Capital Project Appraisal Presentation.

Financial Management and Planning
ACPA7002

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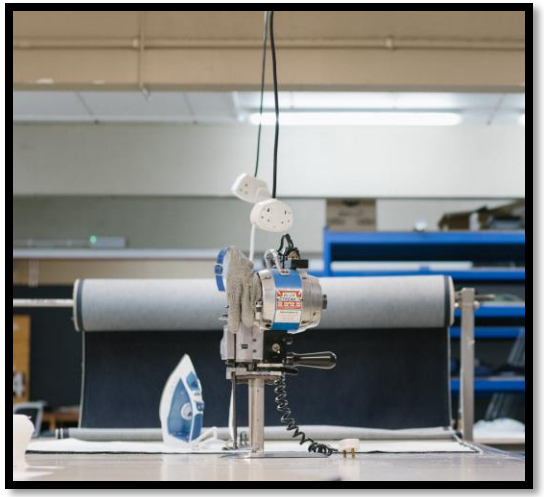
MANUFACTURE ADVANCED DESIGN ENGINEERING

Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Hiut Denim Cutting Process.



Why are we here?

- To improve efficiency and accuracy
- Reduce waste and be lower impact
- Move into custom-made jeans

What are we discussing?

Comparison of Automatic Cutting Machine vs manual cutting process.

'good business model design depends as much on art and intuition as it does on science and analysis' and ' requires deep knowledge of customer needs and the technological and organisational resources that might meet those needs.'. Teece 2018.

What does the project bring or solve for the business?

High level of efficiency	Profitability	Facilitate Just in Time (JIT)	Reduction of waste
Small carbon footprint	Reduces time to market	Speed up development process	Industry 4.0 standard
Remote real-time technical support	Opportunity to upskill staff	Increase jeans cut per day	Bespoke offering

Timeline for implementation

November '22	Review current cutting state Research investments. Funding meetings.
January '23	FK Group visit. Test out our materials on the potential machine. Programme training.
April '23	Factory assessment. Order confirmation to FK Group.
July '23	Prepare space for implementation.
August '23	Implementation during factory shut down. 5 days for installation and training.
September '23	Testing and learning. Adapting to new systems and processes.
October '23	First full month of using the machine.
January '24	Review first 3 months.
August '24	Yearly review.

What is the cost of the project?

Automatic Cutting Machine			
Machinery	1	£62,465.00	£62,465.00
Calibrator	1	£562.00	£562.00
Set up Costs	4	£562.00	£2,248.00
			£65,275.00

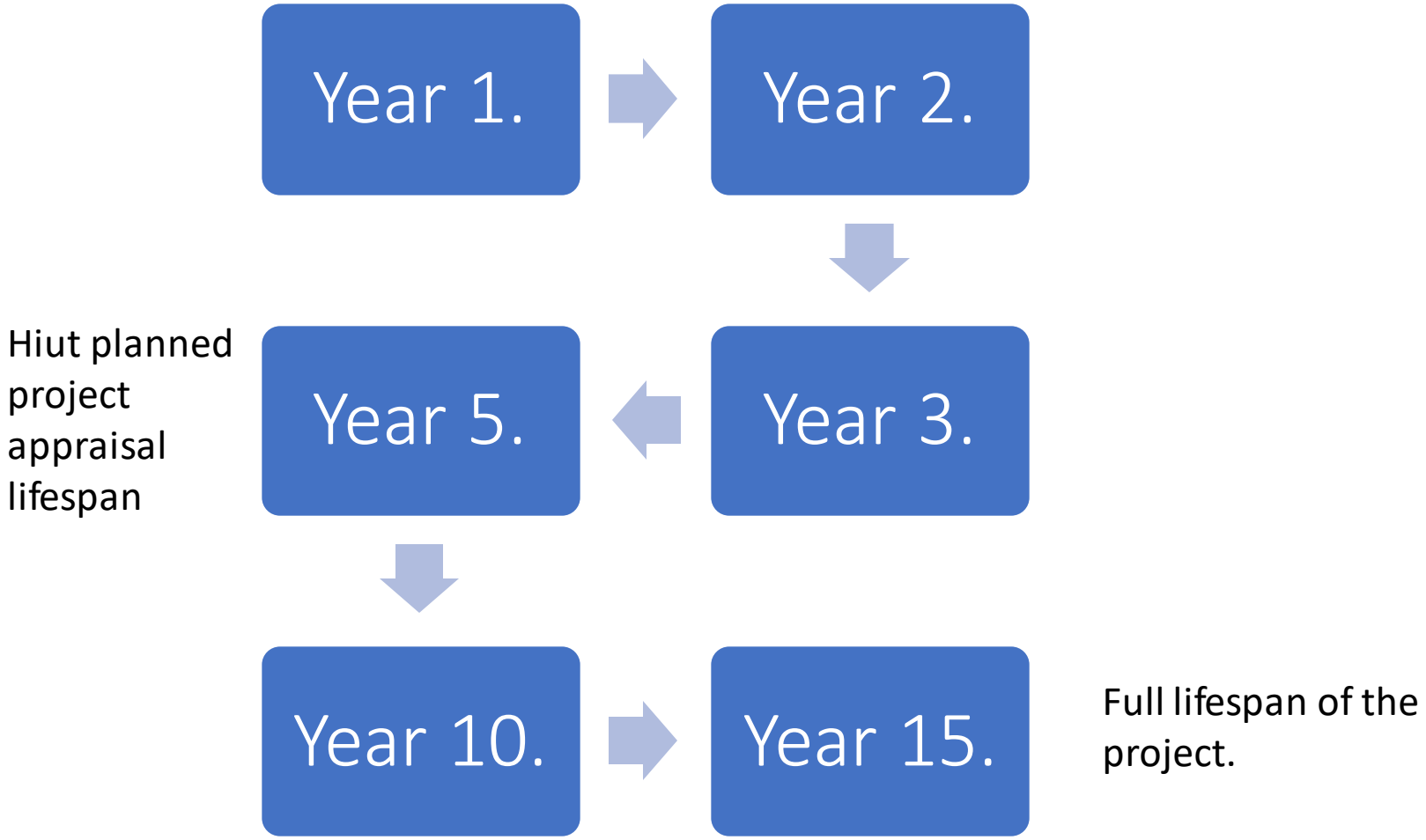
Electricity 28.7KWh/ per day. Based on 39 hour week x 48 weeks	12	£122.30	£1,467.60
Annual service	1	£450.00	£450.00
Filter replacement per annum	1	£220.00	£220.00

MANUAL CUTTING						
Year	0	1	2	3	4	5
Inflation	0%					
Selling Price	**£202.50**	£202.50	£202.50	£202.50	£202.50	£202.50
Units	0	10,000	11,000	13,200	14,400	14,400
				Cap at 14400 (300 per week) for factory floor production		
Revenue	£0.00	£2,025,000.00	£2,227,500.00	£2,673,000.00	£2,916,000.00	£2,916,000.00
Inflation	0%					
Varible Cost (per unit)	**£82.50**	**£82.50**	**£82.50**	**£82.50**	**£82.50**	**£82.50**
Variable Cost	£0.00	£825,000.00	£907,500.00	£1,089,000.00	£1,188,000.00	£1,188,000.00
Inflation	0%					
Overheads		£670,000.00	£703,500.00	£738,675.00	£775,608.75	£814,389.19
Net Cashflow		£530,000.00	£616,500.00	£845,325.00	£952,391.25	£913,610.81

AUTOMATIC CUTTING						
Year	0	1	2	3	4	5
Inflation	0%					
Selling Price	**£202.50**	£202.50	£202.50	£202.50	£202.50	£202.50
Units	0	10,000	11,000	13,200	14,400	14,400
				Cap at 14400 (300 per week) for factory floor production		
Revenue	£0.00	£2,025,000.00	£2,227,500.00	£2,673,000.00	£2,916,000.00	£2,916,000.00
Inflation	0%					
Varible Cost (per unit)	**£60.00**	**£60.00**	**£60.00**	**£60.00**	**£60.00**	**£60.00**
Variable Cost	£0.00	£600,000.00	£660,000.00	£792,000.00	£864,000.00	£864,000.00
Inflation	0%					
Overheads		£650,000.00	£682,500.00	£716,625.00	£752,456.25	£790,079.06
Net Cashflow		£775,000.00	£885,000.00	£1,164,375.00	£1,299,543.75	£1,261,920.94

	Year 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Cash Saving	-£65,275.00	£245,000.00	£268,500.00	£319,050.00	£347,152.50	£348,310.13

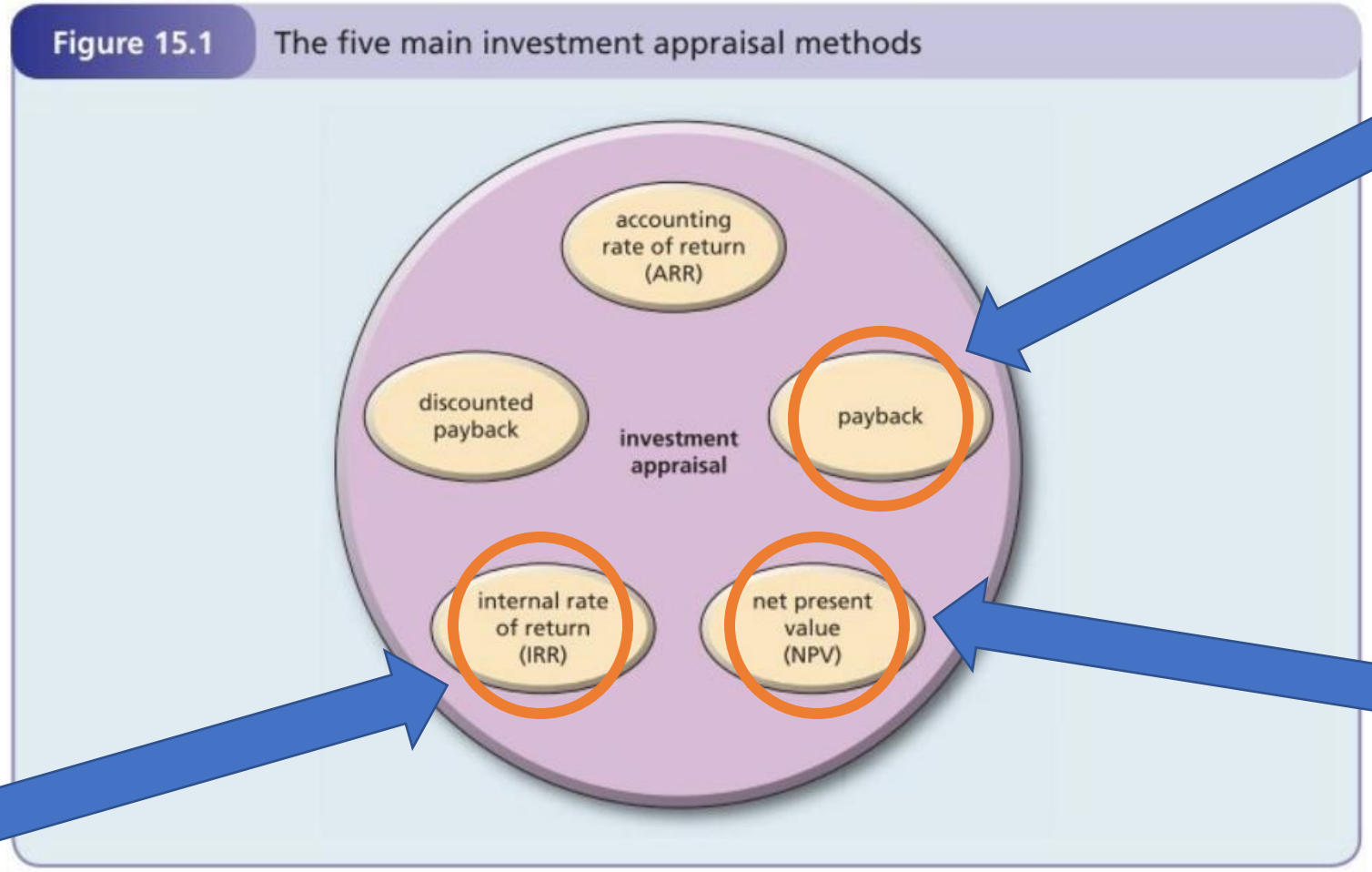
What is the full lifespan of the project?



Any issues that implementation will cause?

What is the rationale of the business?

Payback less than 5 years. Less than 3 is desirable.



Positive NPV from a WACC of 10%

IRR is greater than 20%

Davies, T & Crawford, I. (2011).

Model the project

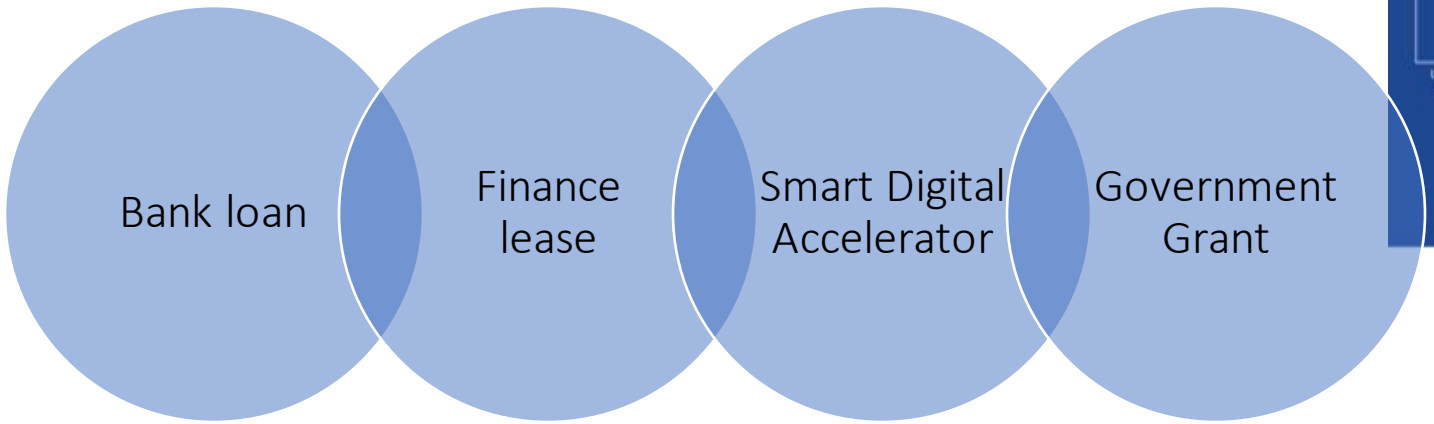
Net Present Value						
	Year 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Present Value	-£65,275.00	£245,000.00	£268,500.00	£319,050.00	£347,152.50	£348,310.13
Discunt Rate (WACC)	10%					
Denominator	1.00	0.909	0.826	0.751	0.683	0.621
Future Value	-£65,275.00	£222,705.00	£221,781.00	£239,606.55	£237,105.16	£216,300.59
NPV	£1,072,223.30		**Excel NPV**	£1,072,443.10		

Profitability Index				
NPV of Cash Flows	equals	£1,072,223.30	equals	
Investment		£65,275.00		16.42624734

BCR				
NPV - Investment	equals	£1,006,948.30	equals	
Investment		£65,275.00		15.42624734

Internal Rate of Return	
IRR	386%

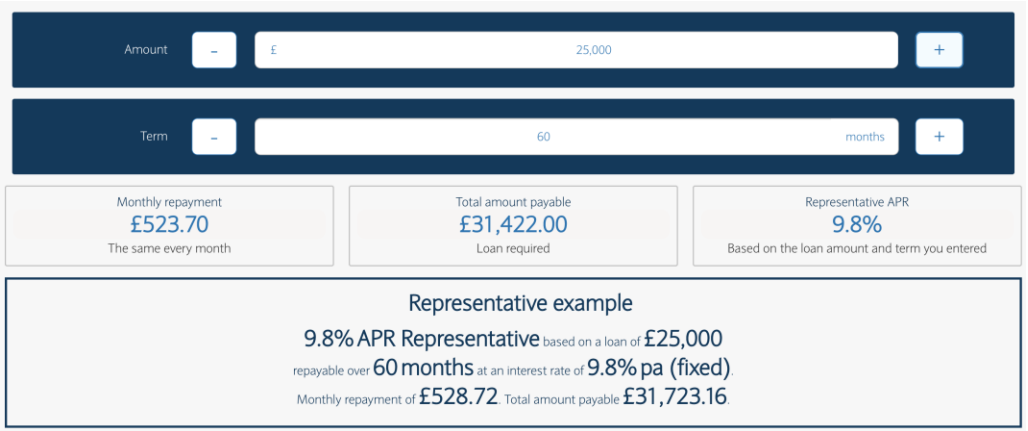
What are the options for funding the project?



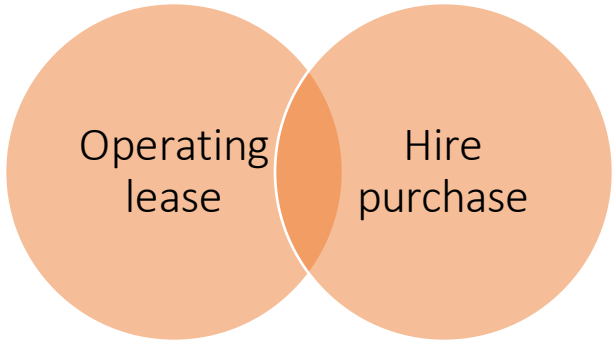
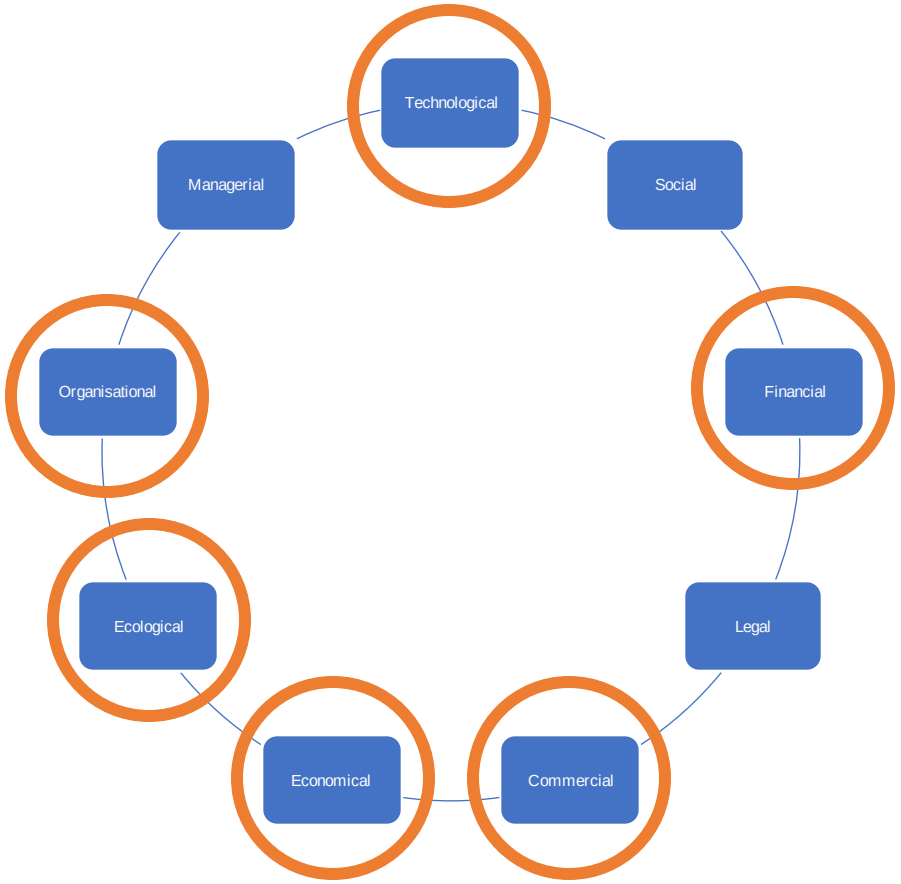
UNDEB EWROPEADD
EUROPEAN UNION

Llywodraeth Cymru
Welsh Government

Cronfa Datblygu Rhanbarthol Ewrop
European Regional Development Fund



S M A R T
Digital
Accelerator



Conclusion and recommendation