer site	1	20	150
Number of results from internet search for "hand-held spinner" ('000)	6,507	17,430	23,512

## Question 2

Ambrosia is a small country with a strong economy and a thriving financial services sector. Its currency is the Ambrosian dollar (\$). Ambrosia attracts many foreign nationals (expatriates) who are employed in technology roles and are temporarily resident in Ambrosia on 5-10 year working visas.

### Education in Ambrosia

The Ambrosian government offers state-funded education for children born and resident in Ambrosia. Children must be in full-time education until they are at least 16. The state funds education leading to two qualifications:

- Certificate of Ambrosian Education (CAE) - taken by all state-funded children at age 16.
- Final Award of Ambrosian Education (FAE) – taken at age 18 by state-funded children who choose to continue in post-16 education.

80% of children up to age 16 who are eligible for state funding attend state-run schools. 60% of eligible children continue in education to age 18.

In addition to state-run schools, there are several privately-run schools in Ambrosia. These offer two internationally-recognised qualifications:

- International GCSE (IGCSE) – taken at age 16
- International Baccalaureate (IBAC) – taken at age 18.

Privately-run schools are commercial organisations which charge fees to parents. They are primarily attended by the children of expatriates and the remainder are children of Ambrosian residents whose parents opt to pay for education.

### Balad School – background information

Balad Ltd (Balad) is a company owned by the Balad family which operates Balad School, a privately-run school in Ambrosia. Balad School has a reputation for providing high-quality education for children aged 11-18. All children take IGCSE at age 16 then at age 18 they can take the IBAC. 30% of children attending Balad School were born in Ambrosia.

Children must pass an exam to gain entry to Balad School. Demand for places on Balad School's IGCSE programme (aged 11-16) is very high and there is always a waiting list. However, Balad School has spare capacity on its IBAC programme post-16, as many expatriate children return to their country of origin to continue post-16 education.

Balad's board consists of members of the extended Balad family, all of whom were born in Ambrosia. The board's primary objective is profit maximisation.

## **Government plans for education**

The Ambrosian government wants to maintain its strong economy and achieve year-on-year growth. An extract from the government's latest strategic plan for education states that its priorities are to:

- increase the number of Ambrosian-born children who continue in post-16 education
- develop technological expertise to provide Ambrosia with resident IT specialists in the future.

The government has approached Balad with a proposal to create a new College of Technology (College) for children post-16.

All children passing the exam to attend the College would study for both the IBAC and an International Diploma in Technology (IDT). The course would last for two years.

The government would pay fees to the College for children born in Ambrosia. This would cost the government an extra \$1,500 per year per child than if the child attended a state-run FAE programme. Children of expatriate families would be encouraged to attend the College, but their parents would be required to pay the fees in full.

### **Joint venture**

If the College goes ahead, it will be operated as a joint venture company (JV), with the government and Balad each owning 50% of the shares and sharing profits and losses equally. The JV will run for five years initially. The government and Balad will each be able to appoint two members of the College's senior management team.

The government will close an existing state-run school, for children post-16, that has considerable spare capacity and the College will operate from these buildings. The government will pay a one-off sum of \$250,000 to refurbish the buildings to an appropriate standard. The government will retain ownership of the buildings and make them available to the JV in return for rental payments of \$225,000 each year.

To equip the College, Balad will provide the JV with \$250,000 initial capital for learning resources, including IT equipment. Balad will manage the College's day-to-day educational operations and will be paid \$375,000 each year by the JV for doing this.

If the JV goes ahead, Balad will continue to operate Balad School as a separate independent company, but will offer only the IGCSE programme for children aged 11-16. Balad School will close its IBAC programme and encourage children completing IGCSE at 16 to move to the College. Balad School's specialist IBAC teachers will move to the College.

Closing the IBAC programme will increase Balad School's capacity so it can offer more places on its IGCSE programme for children aged 11-16. Closing the IBAC programme will result in an estimated net reduction in profits for Balad School of \$400,000 each year.

The following estimates have been made for the College:

- Variable costs such as tuition materials will be 15% of tuition fees
- Fixed costs of operating the College, including teacher salaries, will be \$794,000 each year. This excludes any payments to the JV parties
- Course fees will be \$8,000 each year per child. These will be paid by the government for children born in Ambrosia
- The first intake will be 120 children and the intake is expected to grow by 20% each year.

### **Requirements**

- 2.1 Discuss the extent to which the government's objectives for the College of Technology may conflict with Balad's objectives. **(9 marks)**
- 2.2 Calculate the number of children that need to attend the College each year for it to break-even, stating any assumptions. Comment briefly on the implication of your result for the financial success of the College. **(10 marks)**
- 2.3 Evaluate the benefits and risks of the joint venture for both Balad and the government. **(16 marks)**

**Total: 35 marks**



### Question 3

#### **BanksUnite.com – the banking sector blog**

1 September 2018

#### Open banking - a threat or an opportunity?

Thanks to Europe's new open banking regulations, which came into force in early 2018, the banks' monopoly on their customers' account and payment information may soon disappear. Individual personal customers could soon look to technology firms, internet giants and online retailers ('digital challengers') to meet their needs for financial services.

All banks are now required to create an open data platform, which – provided the customer consents – will give authorised third parties access to all the financial information a bank holds on a customer.

A recent industry report estimates that traditional European banks may lose up to 31% of profits to these digital challengers. There are three key reasons why the threat to traditional banks is now more real than ever:

- (a) By having instant access to banks' databases, digital challengers can immediately enter the financial services market.
- (b) Digital challengers can meet customer requirements in a more innovative way than many traditional banks as they do not need the same large, complex infrastructure. For example, a single digital challenger could focus on providing just credit cards, and then it could connect customers wanting additional services to other banking providers through cloud-based solutions or open banking platforms.
- (c) In a world of contactless payments and mobile apps, consumers are increasingly demanding a digital approach. They want financial services that are faster, more personalised and more easily accessible.

Motan Inc (Motan), a new digital challenger bank, has already acquired a banking licence in Europe. Yesterday Motan's CEO announced its intention to use open banking to become the digital bank of choice: "Our open platform will allow software developers to build apps that can improve our service. For instance, someone could develop an app that connects to Motan's open platform and customers could authorise the app to access their account and extract information on their business expenses."

Not everyone agrees that open banking will be an immediate success. A spokesman for the body that represents the banking sector in Europe said:

"Open banking has the potential to transform banking, but this depends on people's willingness to embrace it. A survey of customers in 2017 found that:

- Only 5-10% identified themselves as early adopters who are keen to embrace new technology.
- 53% said that they would not share their bank account information with third-party providers and would be reluctant to change their existing banking habits.

"The banking sector believes there are still questions around data security and privacy that need to be answered. Third parties will need appropriate security in place to protect against fraudsters – and do not forget that any digital challenger which wants to offer banking services will still need to apply for a banking licence from the relevant regulator."

## Vision Bank

Vision Bank (VB) is a small European bank which currently operates a traditional banking model. It has a modern, high-specification computer system. VB recognises the significant change occurring in the banking industry because of the new open banking regulations. It wants to capitalise on this by launching a banking app (the VB app) and implementing a new, digital-only banking strategy.

VB's CEO outlined her plans at a recent board meeting:

“We want to provide individual customers with a digital platform that offers them a more efficient way to manage their money. Because of open banking, our new VB app will be able to give our customers a complete view of all aspects of their financial life, whatever products they have and whichever bank provides them. As part of this strategy, we will shut down our large processing centre which is currently responsible for paper services (printing bank statements, cheque books and correspondence). Customers will be informed of the change on 1 October 2018 and all paper services will cease on 31 December 2018.

“From 1 January 2019 all customers will need to switch to electronic payment methods. Customers will use the VB app to access statements for all the financial products they hold with VB and other banks. No paper copies will be available.

“This change will require significant education and support for some of our existing customers. Although they all currently have the facility to use online banking, a surprising number prefer to receive paper statements and correspondence. Some of our customers are still writing and banking cheques as their only means of accessing banking services.

“Inevitably, we will have to make some employees redundant. Other employees can choose to retrain and transfer to the Digital Help Centre that we will set up to answer customer queries. We will also need to recruit new employees with appropriate technological skills.”

## Requirements

In relation to VB's proposal for a digital-only banking strategy, prepare a report for VB's board which:

- 3.1 Identifies and analyses **three** key external factors that are creating change in the European banking industry. Refer to relevant models. **(10 marks)**
- 3.2 Explains the change management issues that arise for employees and customers and advises VB on how to manage these issues. **(12 marks)**

**Total: 22 marks**