

PROFESSIONAL LEVEL EXAMINATION

WEDNESDAY 5 DECEMBER 2018

(2½ HOURS)



BUSINESS STRATEGY AND TECHNOLOGY

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

Europe Panther Airlines plc (EPA) is a listed, low-cost airline which flies on routes between many European cities.

Company history

EPA was established in 1995. It grew rapidly over the following 20 years by offering low fares, a good choice of destinations and good customer service compared with its direct competitors.

While passenger numbers and revenue have continued to grow, EPA's profit and customer satisfaction have declined since 2015.

A new chief executive, Hazel Harvey, was appointed in May 2017.

EPA's vision

EPA's long-standing vision is as follows:

'To make sustainable increases in profitability and shareholder value each year. This is to be achieved by:

- Offering competitive prices
- Increasing passenger numbers by providing the best customer service of any low-cost airline in Europe
- Controlling costs and improving operating efficiency
- Developing our employees to help them grow our business.'

Setting KPIs

The board agreed Key Performance Indicators (KPIs) and targets for Hazel to use for the year ended 30 September 2018 (**Exhibit 1**). These measure EPA's financial and operating performance and its progress towards achieving its vision.

Financial and operating data are provided (**Exhibit 2**).

The EPA app

Historically all customers booked with EPA via its website. In 2016, EPA launched an application (app) for customers to use on their smartphones or tablets. Customers must provide their basic details (name, gender, age, job, address, email address) before downloading the app.

EPA customers can use the app to book flights, amend booking details (eg, choose seats), check-in items of baggage (to be dropped off at the airport then carried in the hold of EPA's aircraft), and book additional services (eg, hotels, cars, insurance, in-flight food, transfers).

Via the app, EPA obtains information about customers. This information is then used to target offers for additional services at the customers who are most likely to purchase each one.

On average, revenue from a customer using the app is 22% higher than from a customer using the website only.

Baggage handling technology

Approximately 40 million items of customer baggage are checked-in with EPA each year. However, EPA delivers more baggage to the wrong destination than most other companies in the industry (6 items per 1,000 bags handled by EPA are misdirected, compared with 5 per 1,000 in the industry as a whole). EPA customers also suffer greater delays in reclaiming their baggage after a flight lands. These issues have reduced customer satisfaction.

If a customer's bag is misdirected then, on average, it costs EPA £70 to return it to the customer. Losing a bag costs EPA much more.

Baggage handling is only partly within EPA's control. Third-party service providers, including airport employees, security staff and border officials, are also involved in handling baggage in airports.

Hazel wants to introduce new tracking and data capture technology to improve EPA's baggage handling service to its customers. It is estimated that the cost of the technology for EPA will be £20 million per year.

The new technology requires a radio frequency identification (RFID) tag to be attached to each bag. This will be read by sensors to provide EPA with end-to-end visibility of the bag's location, from the customer dropping it off at the departure airport, all the way to the destination airport baggage reclaim and on to the customer's final destination.

The EPA technology will be integrated with airport systems, so the airports used by EPA can handle its customers' baggage more effectively. Real-time data, including changes in the weight of any bag, will help to improve airport and aircraft security.

The tracking information will also be available to customers in real time on the app, to give them assurance about the location and security of their bags. Customers will benefit by spending less time dropping off and reclaiming bags at airports.

An ethical issue

EPA's Complaints Department received the following email from a customer, Mr Drabble:

'I am writing to complain about an email I received from EPA's Marketing Department after my holiday. EPA appeared to know, not only about my flight, but also about my personal details such as which hotel I stayed in, even though this was not booked through EPA. Clearly the EPA app passes data to EPA about my location at all times, even after I have left the airport!

I now realise that, when I downloaded the EPA app, there was a box (which was already ticked) which said I agreed that data collected about me by the app could be held and used by EPA. I did not notice that I could delete the tick when I downloaded the app, as it was not obvious.

I now withdraw my consent to use any data you hold on me.'

Requirements

1.1 In relation to the KPIs (Exhibit 1):

- Evaluate the extent to which each KPI is an appropriate measure of EPA's financial and operating performance. Where appropriate, set out an improved, alternative KPI.
- Explain whether the KPIs, taken together, would enable Hazel to determine the extent to which EPA's vision is being achieved.

Note: Do not refer to the numerical targets for each KPI. Ignore the new baggage handling technology.

(11 marks)

1.2 Using all the information provided, analyse EPA's financial and operating performance in the year ended 30 September 2018, compared with:

- its performance in the year ended 30 September 2017; and
- the target for each KPI for the year ended 30 September 2018.

(15 marks)

1.3 Explain the potential benefits and problems for EPA of the proposed baggage handling technology. Advise, with reasons, whether the new technology should be acquired.

(10 marks)

1.4 Explain the ethical issues for EPA arising from the collection and use of the data referred to in Mr Drabble's complaint. Set out the actions that EPA should take.

(7 marks)

Total: 43 marks

Exhibit 1: Performance measurement - KPIs and targets for the year ended 30 September 2018

KPI	KPI description	Target
(1)	Revenue growth	5%
(2)	Operating profit margin (see note (a))	9%
(3)	Load factor (see note (b))	94%
(4)	Growth in passenger numbers	5%
(5)	Proportion of total revenue from previous customers	Minimum of 75%
(6)	Number of customer downloads of EPA app (millions)	18

Notes:

- (a) The marginal cost of carrying additional passengers on a flight is minimal.
- (b) Load factor is the number of actual passenger seats sold on all flights in the year as a percentage of available passenger seats.

Exhibit 2: Financial and operating data - years ended 30 September

Related KPI per Exhibit 1		Actual 2017	Actual 2018
(1)	Revenue (£m)	4,692	4,872
(2)	Operating profit (£m) (see note (a))	385	350
(3)	Load factor (see note (b))	91%	93%
(4)	Passengers (millions)	78.2	84.0
(5)	Proportion of total revenue from previous customers	73%	76%
(6)	Number of customer downloads of EPA app (millions)	14	23

Other operating data - years ended 30 September

	Actual 2017	Actual 2018	Comments
Number of aircraft at 30 September	250	280	<ul style="list-style-type: none"> 40 new aircraft (with an average capacity of 200 seats) were purchased in 2018 in order to open up new routes. 10 older aircraft (with an average capacity of 150 seats) were sold in 2018.
Number of seats on all aircraft at 30 September	43,750	50,250	
Fuel cost (£m)	977	1,253	The average cost of fuel per metric tonne has increased by 22% in 2018 compared with 2017

Question 2

WestWater Inc (WW) operates in the water industry in Holakia, a developed country with a population of 30 million people.

Industry background

Holakia has four water companies, all of a similar size, which each serve a separate region of the country.

The water companies' key functions are to:

- supply water by collecting, purifying and transporting water for water users (households and businesses)
- provide sewerage services to water users by processing and disposing of waste water.

The water industry is currently heavily regulated by the Holakian government. Water users must purchase their water supplies and sewerage services from the water company serving the region of Holakia where their premises are located. As a result, there is currently no competition between water companies. However, the government controls the prices that the water companies can charge.

Deregulation of the industry is imminent, and this will open up the market to competition. From 1 January 2019, water users in Holakia can choose to buy from a range of water retailers. This is possible because all water users have smart meters to measure water and sewerage usage.

Environmental protection and sustainability are key issues in the industry.

The currency in Holakia is the dollar (\$).

Meeting of the WW risk committee

The risk committee recently held a meeting to discuss two issues:

Issue 1 – The impact of deregulation

The finance director addressed the risk committee: "I am concerned about how our rivals will adjust their short-term pricing to water users immediately after deregulation and how WW should respond to this.

"I am also concerned about the impact of deregulation on long-term competitiveness in the water industry in Holakia, and on WW's ability to attract new customers and retain existing customers. I have prepared some information on market prices (**Exhibit 1**)."

Issue 2 – Risk of environmental pollution events

The operations director raised some concerns: "A large part of WW's sewerage operations relate to the disposal of waste water. There is a long-term key risk of an environmental pollution event by unintentionally discharging untreated waste water into rivers, lakes or the sea. If a major event of this type occurs, there would be significant financial and reputational penalties.

“To mitigate this risk, we could install new technology, including sensors and cameras, which would detect and prevent all but the worst aspects of environmental events. This technology has a significant annual cost. I have provided some data on the nature of the risks and the costs (**Exhibit 2**).”

WW states in its annual report that it is “an industry leader in corporate responsibility and environmental sustainability”.

Requirements

2.1 Using the information provided (Exhibit 1):

- Explain the factors that WW should consider in determining its short-term retail pricing policy immediately after deregulation of the water industry in Holakia.
- Explain the potential impact of deregulation on long-term competitiveness in the water industry in Holakia, using Porter’s Five Forces model.

(20 marks)

2.2 Evaluate whether the risk mitigation and potential cost savings offered by the new environmental pollution technology (Exhibit 2) are sufficient to justify the investment by WW. Consider financial and non-financial factors. Provide supporting calculations where appropriate.

(15 marks)

Total: 35 marks

Exhibit 1 – Impact of deregulation

The current situation

Prices to water users per cubic metre of water supplied and of waste water removed by Holakia water companies:

Company	Price per cubic metre
West Water	\$1.55
North Water	\$1.45
East Water	\$1.70
South Water	\$1.50

The government has permitted each water company to charge water users a different price because the cost of establishing the original infrastructure (eg, building reservoirs and installing pipes) was higher in some regions than in others.

Land for reservoirs and all other facilities is leased from the Holakia government on 10-year contracts. This makes up a significant proportion of operating costs for all four water companies.

The infrastructure is in good condition, so little additional infrastructure investment will be required for many years.

The marginal cost to a water company of supplying water to, and removing waste water from, an existing customer in its own region is insignificant.

How deregulation will work

It will be easy for water users to switch water companies.

The industry will be restructured:

- Water wholesalers will own and operate the infrastructure of reservoirs, pipes and other facilities. Each of the four current water companies will be a water wholesaler in its existing region. Each water wholesaler will sell its water and its sewerage services to any water retailer which wants to buy.
- Water retailers will be responsible for selling water and sewerage services to water users, and for issuing invoices to them. Each water retailer will be able to buy water and sewerage services from any water wholesaler, then sell these to water users throughout Holakia in the retail market.

Wholesale prices will be significantly lower than retail prices. The wholesale market will continue to be price-regulated to ensure fair prices to water retailers.

All four current water companies will be both water retailers and water wholesalers.

The government will permit additional companies to enter the retail market if they wish to do so. Some new companies have shown an interest in doing so.

Exhibit 2 – The risk of environmental pollution events

In the absence of new technology, it is estimated that WW as a water wholesaler will experience only four environmental pollution events every 100 years.

The probabilities of any one event being major or minor and the direct financial costs per event are as follows:

	Probability	Cost
Major	6%	\$160m
Minor	94%	\$4m

The annual cost of the new technology is \$1.1 million. Minor events can be avoided completely with the new technology. A major event can still occur with the new technology, but the cost would be reduced to \$60 million.

Question 3

Delicious Desserts Ltd (DD) is a wholly-owned, UK subsidiary of Larsen plc (Larsen), a large international food and drinks manufacturing company.

Company background

DD is the UK market leader in the manufacture of dessert products. DD's desserts are packaged in plastic or cardboard-lined containers and distributed to customers, including supermarkets and other retailers, throughout the UK.

DD's product range includes both chilled desserts that require low temperatures and desserts that can be maintained at room temperature (eg, packages of cakes, puddings and fruit pies). DD does not currently produce frozen desserts.

In common with other subsidiaries, DD is run as an autonomous operating division of Larsen. Each division has responsibility for a different product type or brand. Some Larsen divisions operate in the frozen food market.

Divisional managers are responsible for sales and costs and they provide the Larsen board with a monthly analysis of each division's revenue and operating costs. Key strategic decisions, including capital expenditure, are taken centrally. However, provided they satisfy their budget targets set by head office, divisional managers are permitted to make day-to-day operating decisions without interference from Larsen central management.

Key functions, operated and controlled centrally by Larsen, are finance, human resources, IT, R&D and marketing. A charge is made to each division for providing these services. There are no expectations of, or incentives for, divisional managers to innovate or introduce new product types. All new product decisions are made by head office.

A new opportunity

A new head of DD, Xu Yang, was appointed in 2017. However, she is frustrated with the lack of decision-making authority given to her to implement new ideas for improving DD's performance.

Xu recently visited a busy yoghurt bar which is part of the IsoBar chain of 25 yoghurt bars. IsoBar specialises in selling high-quality, frozen yoghurts, which it makes according to its own recipe.

Xu had an informal meeting with the owner of IsoBar, Kirk Kruger, during her visit. Kirk explained a number of problems facing IsoBar:

- Frozen yoghurts have a short shelf-life as they are highly perishable.
- IsoBar has not been able to obtain suitable air-tight containers which can maintain the freshness of its products for more than just a few days.
- IsoBar lacks the specialist transport facilities required to keep products frozen during distribution over long distances.

Xu believes that DD could benefit from a strategic alliance with IsoBar. DD has suitable large-scale food processing facilities to manufacture the yoghurts, which would then be ready for

freezing. However freezing, packaging and transport of frozen products would require the assistance of another Larsen division.

Other divisions within Larsen have facilities to freeze, store and distribute frozen products, and to manufacture air-tight containers which maintain the freshness of frozen products.

Xu believes that DD's existing customers, including large supermarkets, would be interested in buying IsoBar's frozen yoghurts on a large scale.

A formal meeting

Xu and Kirk held a formal meeting a week later. Kirk commented as follows:

"I believe that there is a strong retail market for selling IsoBar frozen yoghurts for consumers to eat at home. I think this would be a major scaling-up of my business by leveraging the IsoBar brand.

"IsoBar would benefit from having a business partner, as it is not big enough to process and distribute frozen yoghurts on a large scale. However, I am not willing merely to hand over my brand and recipe to a large company for a fee. I want to share control as part of a strategic alliance.

"I have several criteria that need to be satisfied in any strategic alliance agreement:

- The IsoBar chain of 25 bars must remain unaffected by any strategic alliance.
- I am not willing to disclose the IsoBar recipe without firm contractual guarantees and a viable solution to the problems of frozen distribution and air-tight containers.
- I need to protect my brand, so I want some control over how the IsoBar product is to be profitably developed over time.
- I need to be assured that the financial performance of the IsoBar product can be separated from that of other Larsen products, so we can determine the sharing of profits fairly."

Requirements

3.1 Explain the internal factors which may limit IsoBar's ability to successfully develop, produce and distribute its products without a strategic alliance.

(7 marks)

3.2 Prepare a memorandum for the Larsen board which:

- (a) explains the merits and problems of Larsen's current organisational structure; and
- (b) explains the benefits and risks for DD of working with IsoBar in a strategic alliance to produce, sell and distribute IsoBar frozen yoghurts.

(15 marks)

Total: 22 marks