Case Study 1

A young couple, Ann-Marie and Paul, purchased a loss-making pizza factory from an old family friend and went about overhauling the whole operations process.

Ann-Marie's first task was to appoint a purchasing manager to reduce their list of suppliers from 40 to 10 and find a replacement for the existing unreliable supplier of cheese. The new supplier would be judged on the quality of the cheese, their prices (including opportunities for discounts) and the supplier's reliability in terms of deliveries and ICT compatibility.

Paul turned his attention to the factory layout. He carefully rearranged the production lines to allow for the easy delivery of the ingredients from the cold storerooms. The end of the production lines led into the packaging areas where the pizzas were individually wrapped and then passed into the loading bay.

Stock control would be important to the firm. Recent increases in stock had resulted in some ingredients going out of date, with suspicions that staff had been helping themselves to packets of cheese. This money could be used in advertising the firm and so was not to be wasted. Having too little stock would be expensive for the firm as bulk buying discounts would be lost for the small amount ordered. Staff would also be idle as the factory waited on the stocks levels to increase.

In response to this dilemma, Ann-Marie installed a computerised stock control system that allowed the raw material stocks to be controlled by actual pizzas sales. When the stocks fell below a certain amount, an order was automatically raised and sent via an “edi” link to the firm’s supplier. This system responded to actual demand, avoiding human error and postal delays.

Currently, Paul was attending an operations course which explained the benefits of using a JIT system for delivery of large volume stock. Deliveries of the pureed tomatoes would be stored at the supplier and delivered to the factory just in time for it to be used on the production line. This would free up storage space at the factory for another pizza production line which could increase sales and profits. Paul, however, was concerned that quality checks would be passed on to the supplier, more frequent deliveries would be needed which could increase costs and that the pizza factory would be vulnerable to unexpected large orders that couldn't be met by the supplier at such short notice.
The overhaul of the pizza factory for Ann-Marie and Paul was a
learning exercise on the methods of production.

The majority of production lines would follow a batch method of
production. A group of pizzas would be made with certain ingredients and then
the lines would be stopped, cleaned down and another group would be made with different
toppings. The turkey and sausage was popular at Christmas whilst ham and pineapple pizzas
saw their highest sales over the summer months. Ann-Marie could bulk buy certain
ingredients such as ham and the output and quality of each batch of pizzas would improve as
the workers gained experience and minimised mistakes.

On a rare occasion Paul would produce a one-off, party pizza for corporate clients, made
exactly to their specifications, i.e. their choice of ingredients. It was so large in size, the head of
the bakery section took charge of making it and delivered it by hand in a specially designed
box. It was time-consuming and sales were lost in the production of pizzas but it secured a
premium price and often gave the company some free publicity in their client’s newsletter.

A recent order by a large supermarket gave Paul the idea to introduce a flow method of
production with the cheese and tomato pizza. It would need large financial investment in
robotic equipment, also careful scheduling of the staff and output, with production running
24 hours a day over a set period. The supermarket demanded dedicated staff be put on their
account, but promised opportunities for bulk buying discounts and large sales and profit.

The transport was arranged around the client. Analysis of the database of clients showed the
supermarket accounted for 60% of their turnover and so pizzas deliveries to their
warehouse were transported in a specially air-conditioned lorry with a satellite navigation
system to track movement of stock around the country. The smaller, local businesses, such as
chip shops and restaurants would have their deliveries in smaller vans with the Pizz-A-Fun
signage on the side. The money made from the supermarkets helped pay for deliveries by
plane to several clients in the Outer Hebrides. The speed of delivery allowed them to
maximise the shelf life and minimise handling of the food.

Question 1
Describe to Ann-Marie and Paul the problems of having too much stock. (2)

Question 2
Describe to Ann-Marie and Paul the problems of having too little stock. (2)

Question 3
Describe the concept of "just in time" stock management. (2)

Question 4
Explain to Ann-Marie and Paul the costs and benefits of using this system. (4)

Question 5
Describe to Ann-Marie the advantages of using a batch method of production. (3)

Question 6
Describe to Ann-Marie the disadvantages of using a job method of production. (3)

Question 7
Describe to Ann-Marie the advantages and disadvantages of using a flow method of production. (4)