



**Friday 13 June 2014 – Morning**

**A2 GCE APPLIED BUSINESS**

**F248/01/CS Strategic Decision-Making**

**CASE STUDY**

**Duration: 2 hours**



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## Flavoursome Foods Ltd (FFL)

### The background

Flavoursome Foods Ltd (FFL) is a modern tomato farm occupying 14 hectares of land in the Peak District. The farm's owners, Maria Lundi and her husband Gino, pride themselves on being bold and innovative entrepreneurs. Fittingly, FFL's glasshouse, in which all of its tomatoes are grown, is one of the largest in the world.

The couple started the business in 2004, buying a piece of wasteland using the profits Maria had made from buying and selling shares on the stock market. Permission to use the land for agricultural purposes took almost a year to be granted. It took a further two years to obtain planning permission to build the glasshouse. The glasshouse, measuring a staggering 200 metres by 255 metres and covering five hectares of land, was finally built in 2008 at a cost of £5 million. FFL took out a 10-year variable rate loan to finance the build. Gino, passionate about environmental issues, took charge of production. Maria, eager to be an ethical employer, took charge of staffing. The farm's mission statement reflects the strong ethical and environmental beliefs of its two shareholders.

### The business

Since it began trading in 2008 FFL has always grown red classic tomatoes. Gino has, however, been cultivating a new variety of tomato, unique to FFL, to add to its product range. He has registered the variety as 'Purple Prince'. Purple Prince is a deep purple classic sized tomato with an extremely high level of lycopene and a rich sweet flavour. Gino plans to introduce this new variety to the market towards the end of 2014 and intends to develop an integrated marketing strategy for the new product.

FFL's tomatoes are harvested and marketed 'loose' - they are not sold on the vine. However, unlike imported tomatoes, FFL's tomatoes are ripened on the vine. This natural ripening process increases the richness of the tomatoes' flavour. To retain this flavour, FFL's tomatoes are stored without refrigeration and delivered to UK supermarkets within 24 hours of being harvested. Gino believes that the quality of FFL's tomatoes surpasses any imported tomato, which must be picked while green and refrigerated during its long journey.

The glasshouse has seemingly endless rows of tomato plants each at various stages of development. In order to maintain production throughout the year, new seedlings are planted every two weeks. The plants are grown in plastic gullies containing coir (a recycled organic material) – there is no old fashioned peat cultivation. Water, fortified with all of the nutrients the plants require, is supplied to the gullies using a computer controlled irrigation system. The water is recycled, revitalised with oxygen and fertiliser, and used again and again. The heat, light and humidity levels in the greenhouse are also computer controlled. Preferring environmentally friendly biological controls, the farm does not use pesticides or fungicides. Bumblebees are used for pollination.

Unlike most agricultural businesses the company does not rely on casual labour because the work is not seasonal. Maria, therefore, takes staff recruitment and induction training very seriously. All staff are given permanent contracts and paid at least 30% above the minimum wage. In addition, employees receive an annual bonus if their performance against the industrial average is favourable. Approximately two-thirds of the staff work at the farm on a full-time basis, the remainder work part-time. Currently four employees job share.

As an ethical employer, Maria devotes a great deal of her time getting to know FFL's staff. She actively listens to their problems and allows them flexibility to change shifts for personal reasons, such as school plays and major sporting events, whenever practicable. In return, the

staff show genuine loyalty and commitment to the company. Motivation levels are high; staff work hard to maximise productivity, even staying on late at the end of a shift if work still needs to be done. All 50 of the staff live locally and the vast majority use public transport to get to and from work. Maria has never had to dismiss a worker, or make anyone redundant. Employees describe Maria as an excellent manager with excellent leadership skills. Employer-employee relationships are good.

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*FFL* sells its entire crop of Class 1 tomatoes to UK supermarkets. Misshapen or over/undersized fruits are sold at farmers' markets or from the farm office. Damaged tomatoes are sold at discount prices to a local manufacturer of cooking sauces.

### The problem

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The ever-increasing availability of cheap imports means that the price UK supermarkets are willing to pay for tomatoes has remained static for over a decade. This, coupled with recent increases in production costs, has made it harder and harder for *FFL* to make a profit.

All year round glasshouse production requires artificial heating, lighting and environmental control. Recent increases in gas and electricity costs have had a significant impact on profits. Liquid fertiliser prices have also risen dramatically in recent years. For the first time since it began trading in 2008 *FFL* is experiencing financial difficulties. Whilst the gross profit margin remains at a healthy 48%, net profit margins have plummeted to an alarming 1.5%. In addition, net cash-flow has been negative for the last nine months.

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Maria and Gino know that the long-term survival of the farm depends on improving *FFL*'s profitability. Unwilling to compromise their ethical or environmental values, and not averse to taking a risk, they believe something radical needs to be done. Maria and Gino are considering two options. Maria, who is good with figures, plans to draw up a decision tree to help them decide which option to choose.

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### The options

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#### Option 1 – Relocation

With only two spare hectares of land remaining on the farm, *FFL* would move to a much larger site. The current glasshouse would be relocated to the new site and a second glasshouse, of similar size, built. A 40 hectare site, already designated for agricultural use, is currently on the market at Larvil, 55 miles north of *FFL*'s current location. Two glasshouses would allow *FFL* to double its output of tomatoes and benefit from economies of scale.

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The second glasshouse would give *FFL* the capacity to grow several varieties of cherry tomatoes, in addition to the classic tomatoes (including the Purple Prince). The cherry tomatoes would be sold on the vine to leading UK supermarkets. The extra output might even enable *FFL* to become a supplier of choice for vegetable box companies. The possibility of obtaining certification for the farm's production methods, allowing the farm to sell organic tomatoes, would also be increased.

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Maria favours this option because it would allow *FFL* to employ an additional 20 workers. A more hierarchical organisation structure would be required, leading to recognised promotion opportunities for staff. A formalised system for TQM, a philosophy which excites Maria, would also be introduced.

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Whilst Maria has managed to get provisional costing figures, she can only guess at the expected returns and chances of success of this option due to its long-term nature. Tentative calculations indicate a payback period of roughly 10 years with an NPV over 20 years of approximately £18 million. *FFL*'s bank has indicated that it would be willing to finance this option with a further

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10-year variable rate loan. Given the size of the Larvil site, it is possible that *FFL* could expand even further in future years.

### Option 2 – Biodigestion

*FFL* would remain at its current location and make use of the 15000 tonnes of plant waste from which the farm produces each year by having a biodigester installed. The biodigester would require less than one hectare of land and could easily be located behind the packing shed. Gino favours this option because it would promote renewable energy. It would, however, rule out the possibility of *FFL* selling on the vine tomatoes in the near future because the stems and leaves would be needed to feed the biodigester.

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The biodigester would use bacteria to break down *FFL*'s plant waste and convert it into biogas. A feasibility study suggests that enough heat and electricity would be produced, not only to power the glasshouse, but also to run the entire farm. During the summer months, when electricity usage on the farm is lower, it is likely that *FFL* would even be able to sell some electricity to the National Grid. In addition, the liquid waste from the digester would be used as a fertiliser to revitalise the water used to feed the tomato plants. The solid waste would be bagged and sold as compost.

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Whilst *FFL* would be exempt from needing an environmental permit, planning permission would still be required. Once granted, the biodigester would be ordered from a specialist manufacturer in Germany and the site prepared. After installation the biodigester would need to be commissioned to achieve peak digestion. Thorough testing would then need to take place. *FFL*'s renewable energy consultant advises that the entire process, from applying for planning permission to becoming fully operational, would take approximately three years. Once operational the biodigester would require samples to be checked on a daily basis, as well as regular maintenance.

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The consultant's figures suggest a payback period of five years from the commencement of operation and an NPV over 20 years of approximately £7 million. Equity funding would be available from a specialist provider who would finance this entire option for a 45% return over the lifetime of the investment. At the end of its 20 year lifetime the biodigester would need to be replaced.

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## Appendix 1

### Market information

There are five different types of tomato available in shops:

#### Classic tomatoes

These are the familiar, round variety and are the most popular type of tomato.

#### Cherry and cocktail tomatoes

These are much smaller than the traditional classic tomato. Cherry tomatoes are the smallest and cocktail tomatoes are slightly larger than cherry tomatoes. Currently, almost all cocktail varieties are sold 'on the vine'.

#### Plum and baby plum tomatoes

These have a distinctive oval shape. The production of baby plum tomatoes has increased dramatically in recent years and they are especially popular with children.

#### Beef tomatoes

These are larger than the traditional round tomato. Their size and shape make them excellent for stuffing and baking whole.

#### Vine tomatoes

These may be of any of the types mentioned above but are marketed still attached to the vine.

### Approximate UK production of tomatoes by variety

Variety	Percentage of UK production
Classic	48%
Cherry	19%
Cocktail	11%
Plum	21%
Beef	1%

Premium tomatoes, such as tomatoes on the vine, are driving growth in the market. Vine tomatoes now account for half of UK tomato production. Organic tomatoes account for 7% of the British commercial crop.

There are many sub-varieties available and new introductions to the British market continue to be made in response to consumer demand.

## Appendix 2

### How Britain eats - consumer trends

- Healthy eating is now an established consumer trend. The consumer palette is evolving towards more fresh, perishable food and there is greater consciousness of '5-a-day'.
- Consumers are cooking more from scratch and rejecting less healthy takeaways and ready meals.
- Consumers are increasingly aware of food provenance, ethical sourcing and operators' environmental initiatives.
- Price is playing a greater role in the value equation as consumers become more price conscious.
- There is a greater appreciation of British sourced food and cuisine.
- Stronger interest in farmers' markets.

## Appendix 3

### Foreign competition set to increase for UK tomato growers

British tomatoes will face more competition from abroad over the next five years as new market entrants increase exports into the UK.

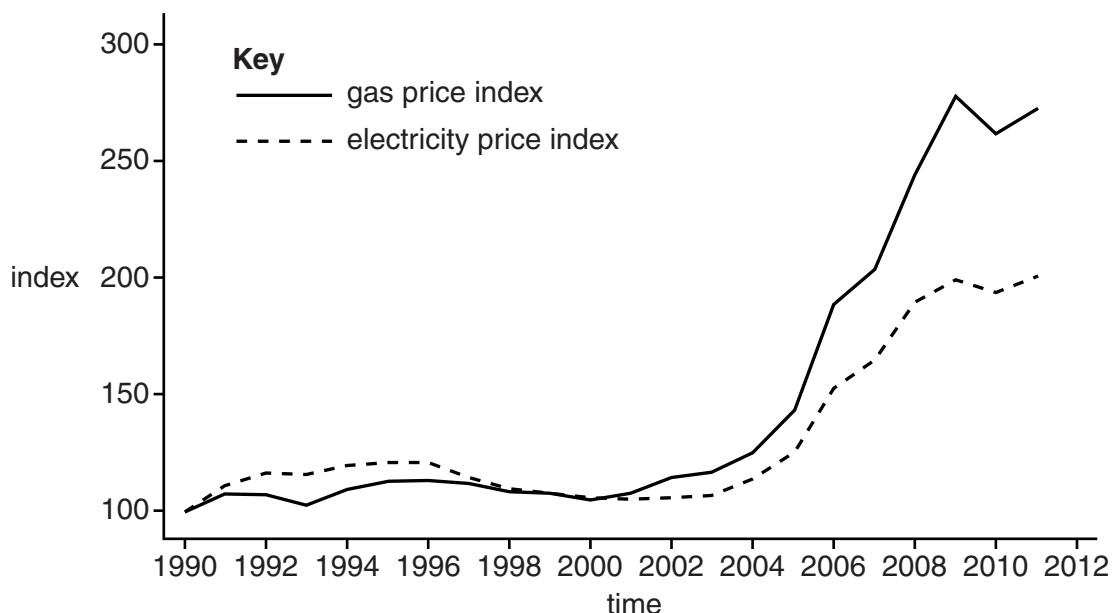
The UK is primarily an import market for tomatoes already, with 80% of the fruit sold here coming from Spain and Holland. More imports are expected in the near future from Poland (16 000 tonnes a year), as well as from North African countries such as Morocco (20 000 tonnes).

Poland has long produced tomatoes but has historically focused its exports on Russia and Germany. Both Poland and Morocco are now looking at the UK market because they have relatively low production costs and are benefiting from the technical expertise of established exporters to the UK via investments made by Dutch and Spanish growers. Morocco is also expected to gain greater access to the UK market as part of trade negotiations with the EU in the coming years. Spanish and Dutch growers, however, are unlikely to give up their share of the market as imports from Poland and North Africa increase.

## Appendix 4

### Energy prices in the UK

Index of gas and electricity prices in the UK (1990 = base)



### Further rises predicted

Energy bills could rise by as much as 60% over the next ten years, industry experts have predicted. This increase is being blamed on rising wholesale prices and the need to invest in green technology.

This forecast was made by 71 leading industry figures – including independent generators, energy buyers and brokers – in a survey by SmartestEnergy, the UK's leading purchaser and supplier of energy generated by the independent sector. More than 90% of the respondents believed prices will be higher in real terms in 2021 than today, with nearly a third of respondents predicting a 60% increase. The average increase envisioned was 43%. Only 8.4% believed prices will be the same or lower than today.

Robert Groves, Chief Executive of SmartestEnergy, said: 'While it is impossible to forecast with any certainty what will happen, it is clear that many in the industry are bracing themselves for significant increases. Wholesale prices have already more than doubled since 2001.'



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