

Paul Robbins training and consultancy

Management Accounting: Decision and Control

Life Cycle Costing

Exercise 1 **Model Answer**

You work for a company which is considering developing and launching a new product. You have been provided with the following financial information relating to the new product:

- *Product development and testing would cost £1.5m immediately and a further £0.8m in one year's time*
- *Marketing would cost £0.5m in one year's time and a further £0.2m for each of the next two years*
- *Variable costs per unit will be £4 and the selling price per unit will be £8*
- *Fixed production costs that relate only to this product would be £0.5m for each year of production. Production and sales will take place in the same year*
- *The company already incurs fixed costs of £4m relating to other products and these costs will continue*
- *Sales will be as follows (based on the start of the project being Year 0)*

Year	Units Sold
Year 2	0.4m units
Year 3	0.9m units
Year 4	0.3m units

The company's cost of capital is 7% and relevant discount factors are:

<i>Year</i>	<i>Discount Factor</i>
<i>0</i>	<i>1.000</i>
<i>1</i>	<i>0.935</i>
<i>2</i>	<i>0.873</i>
<i>3</i>	<i>0.816</i>
<i>4</i>	<i>0.763</i>

Tasks

Using the discounted cash flow technique, calculate whether it is worthwhile developing and launching the new product.

<i>Year</i>	<i>Details</i>	<i>Cash Inflow £000</i>	<i>Cash Outflow £000</i>	<i>Discount Factor</i>	<i>Present Value £000</i>
<i>0</i>	<i>Product Development</i>		<i>1,500</i>	<i>1.000</i>	<i>(1,500)</i>
<i>1</i>	<i>Product Development</i>		<i>800</i>		
	<i>Marketing</i>		<i>500</i>		
	<i>Net Total Year 1</i>		<i>1,300</i>	<i>0.935</i>	<i>(1,216)</i>
<i>2</i>	<i>Marketing</i>		<i>200</i>		
	<i>Sales Revenue</i>	<i>3,200</i>			
	<i>Variable Costs</i>		<i>1,600</i>		
	<i>Fixed Costs</i>		<i>500</i>		
	<i>Net Total Year 2</i>	<i>900</i>		<i>0.873</i>	<i>786</i>
<i>3</i>	<i>Marketing</i>		<i>200</i>		
	<i>Sales Revenue</i>	<i>7,200</i>			
	<i>Variable Costs</i>		<i>3,600</i>		
	<i>Fixed Costs</i>		<i>500</i>		
	<i>Net Total Year 3</i>	<i>2,900</i>		<i>0.816</i>	<i>2,366</i>
<i>4</i>	<i>Sales Revenue</i>	<i>2,400</i>			
	<i>Variable Costs</i>		<i>1,200</i>		
	<i>Fixed Costs</i>		<i>500</i>		
	<i>Net Total Year 4</i>	<i>700</i>		<i>0.763</i>	<i>534</i>
<i>Net Present Value</i>					<i>970</i>