

# Revision case study: **Production and Location**

**80 marks. One hour and a half**

**Read the case study and answer all of the questions.**

## Production and location decisions for KL Juice Bars

Several years after the first KL Juice Bar opened, the two main shareholders, Salman and Karen looked at expanding the business in foreign countries. Karen had been warned by one of the marketing managers that there would be many problems in setting up bars in other countries. After much research Salman and Karen decided to open the first foreign KL Juice Bar in Country X.

These were the decisions that now had to be taken:

- Which location in Country X should they choose?
- Should they produce the juices in their own country and transport them to Country X? Or should they let the foreign bar make up its own juices?
- If the company produced the juices in the home country, which method of production should they use?

### **Which location to choose?**

Karen had investigated the market for cafés and juice bars in Country X. She had visited the country and had returned with details of two sites that could be used for the first KL Juice Bar. These details are shown in the table below:

	<b>Location A</b>	<b>Location B</b>
Rent costs per year	\$6,000	\$3,000
Distance from capital city	2 kilometres	35 kilometres
Average labour cost	\$3 per hour	\$2.50 per hour
Population within 5 kilometres of site	100,000	50,000
Government grants available	None	50% of capital cost of new business
Distance from nearest sea port	45 kilometres	5 kilometres
Unemployment rate in area	5%	15%

The decision between the two sites would be a very important one. If the first bar was not successful, it might put the business's expansion plans at risk. Karen and Salman studied the details very carefully.

### **Should the juices be transported to Country X?**

One of the selling points of the KL Juice Bars was the freshness of the juice. Each drink was made to order and was freshly pressed. This was a time-consuming method of production. The labour cost per drink was therefore quite high. However, it was an important selling point of the business.

Salman wanted to save costs in the new bar in Country X. He was thinking about sending out frozen juices that had been prepared in one of KL's depots in the home country. These would be much easier to store and transport than fresh fruit, even though this could be bought in Country X itself. Salman believed that consumers in Country X need not know that the juices had been frozen. He thought that they would taste the same anyway. Because of the cost savings, Salman finally decided to produce the juices locally and then export them in freezer containers to the new overseas bar.

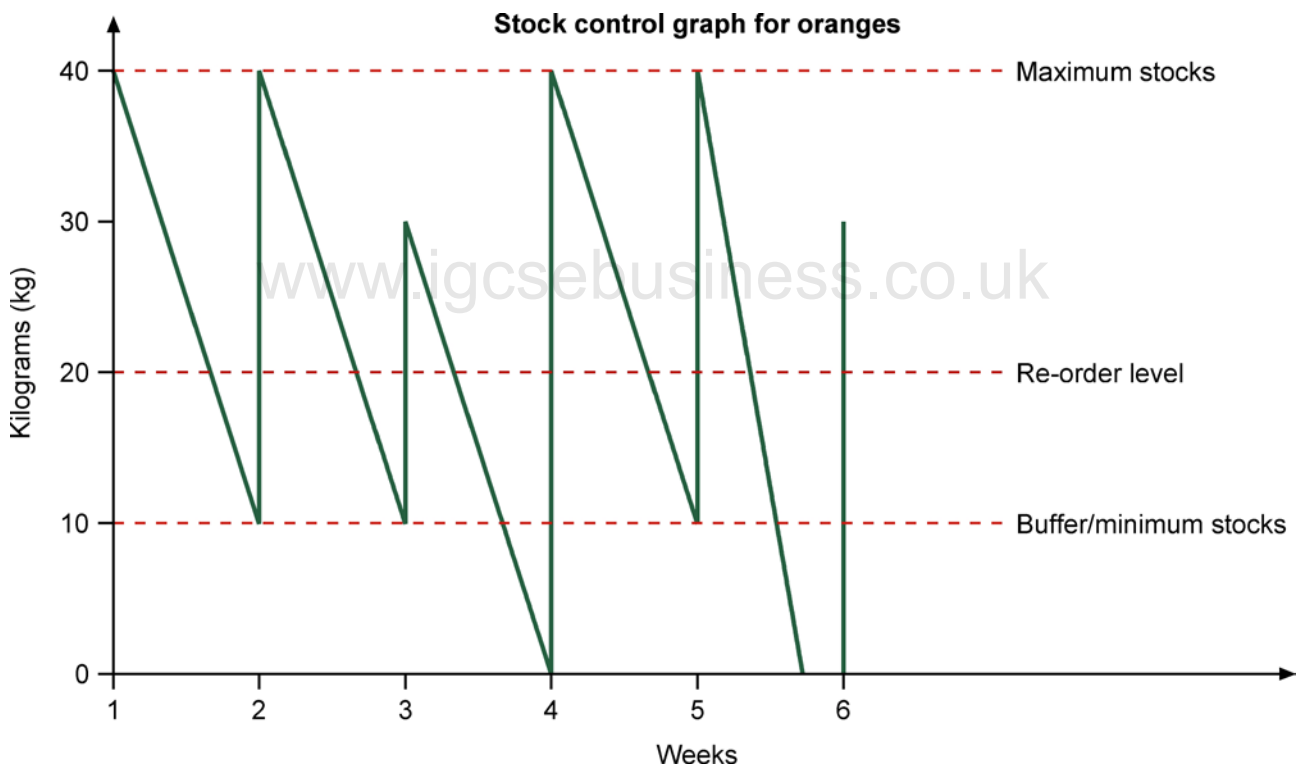
## Which production method would be best?

Job production was currently used in each café. Each customer had his or her order for juice made up by the bar staff. This was unsuitable for making the large quantities of each juice drink that would be exported to Country X. Salman was considering making the most popular juices – oranges and mango, for example – using flow production lines in a new factory. These lines would produce large quantities of each juice continuously. There would be opportunities for economies of scale. Specialist machines would be needed and these were expensive. Another problem was that the bar in Country X might not be able to sell all of the juice produced using the flow production method and storage would also be problematic.

Other juices could be made in large containers once a week. After each full container was completed, the machinery and workers would concentrate on making a container full of another flavour. The machinery would have to be cleaned after every batch of one juice was made.

## What level of stocks should be kept by the company?

The production and location decisions were not the only factors that Salman and Karen had to consider. The cost of holding stocks was a major expense for the business. Each bar holds its own supplies of fresh fruit. Enough fruit is kept for about four days' sales. However, when sales vary or consumer tastes change, bars can either sell out of one fruit or be left with stock that has to be destroyed. For example, the following stock control graph was recorded for one large KL bar over a six-week period. The fruit was oranges.



In week 3, there was a smaller delivery due to the supplier having transport problems. Salman has been discussing with another supplier about the possibility of introducing Just-in-Time stock control for fruits. This would be using lean production for the first time in the company. Each bar would then be able to ring the supplier and receive supplies of fruit within 12 hours. Salman could see many benefits from this system, but he wondered if it would work well for his business.

## Questions

1 Define the following terms:

a) job production

b) economies of scale

c) buffer stock

(6)

2 Refer to the table. Why do you think that the government in Country X is offering grants to businesses to set up in location A? (4)

3 In which location would you advise Karen to set up the first overseas KL Juice Bar? Justify your answer using the information in the case study. (8)

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4 Using the information in the case study and any other knowledge, would you advise Salman to export the juices or allow the Country X bar to make its own? (4)

5 If the juices were frozen and transported to Country X, would you advise Salman to let consumers know? Explain your answer. (4)

6 Briefly outline the differences between batch and flow production. (4)

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7 Identify two economies of scale that the business might benefit from if it used flow production lines for popular juices. (2)

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8 Salman has decided to make the juices from Country X locally and then export them. Which method of production would you advise KL Juices to use to produce the most popular juices? Justify your answer. (8)

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9 Outline two ways in which KL Juices could add value to their products in the Country X bar. (4)

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10 Explain what is meant by 'lean production'. (2)

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11 Refer to the stock control graph. What is:

a) the maximum stock-holding?

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b) the buffer or minimum stock-holding?

c) the quantity reordered in weeks 2 and 5? (3)

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12 What problems would occur for the business in week 6? (2)

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13 What seems to have happened in week 3? (3)

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14 Briefly outline one advantage to this business of holding high fruit stock levels. (2)

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15 Briefly outline two disadvantages to this business of holding high fruit stock levels. (4)

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16 Explain how Just-in-Time stock management should work. (4)

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17 Explain whether you would advise KL Juice Bars to use Just-in-Time for fruit supplies. (10)

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