Article by Bernard Vallely FCCA MBA, relevant to the following subjects;

Professional 2: Strategic Corporate Finance
Professional 2 (Transition): Financial Management Capital Investment Decisions - The Discounted Cash-Flow Approach

Most organisations strive to achieve the strategic objective of corporate growth. Such growth may be achieved organically and/or acquisitively. Both methods will necessarily involve capital investment on behalf of the organisation, be it in the investment is the organisations operating capacity to achieve organic growth or, alternatively, the purchase price paid for an acquisition. A key function of a Financial Manager is to evaluate such proposed capital investments in order to advise on the financial impact thereof.

Often, organisations use initial hurdles such as The Payback Period (the time taken to recoup the initial cash investment) as a first method of screening investment opportunities. If the proposal meets the minimum payback criteria, then it will be subject to a more rigorous financial review before an ultimate investment decision is made.

Whilst payback is a simple and important way of assessing investment opportunities where cash flow/liquidity is of concern to the organisation, it has a serious drawback insofar as it ignores the Time Value of Money concept.

Money has a time value for many reasons including:

- inflation erodes purchasing power over time
- there is higher risk and uncertainty associated with future cash flows (a bird in the hand …….)
- present consumption is preferred to future expectation

In order to accurately assess the financial viability of a proposed capital investment, we must explicitly allow for the time value of money. To do so we employ the mathematical technique of discounting (compounding in reverse), which involves discounting all future cash-flows back to their present day equivalent, using a selected discount rate.

This article will concentrate specifically on how to assess capital investment proposals using the Net Present Value (NPV) investment appraisal approach.

Once an investment proposal has been received, the role of the financial manager is to assess the proposal from a financial perspective, allowing for the time value of money. The approach is best explained in the following successive steps.

Step 1
The Financial Manager identifies the nature and timing of all the cash-flows (inflows and outflows) relating to the proposal. Any initial investment required is considered to be a Year 0 out-flow.

Step 2
Tabulate all proposed cash flows, including the taxation implications, in the year in which they are expected to occur. Then a net cash-flow for each year of the proposal is calculated.

Step 3
Discount all annual cash flows successively at the selected discount rate (the discount factors can be calculated, or read from the present value tables) to arrive at the present value of each year's cash flows. The present values of each year's cash flows are aggregated to determine the Net Present Value (NPV) of the proposal.

Step 4
For most proposals if the NPV is positive the investment should be accepted, and vice versa, subject to a consideration of the wider qualitative factors which may be relevant to the capital investment decision.

However, in most organisations there maybe some "must do" projects that have to be undertaken and which will never yield a positive NPV. A number of proposals to satisfy the projects goals will be drawn up and evaluated. Usually the one selected will be the "least cost" option. This will be the proposal that will have the negative NPV that is closest to zero.

Step 5
The ultimate decision to invest or not will be made.

It is worth noting that, other than the NPV approach, there are variations of the DCF approach which are used to assess capital expenditure proposals, namely:

Internal Rate of Return (IRR) – calculates the discount rate at which a capital proposal achieves a break-even/zero NPV. This is calculated for comparison against a target rate of return.

Discounted Payback – calculates the payback period using discounted cash flows (as distinct from nominal cash flows). This is calculated for comparison against a target discounted payback period. The following worked example is used to illustrate the above principles.

EXAMPLE

A client is considering purchasing a franchise from New- Wave, a successful US hair transplanting firm.

The business model works as follows:

- Potential clients are invited (free of charge) to attend an initial consultation (at which the treatment and suitability is discussed) at the franchise location.
- Clients that return for treatment sign up to a 20 week, one hour per-week, one-to-one treatment at a total package cost of €10,000 (non-refundable).
- Market research has indicated that on average 40% of initial consultations result in clients signing up for the full suite of treatment.

Your client has prepared an outline business case for the proposal. Relevant information is as follows:

- He expects to attract 500 people for initial consultation in year 1, in year 2 this will increase by 400 and will total 1,000 in year 3.
- Consultation and treatment staff will cost €50 per hour of consultation in year 1.
- €100,000 will be spent on advertising in year 1 increasing by €100,000 in year 2, reducing to €50,000 in year 3.
- A suitable premises has been identified at a cost of €500,000. It is expected that this property will have doubled in value in three year's time, and will be sold then.
- The light & heat of the premises will cost €40,000 in year 1 increasing by 15% per annum thereafter.
- A receptionist will be employed at a year 1 salary of €40,000
- All wages are subject to a 4% pay award commencing in year 3.

Your client has received an outline franchise agreement covering the following issues:

Legal Form and Duration: Purchase a three year franchise at a one off purchase price of €1,200,000, plus a royalty of €3,000 for every client signing onto the full course, fixed for the duration of the contract.

Consumables: The treatment lotions must be purchased from New Wave at a cost of €100 per treatment. This price remains fixed for the duration of the franchise term

Volume Permitted: 10,000 one hour treatments per annum.

Other Information

- Your client has a cost of capital of 10% and assesses potential investments based on a combination of the following criteria:

1) Payback Period minimum of 3 years.
2) Delivers a positive Net Present Value (NPV)

Ignore Taxation

Required

Prepare a report for your friend that:

- recommends whether or not to purchase the franchise agreement solely based on a financial assessment.
- considers four qualitative factors the your friend should consider prior to making a final decision whether or not to purchase the franchise

SUGGESTED SOLUTIONS

Report

To: Client Mr X
From: Accountant
Date: 19th October 2009
Subject: Financial Assessment – New Wave Franchise Proposal

Introduction
This report considers the potential financial results and the non financial factors to be considered relating to the proposal to purchase the New Wave Franchise.

Financial Analysis

Approach
As the proposed franchise agreement lasts for three years I have used the technique of discounting to allow for the time value of money over the three years of the franchise duration. I have discounted each year's net cash-flows at 10% to arrive at the Net Present Value (NPV) of each proposal. Detailed workings and supporting notes can be found at Appendix 1 to this report.

I have also determined the year in which the proposal pays back its initial investment.

New Wave - Franchise Proposal					
Details		**Year**			
Cash flow	**Note**	**0**	**1**	**2**	**3**
Franchise Purchase		**-1200000**			
Premises Purchase & Sale		**-500000**			**1000000**
Consultation Wages	**2**		**-25000**	**-45000**	**-52000**
Treatment Wages	**3**		**-200000**	**-360000**	**-416000**
Receptionist Wages			**-40000**	**-40000**	**-41600**
Advertising			**-100000**	**-200000**	**-50000**
Consumables	**4**		**-400000**	**-720000**	**-800000**
Royalty	**5**		**-600000**	**-1080000**	**-1200000**
Light & Heat			**-40000**	**-46000**	**-52900**
Income	**1**		**2000000**	**3600000**	**4000000**
Net Annual Cash flow		**-1700000**	**595000**	**1109000**	**2387500**
Cumulative Cash flow		**-1700000**	**-1105000**	**4000**	**2391500**
Payback Period				**Year 2**	
Discount Factor @ 10%		**1**	**0.9091**	**0.8264**	**0.7513**

Present Value		**-1700000**	**540914.5**	**916477.6**	**1793728.75**
Net Present Value					**1551120.85**

Results and Conclusion

The proposal delivers a positive Net Present Value of €1,551,121 and achieves a two year payback period, well within the required three years. Thus, on financial grounds the franchise should be purchased.

Other Considerations

- can you attract the staff to carry out the consultations and treatments?
- How long established is the franchise?
- can we agree an early exit clause in the event that the anticipated sales volume does not materialize?
- can we increase the permitted volume in the event that demand is higher than anticipated?
- what will be the potential to extend the franchise beyond the three year initial duration?
- Can we protect out market by acquiring an exclusive franchise agreement for our intended geographical market?
- Are treated clients guaranteed success i.e. will they accept the no refund policy proposed?
- Are the treatments medically sound i.e. could they leave you exposed to litigation

Appendix 1

Supporting Notes					
Details		**Year**			
		0	**1**	**2**	**3**
Consultations			**500**	**900**	**1000**
Conversion Rate			**0.4**	**0.4**	**0.4**
Clients			**200**	**360**	**400**
NOTE 1					
Income Per Client			**10000**	**10000**	**10000**
Gross Income			**2000000**	**3600000**	**4000000**

NOTE 2					
Consultation Hours			**500**	**900**	**1000**
Cost Per Hour			**50**	**50**	**52**
Total Consultation Wages			**25000**	**45000**	**52000**

NOTE 3					
Clients			**200**	**360**	**400**
Treatment Hours			**20**	**20**	**20**
Total Hours			**4000**	**7200**	**8000**
Cost Per Hour			**50**	**50**	**52**
Total Treatment Wages			**200000**	**360000**	**416000**

NOTE 4					
Clients			**200**	**360**	**400**
Treatments			**20**	**20**	**20**
Total Treatments			**4000**	**7200**	**8000**
Consumable Cost Per Treatment			**100**	**100**	**100**
Total Consumable Cost			**400000**	**720000**	**800000**

NOTE 5					
Clients			**200**	**360**	**400**
Royalty Per Client			**3000**	**3000**	**3000**
Total Royalties			**600000**	**1080000**	**1200000**

Note:
From an examination technique perspective, it is essential that where sub workings are required to calculate particular cash flows that clear reference is made to the sub working.