

Business report

Small World Theatre, Cardigan



Bike powered travelling cinema

Financial project appraisal

Overview of the project

This project of an outdoor bike powered community travelling cinema is in line with the theatre's ethos and credentials, bringing an additional revenue stream for Small World Theatre. It replaces the commonly used diesel generator that produces over 1 million tonnes of CO2 per year, in the event industry, in the UK alone.

Charity

Small World Theatre is a registered charity. Its purpose is charitable and its profits need to be reinvested and serve the public: it is not for financial gain of individuals. Exempt from taxations (Endsleigh, n.d.), it is however not VAT registered which has an impact on costs. Its revenue largely depends on commissions and grants.

Working Capital Management and Profitability

The shift in the use of the theatre's building since the pandemic revealed that it is important to make the building more competitive as a venue. This project can partly finance this need with a top Net Present Value of over £13,000, while not requiring the use of the building.

With a limited access to external financing and the need to invest to recover from a part closure imposed by the restrictions during the Covid 19 pandemic, it is vital for the theatre to manage its working capital (LE, B., 2019).

To improve the profitability of this project using working capital management (Syeda, R., 2021), it means reducing the collection period for the receivables: for example, a deposit of 30% would nearly cover the estimated running costs.

Social and ecological

Primarily marketed to housing associations, this project put the emphasis on its social impact. The project involves the residents of each estate; asking them to create short films of their everyday life. It gives them visibility in a positive way, and brings cohesion. What is described as home movies are as much private memories as social histories (Zimmerman P. R., 2008) giving them historical and societal values.

Replacing a diesel generator by human power as a source of renewable energy: no fossil fuel extraction, no risk of running out of energy, no added running costs and no emissions, brings an ecological value. A study (UIA - Urban Innovative Actions, 2021) showed that a diesel generator multiplies by 20 the concentration of soot in the air when standing at 3 metres and still doubles it at 25 metres. So not only cycling is a healthy activity, but it protects the spectators from being exposed to pollutants.

Overview of the findings

The calculations for the investment were based on an off-the-shelf generator retail price and doubling it as a maximum cost per unit. In total, the maximum investment represents around 6% of the theatre's annual turnover.

The running costs include: possible maintenance needed each year, the licensing to screen movies (the amount paid to open an account for the theatre is refunded when closing the account), a transport cost per screening (this will effectively vary depending on the

locations) and the overhead costs will increase slightly as more screenings will be organised, assuming less expenses will be going towards marketing each event. Already owned screens, projectors and sound systems were not counted as extras.

The revenues are based on quotes received from bike powered events providers: Electric Pedals and Ynni Da. The estimated revenue starts the first year with the commission from West and Wales Housing Association for 4 screenings. It increases at a steady rate the following years.

The project is feasible with a possible payback period of less than 2 years.

Recommendations

Payback Period as a minimum requirement

For the project to go ahead, the amount invested must be recovered in the second year because the theatre can only support losses for one year.

Payback Period vs Accounting Rate of Return

The limit of using the payback period as a selective method to evaluate a project is that it is looking at a short term profitability only (William D Cooper et al., 2002), ignoring what could happen in terms of revenue past the break even date. For this project, it should not be a concern because the participative aspect of the project creates something the residents can look forward to, increasing the demand.

However the limit of using a short payback period to select a project means that long term profitability is overlooked. It appears that even with a longer payback period the rates of return are higher with even a greater Net Present Value. When considering the Accounting Rate of Return alone, it changes from 128% to 155% with a payback

period exceeding the 2 years by one month. This is due to a lower selling price leading to a greater appeal to housing associations, therefore an estimated greater annual increase in the number of sales.

The disadvantage of using the ARR instead of the payback period is the fact that it is based on profits not cash-flow (Murphy, C., 2022). Nevertheless, the timeline of this project brings revenue within the first year and generates revenue quicker if a deposit is asked.

	Cost 4x £1000/unit Selling price £1000/unit Sales plus 50% annually	Cost 3x £1500/unit Selling price £900/unit Sales plus 30% annually	Cost 3x £1250/unit Selling price £800/unit Sales plus 40% annually
PP	1 year 6 months	1 year 11 months	2 years 1 month
NPV	£13,237	£6,491	£6,526
PI	4.8	2.7	3
BCR	3.8	1.7	2
IRR	94%	60%	63%
AP	£5,639	£2,986	£3,015
ARR	269%	128%	155%

Table 1. Financial models of 3 estimated scenarios: variations in costs, selling price and number of sales

Monitoring the profitability

As costs and revenues are only estimated at this stage of the project, it is important to keep monitoring its profitability to stop at anytime in case of unforeseen costs. The theatre must be able to stop the project once promised screenings are delivered. It is also recommended to include a term in the contracts that allows the theatre to cancel the screenings in case of extraordinary costs, with deposit refunded if applicable.

Net Present Value vs Profitability Index

The estimated scenarios show a comparable way of assessing the project using the Net Present Value and the Profitability Index because they all feature a comparable sized investment.

In the event of an opportunity for a larger capital expenditure to organise bigger events, it would be beneficial to use the Profitability Index to assess if it would offer a better return than several smaller events (Stern, 2021).

Internal Rate of Return

For this project the calculated Internal Rate of Return is an annual average return (Fernando, 2022) because the forecasted cash-flow for the project has a steady increase. This means that if the project needs to stop before the end of the modelled 5 year period, the return will be reduced. On the other hand, if the project is pursued longer than the 5 year period, it will generate a higher Internal Rate of Return.

Scenario analysis as benchmark

The article shared by Shraddha (2016) concludes the list of financial models with a scenario/sensitivity analysis. For this project, the scenario analysis allows to model the project with the best and worst scenario regarding the volume of sales, its effect on the cost price, and the selling price. This can be used to benchmark the project because it can only be sustainable on condition these 3 figures are reached. The benchmarks are used to evaluate the estimates used in the calculated models (RMA journal, 2012).

Benchmark as risk management

Being able to calculate the worst scenario and establish a benchmark for the selling price, the cost price and the number of sales, allows the theatre to manage the risks. Identifying these figures is sufficient to mitigate the risks (Wall Street and Technology, 2005). If

one of the benchmarks is not met, at least one of the other two must be exceeded for the project to be financially sustainable. In the event of extraordinary circumstances or costs, the models would become inaccurate, therefore redundant, even though useful (Millo Y. and MacKenzie D., 2009). In this case, the project would stop, at least temporarily.

Funding options: advantages and disadvantages

Retained profits

As the theatre does not usually rely on loans, any investment is limited by the amount of spare cash generally allocated to core administrative costs.

Social investment and loans

It may be worth considering a Community Investment Fund loan (with an interest rate of 7%), but only if the project scale up quickly as a second phase. If this option is chosen, the financial modelling of the project needs to be revised and reassessed.

It is worth investigating if a social investor would be interested in the project as they could benefit from the Social Investment Tax Relief scheme.

However, like using retained profits, it must have the approval of the theatre's board of trustees.

Grants

The advantage of a grant like the Film Exhibitor Fund from Ffilm Cymru Wales is that it finances 75% of the project which would be enough to trial the project and test the market. Unfortunately, it does not support capital expenditure which means that there is no guarantee that the project can be repeated the years after that. Also, it

may imply that the project must be delivered for free. It is nevertheless the preferred source of funding for the first year of the project.

A grant like Fund for Wales can partly support the project for a period of 3 years.

A grant covering capital expenditure is the best option once the project is tested, sustaining the revenue stream.

Crowdfunding

The theatre appeals specifically to the local community for donations via Localgiving. However, in order to raise enough funds for this project, it requires creating an attractive campaign with no guarantee of success in the first year, like the first Movember campaign, making it a possible source of funding for the following years if planned now.

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Appendix 1 - Financial modelling, Scenario 1

Lowest costs (£1000/unit) | higher selling price (£1000/unit) | maximum number of sales (plus 50%)

	Investment (4 bikes)	Year 1 (4 screenings)	Year 2 (6 screenings)	Year 3 (8 screenings)	Year 4 (12 screenings)	Year 5 (18 screenings)
Equipment	(4,000.00)	0.00	0.00	0.00	0.00	0.00
Maintenance	0.00	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
Licensing	0.00	(667.20)	(1000.80)	(1334.40)	(2,001.60)	(3,002.40)
Transport	0.00	(400.00)	(600.00)	(800.00)	(1,200.00)	(1,800.00)
Overhead costs	0.00	(450.00)	(450.00)	(600.00)	(600.00)	(750.00)
Revenue	0.00	4,000.00	6,000.00	8,000.00	12,000.00	18,150.00
Totals	(4,000.00)	2,382.80	3,849.20	5,165.60	8,098.40	12,497.60
Payback	1 year and 6 months	1,617.20	320.77	5.04		
Discount rate WACC	15%					
Denominator	1.000	0.870	0.756	0.658	0.572	0.497
Future Value	(4,000)	2,073.04	2,910.00	3,398.96	4,632.28	6,211.31
Net Present Value	15,225.59		NPV Function	£13,237.23		
Profitability Index	4.806		Benefit/Cost Ratio	3.806		
Internal Rate of Return	93.71%					

Lowest costs (£1000/unit) | higher selling price (£1000/unit) | maximum number of sales (plus 50%)

Accounting Rate of Return	268.51%		Cash flow	Depreciation	Profit
		Year 1	2,382.80	760	1,622.80
		Year 2	3,849.20	760	3,089.20
		Year 3	5,165.60	760	4,405.60
		Year 4	8,098.40	760	7,338.40
		Year 5	12,497.60	760	11,737.60
		Total profit			28,193.60
		Average profit			5,638.72
		Initial investment			4,000.00
		Future residual value			200.00

Appendix 2 - Financial modelling, Scenario 2

Highest costs (£1500/unit) | reduced selling price (£900/unit) | lowest number of sales (plus 30% annually)

	Investment (3 bikes)	Year 1 (4 screenings)	Year 2 (5 screenings)	Year 3 (6 screenings)	Year 4 (8 screenings)	Year 5 (11 screenings)
Equipment	(4,500.00)	0.00	0.00	0.00	0.00	0.00
Maintenance	0.00	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
Licensing	0.00	(667.20)	(834.00)	(1000.80)	(1,334.40)	(1,834.80)
Transport	0.00	(400.00)	(500.00)	(600.00)	(800.00)	(1,100.00)
Overhead costs	0.00	(300.00)	(300.00)	(400.00)	(400.00)	(500.00)
Revenue	0.00	3,600.00	4,500.00	5,400.00	7,200.00	10,050.00
Totals	(4,500.00)	2,132.80	2,766.00	3,299.20	4,565.60	6,515.20
Payback	1 year and 11 months	2,367.20	230.50	10.27		
Discount rate WACC	15%					
Denominator	1.000	0.870	0.756	0.658	0.572	0.497
Future Value	(4,500)	1,855.54	2,091.10	2,170.87	2,611.52	3,238.05
Net Present Value	7,467.08		NPV Function	£6,491.29		
Profitability Index	2.659		Benefit/Cost Ratio	1.659		
Internal Rate of Return	60.50%					

Highest costs (£1500/unit) | reduced selling price (£900/unit) | lowest number of sales (plus 30%)

Accounting Rate of Return	128.42%		Cash flow	Depreciation	Profit
		Year 1	2,132.80	870.00	1,262.80
		Year 2	2,766.00	870.00	1,896.00
		Year 3	3,299.20	870.00	2,429.20
		Year 4	4,565.60	870.00	3,695.60
		Year 5	6,515.20	870.00	5,645.20
		Total profit			14,928.80
		Average profit			2,985.76
		Initial investment			4,500.00
		Future residual value			150.00

Appendix 3 - Financial modelling, Scenario 3

Higher costs (£1250/unit) | lowest price (£800/unit) | increased number of sales (plus 40% annually)

	Investment (3 bikes)	Year 1 (4 screenings)	Year 2 (5 screenings)	Year 3 (7 screenings)	Year 4 (10 screenings)	Year 5 (15 screenings)
Equipment	(3,750.00)	0.00	0.00	0.00	0.00	0.00
Maintenance	0.00	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
Licensing	0.00	(667.20)	(834.00)	(1167.60)	(1,662.00)	(2,493.00)
Transport	0.00	(400.00)	(500.00)	(700.00)	(1,000.00)	(1,500.00)
Overhead costs	0.00	(450.00)	(450.00)	(600.00)	(600.00)	(750.00)
Revenue	0.00	3,200.00	4,000.00	5,600.00	8,000.00	12,150.00
Totals	(3,750.00)	1,582.80	2,116.00	3,032.40	4,638.00	7,307.00
Payback	2 years and 1 month	2,167.20	176.33	12.29		
Discount rate WACC	15%					
Denominator	1.000	0.870	0.756	0.658	0.572	0.497
Future Value	(3,750)	1,377.04	1,599.70	1,995.32	2,652.94	3,631.58
Net Present Value	7,506.57		NPV Function	£6,525.97		
Profitability Index	3.002		Benefit/Cost Ratio	2.002		
Internal Rate of Return	63.15%					

Higher costs (£1250/unit) | lowest price (£800/unit) | increased number of sales (plus 40% annually)-1

Accounting Rate of Return	154.63%		Cash flow	Depreciation	Profit
		Year 1	1,582.80	720.00	862.80
		Year 2	2,116.00	720.00	1,396.00
		Year 3	3,032.40	720.00	2,312.40
		Year 4	4,638.00	720.00	3,918.00
		Year 5	7,307.00	720.00	6,587.00
		Total profit			15,076.20
		Average profit			3,015.24
		Initial investment			3,750.00
		Future residual value			150.00