

## Workshop Lecture 2

- Qn 1 Staple Ltd is planning a one-off project to take advantage of a short term market opportunity. For the product in question the sales director has estimated likely demand levels, and their associated probabilities at three different proposed selling prices as follows:

Selling Price (£)	£20	£30	£40
Demand (units) (probability)	12000 (.4)	9000 (.4)	3000 (.4)
	14000 (.5)	10000 (.5)	7000 (.5)
	15000 (.1)	12000 (.1)	10000 (.1)

Advertising costs of £10,000 have already been incurred. These costs relate to promotional material which includes reference to the £20 selling price (only recently has the product's potential to attract a good market at higher selling prices been realised). If the product is launched with a selling price of £30 or £40 an extra £12, 000 will need to be spent to amend the existing promotional material.

The unit cost of the item based on "book costs" is budgeted as follows:

	£
Direct material 2 Kg @ 4	8
Direct labour	4 (.5 hours @ £8 per hour)
Variable overhead	2
Fixed overhead per unit	3
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There are 8000 idle direct labour hours available for production of the new product. The firm has a no lay off policy, but idle time rates are 80% of the full rates which have been used for the unit cost calculation.

The direct material has been in stock for some time. It originally cost £4.00 but is now surplus to requirements: it has a net realisable value of £1.50 per Kg. There are 34,000 Kg in stock.

### Required

- Calculate the maximum number of units that can be made with the available idle labour hours and with the direct material.
- Using relevant costing principles calculate the expected value of the project at each selling price.
- Without further calculation comment on the advisability of using expected values alone as a basis for decision making.
- Name two other techniques can be helpful in dealing with uncertainty in decision making.

Continued/....

- Qn 2 Fruit Ltd has to decide which of three mutually exclusive projects (codenamed Apple, Banana and Cherry) should be launched.

Estimated costs and sales volumes are given below.

	<b>Apple</b>		<b>Banana</b>		<b>Cherry</b>	
Selling price per unit	£100		£200		£300	
Variable cost per unit	£ 40		£150		£220	
Avoidable fixed cost	£200,000		£220,000		£260,000	
Demand in units	Volume	Prob	Volume	Prob	Volume	Prob
	6,000	0.2	2,000	0.3	6,000	0.3
	8,000	0.5	12,000	0.5	7,000	0.5
	10,000	0.3	18,000	0.2	9,000	0.2

**Required**

- (a) Calculate the Expected Value of each project and on that basis alone advise management which is the best.
- (b) For project Banana only it is known that market research (costing £15,000) could be undertaken to indicate which of the three demand volumes would actually occur. After the research has been carried out it would be possible to cancel the project and avoid incurring any fixed costs if that were desired. The time scale involved means that after the research has been undertaken it would not be possible to proceed with projects Apple and Cherry.

Calculate the Expected Value of project Banana on the basis that the market research is undertaken.

- (c) Advise management on the advisability of undertaking this research