

2 - Project Evaluation and Programme Management

Contents of a business case

1. Introduction/
background
2. The proposed project
3. The market
4. Organizational and
operational
infrastructure
5. The benefits
6. Outline
implementation plan
7. Costs
8. The financial case
9. Risks
10. Management plan

Project Business Case Example

Project Name	Sales Team IVR Telephone System		
Project Sponsor	Head of Sales	Project Manager	Name of project manager
Date of Project Approval	3rd March	Last Revision Date	3rd March
Contribution to Business Strategy	Our strategy is to project best in industry customer service, and the current situation does not reflect this. The new IVR system will ensure all calls are answered in a timely manner. It will also ensure that calls are delt with efficiently. These two facts align this project to the company strategy.		
Options Considered	Options considered included: 1. Adding additional staff to sales team 2. Having a dedicated team for our best customers 3. An IVR system (selected)		
Benefits	1. Increased sales - currently extimated we lose 4% of all sales calls due to current issues. 2. Happier customers - we estimate new customer satisfaction will increase by 10%. 3. Improved LTV - lifetime value of customers will increase by 5% due to the two points above		
Timescales	Initial analysis shows that the system will take approximately 3-4 months to implement.		
Costs	IVR software = \$35,000 Project Management = \$30,000 Software team of 3 for 3 months = \$90,000 Total estimated cost = \$155,000		
Expected Return on Investment	Year 1 = \$0 Year 2 = \$120,000 Year 3 = \$180,000 as LTV begins to be felt.		
Risks	Right now the project looks pretty straightforward but there are still some unknowns surrounding implementation. There is also the risk that the project doesn't meet the sales team or customers needs. For this reason it is recommended to involve the sales team closely.		

Project portfolio management

The concerns of project portfolio management include:

- Evaluating proposals for projects
- Assessing the risk involved with projects
- Deciding how to share resources between projects
- Taking account of dependencies between projects
- Removing duplication between projects
- Checking for gaps

Project portfolio management

There are three elements of PPM:

1. **Project portfolio definition**

Create a central record of all projects within an organization

2. **Project portfolio management**

Actual costing and performance of projects can be recorded and assessed

3. **Project portfolio optimization**

Information gathered above can be used to achieve better balance of projects e.g. some that are risky but potentially very valuable balanced by less risky projects

<https://www.youtube.com/watch?v=dgaSCe-ZuNs&t=29s>

Programme management

Programme

‘a group of projects that are managed in a coordinated way to gain benefits that would not be possible were the projects to be managed independently’ Ferns

<https://www.youtube.com/watch?v=cL5Z1XoJSVg>

Programmes may be

- Strategic
- Business cycle programmes
- Infrastructure programmes
- Research and development programmes
- Innovative partnerships

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Managing Resources in Programmes

- Programme management is involved at Resource Allocation Stage
- Project manager may have to delay some activities till the resources are available
- Programme management needs to continuously monitor progress of all the projects and usage of all the resources by them

Programme Manager versus Project Manager

Programme manager

- Many simultaneous projects
- Optimization of resource use
- Projects tend to be seen as similar

Project manager

- One project at a time
- Minimization of demand for resources
- Projects tend to be seen as unique

<https://www.youtube.com/watch?v=XyT1wzkfgok&t=140s>

Creating a Programme

- **Programme Mandate**

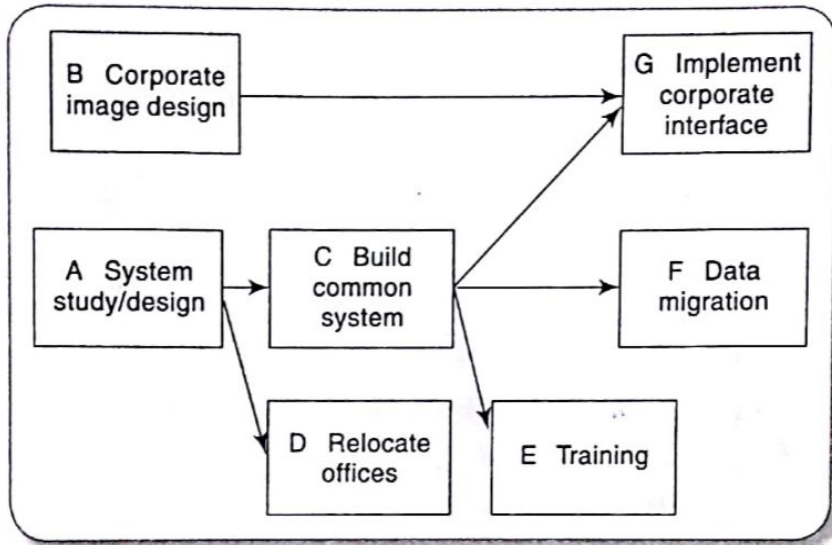
- The new services/capabilities that the programme should deliver
- How an organization will be improved
- Fit with existing organizational goals



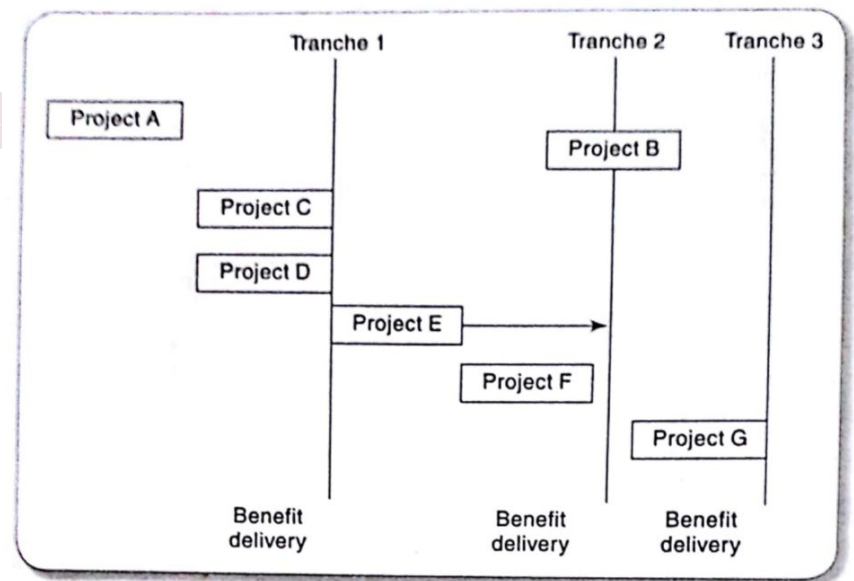
- **The programme brief** – equivalent of a feasibility study: emphasis on costs and benefits
- **The vision statement** – explains the new capability that the organization will have
- **The blueprint** – explains the changes to be made to obtain the new capability

Aids to Programme

Dependency Diagram



Delivery Planning



Difference between Programme, Portfolio & Project Management

<https://www.youtube.com/watch?v=i9-1v7ujvTk>

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Evaluation of Individual Projects

Feasibility of an Individual Project is evaluated by :-

1. Technical Assessment

- a. evaluating whether the required functionality can be achieved with affordable technology

2. Cost benefit analysis

- a. Identifying all the cost and benefits of carrying out the project
- b. Expressing the cost(development, set up & operational) & benefits in common unit i.e. Money

3. Cash flow forecasting

- a. It indicates when will expenditure and income take place

Cost Benefit Evaluation Techniques

These are the methods of comparing projects on the basis of their

Cash Flow Forecast

1. Net Profit
2. Payback Period
3. ROI (Returns on Investment)
4. NPV (Net Present Value)
5. IRR (Internal Rate of Return)

Net Profit = Total Income - Total Cost

- Project with Maximum Net Profit is chosen
- Disadvantage
 - Net Profit doesn't take into account **RISK**
 - It also doesn't consider the **timings** of the cash flow

Year	Project 1	Project 2	Project 3	Project 4
0	-100,000	-1,000,000	-100,000	-120,000
1	10,000	200,000	30,000	30,000
2	10,000	200,000	30,000	30,000
3	10,000	200,000	30,000	30,000
4	20,000	200,000	30,000	30,000
5	100,000	300,000	30,000	75,000
Net profit	50,000	100,000	50,000	75,000

$$P2 = 2+2+2+2+3=11L - 10L = 1L$$

<https://www.youtube.com/watch?v=mrHxvBywJo>

Payback Period

- Time taken to break even / payback the initial investment
- Usually the project with the minimum payback period is chosen
- It is simple to calculate
- Not sensitive to minor forecasting errors
- Disadvantage
 - It ignores the overall profitability of the project

Year	Project 1	Project 2	Project 3	Project 4
0	-100,000	-1,000,000	-100,000	-120,000
1	10,000	200,000	30,000	30,000
2	10,000	200,000	30,000	30,000
3	10,000	200,000	30,000	30,000
4	20,000	200,000	30,000	30,000
5	100,000	300,000	30,000	75,000
Net profit	50,000	100,000	50,000	75,000

Payback P.->

<https://www.youtube.com/watch?v=QAuuwDOu61U>

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Return on Investment (ROI)

- It is also known as ARR (Accounting Rate of Return)
- It is a way of comparing Net Profitability to the investment required
- $ROI = (\text{Average Annual Profit} / \text{Total Investment}) * 100$
- Disadvantages :
 - It also doesn't consider the **timings** of the cash flow
 - It has no relationship to the **interest rate** of the banks

Year	Project 1	Project 2	Project 3	Project 4
0	-100,000	-1,000,000	-100,000	-120,000
1	10,000	200,000	30,000	30,000
2	10,000	200,000	30,000	30,000
3	10,000	200,000	30,000	30,000
4	20,000	200,000	30,000	30,000
5	100,000	300,000	30,000	75,000
Net profit	50,000	100,000	50,000	75,000

For P1 : $ROI = ((150000/5) / 100000) * 100 = 30 \%$

Net Present Value (NPV)

NPV takes into account :-

(a) Profitability

(b) Timing of the Cashflow (TVM - time value of money)

$$\text{Present Value} = \frac{\text{Value in 't' years}}{(1+r)^t}$$

Where r = discount rate in decimals; t = number of years in future that the cash flow occurs

NPV = Net Present Value (NPV) is the sum of the present values of the cash inflows and outflows.

$$\text{NPV} = \text{PV}_{\text{inflows}} + \text{PV}_{\text{outflows}}$$

NPV for Project 1

Present Value

$$= \frac{\text{Value in 't' years}}{(1+r)^t}$$

$r = 10\%$

$= 10/100 = 0.1$

Year	Project 1	Present Value	Discounted Cash Flow
0	-100000	-100000	-1,00,000
1	10000	$10000 / (1+0.1)^1$	9091
2	10000	$10000 / (1+0.1)^2$	8264
3	10000	$10000 / (1+0.1)^3$	7513
4	20000	$20000 / (1+0.1)^4$	13660
5	100000	$100000 / (1+0.1)^5$	62092
Net Profit	50,000	NPV ->	620

Year	Project 1
0	-100,000
1	10,000
2	10,000
3	10,000
4	20,000
5	100,000
Net profit	50,000

NPV for Project 2

Present Value

= Value in 't' years

$$\frac{\quad}{(1+r)^t}$$

Year	Project 1	Present Value	Discounted Cash Flow
0	-10,00,000	-1000000	-10,00,000
1	2,00,000	$200000 / (1+0.1)^1$	181818
2	2,00,000	$200000 / (1+0.1)^2$	165289
3	2,00,000	$200000 / (1+0.1)^3$	150262
4	2,00,000	$200000 / (1+0.1)^4$	136603
5	3,00,000	$300000 / (1+0.1)^5$	186276
Net Profit	1,00,000	NPV ->	-179752

Year	Project 2
0	-1,00,000
1	200,000
2	200,000
3	200,000
4	200,000
5	300,000
Net profit	100,000

NPV for Project 3

Present Value

= $\frac{\text{Value in 't' years}}{(1+r)^t}$

$\frac{1}{(1+r)^t}$

Year	Project 1	Present Value	Discounted Cash Flow
0	-100000	-100000	-1,00,000
1	30000		27272
2	30000		24793
3	30000		22539
4	30000		20490
5	30000		18627
Net Profit	50,000		13721

Year	Project 3
0	-100,000
1	30,000
2	30,000
3	30,000
4	30,000
5	30,000
Net profit	50,000

NPV for Project 4

Present Value
 = $\frac{\text{Value in 't' years}}{(1+r)^t}$

Year	Project 1	Present Value	Discounted Cash Flow
0	-1,20,000	-120000	-1,20,000
1	30000		27272
2	30000		24793
3	30000		22539
4	30000		20490
5	75000		46569
Net Profit	75,000	NPV->	21663

Year	Project 4
0	-120,000
1	30,000
2	30,000
3	30,000
4	30,000
5	75,000
Net profit	75,000

Net Present Value (NPV)

A **positive NPV** means the investment is worthwhile, an **NPV of 0** means the inflows equal the outflows, and a **negative NPV** means the investment is not good for the investor.

Example in sheet :-

<https://docs.google.com/spreadsheets/d/1p8NGi4MpF8i7Jt11VUfiTvEnUaSBdFLS/edit#gid=1393260024>

Disadvantage

NPV is good to compare different projects but is not good when it comes to comparing earnings from other Investments

Internal Rate of Return (IRR)

Definition

The internal rate of return is a measure of an investment's expected future rate of return. As the IRR is an estimate of a future annual rate of return.

Calculation

It is that % discount rate that would produce **NPV** of **ZERO**

IRR Calculation Sheet

<https://docs.google.com/spreadsheets/d/1gdV4v5aIG4aFOwgirFjYcvVyXUIM2SWY/edit#gid=1393260024>

Video : - <https://www.youtube.com/watch?v=Fw5-wccViOM>

Dealing with uncertainty: Risk evaluation

- Project A might appear to give a better return than B but could be riskier
- Draw a **Project Risk Matrix** for each project to assess risks
 - Project Risk Matrix includes a list of Risk factors of a project and corresponding to each factor is **(a) IMPORTANCE** **(b) LIKELIHOOD**
 - For each factor IMPORTANCE & LIKELIHOOD are rated as **High(H), Medium(M) and Low (L)**
- RISK & NPV : For riskier projects could use higher discount rates

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Example of a project risk matrix

Risk	Importance	Likelihood
Client rejects proposed look and feel of site	H	—
Competitors undercut prices	H	M
Warehouse unable to deal with increased demand	M	L
Online payment has security problems	M	M
Maintenance costs higher than estimated	L	L
Response times deter purchasers	M	M

TABLE 2.5 A fragment of a basic project/business risk matrix for an e-commerce application

Project risk & Cost Benefit Analysis

This is more sophisticated approach to evaluate Risk of various projects

- Consider each possible outcome
- Estimate Probability of its occurrence
- Instead of having just one cash flow forecast, we will have set of cash flow with probability associated with each one

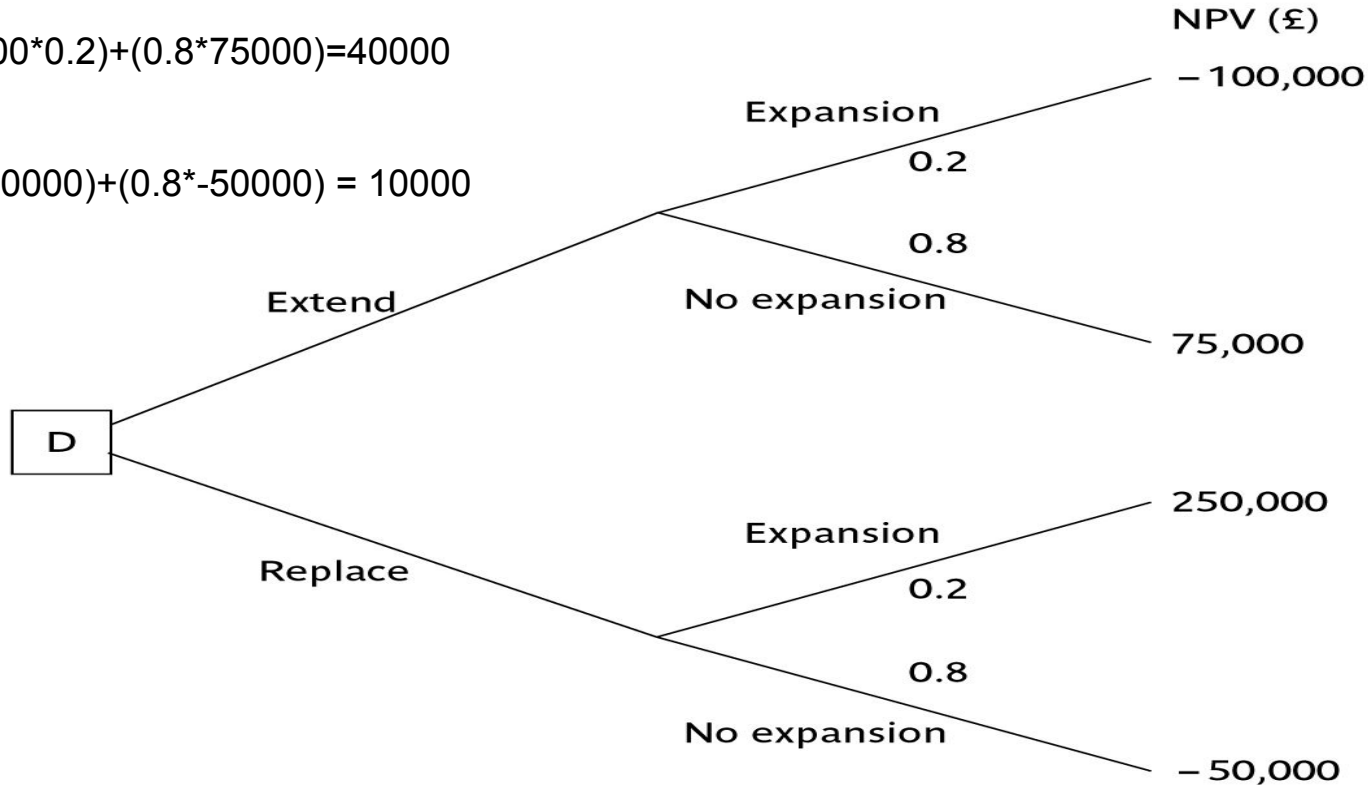
Sales	Annual sales income (£)	Probability	Expected value (£)
	i	p	$i \times p$
High	800,000	0.1	80,000
Medium	650,000	0.6	390,000
Low	100,000	0.3	30,000
Expected Income			500,000

Decision trees for Risk Analysis

$$(-100000 \times 0.2) + (0.8 \times 75000) = 40000$$

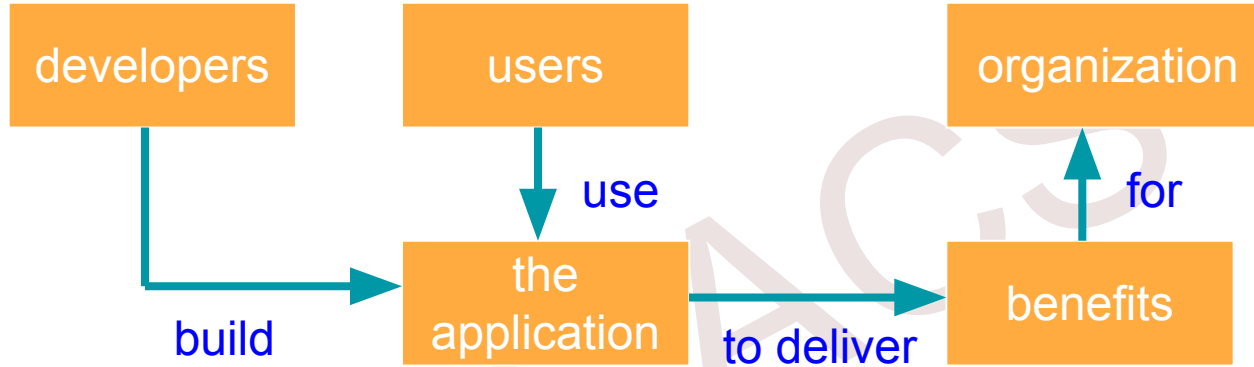
Extend

$$(0.2 \times 250000) + (0.8 \times -50000) = 10000$$



<https://www.youtube.com/watch?v=a5yWr1hr6QY>

Benefits management



- Providing an organization with a capability does not guarantee that this will provide benefits envisaged – need for *benefits management*
- This has to be outside the project – project will have been completed
- Therefore done at *programme level*

Benefits management

To carry this out, you must:

- Define expected benefits
- Analyse balance between costs and benefits
- Plan how benefits will be achieved
- Allocate responsibilities for their achievement
- Monitor achievement of benefits

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Benefits

These might include:

- Mandatory requirement
- Improved quality of service
- Increased productivity
- More motivated workforce
- Internal management benefits
- Risk reduction
- Economies
- Revenue enhancement/acceleration
- Strategic fit

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Quantifying benefits

Benefits can be:

- Quantified and valued e.g. a reduction of x staff saving £y
- Quantified but not valued e.g. a decrease in customer complaints by x%
- Identified but not easily quantified – e.g. public approval for a organization in the locality where it is based

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Remember!

- A project may fail not through poor management but because it should never have been started
- A project may make a profit, but it may be possible to do something else that makes even more profit
- A real problem is that it is often not possible to express benefits in accurate financial terms
- Projects with the highest potential returns are often the most risky

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