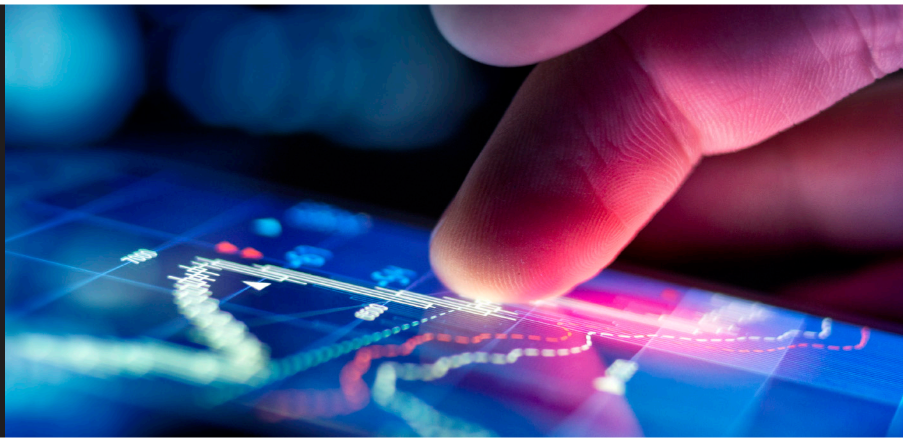
PROGRAMME LIFECYCLE							
STRATEGIC PHASE				DELIVERY PHASE			
INITIATION STAGE	DEFINITION STAGE	ESTABLISHMENT STAGE	MANAGEMENT STAGE	DELIVERY STAGE			CLOSE
PROGRAMME OBJECTIVES	PROGRAMME SCOPING	PROGRAMME PRIORITISATION	PROGRAMME OPTIMISATION	FEASIBILITY	DESIGN	IMPLEMENTATION	CLOSEOUT STAGE
		MCA					

Programme Prioritisation

Multi Criteria Analysis

(MCA)



Helping Asset Owners effectively prioritise programmes of work

By the Introduction of Project Prioritisation

Why Do We Need MCA?

The use of MCA approach allows the organisation to balance strategic business benefits against the strategic risks of delivery.

When developing a large-scale capital programme, the projects contributing to the programme have to be prioritised to maximise the benefit to the whole business. One way of helping asset owners prioritise projects is by developing a standard structured approach determined by ranking the criteria of each of the key benefits.

Understanding which projects are needed first can maximise the return on investment for shareholders, help customer satisfaction, and maintain engagement in the delivery programme. For the programme there is also an importance of seeing tangible improvements over its life and not just at the end.

By prioritising correctly, these objectives can be time-phased allowing a continuous management of expectations on top of improving overall business performance.

What is MCA analysis?

Today with constantly changing programmes, new projects and varying business positions in a real time environment the introduction of smart, underpinned, analytical processes such as MCA is essential. This is an invaluable methodology that can manage complex decisions by scoring ranking and weighting preferences over a range of qualitative categories and criteria.

Where Does MCA analysis Fit into the Overall Programme Cycle?

The MCA process is positioned in the Establishment stage within the Strategic phase of a capital programme.

Once the specific programme tranches are available the MCA process is then applied to rank and sort the projects based on specific selected criteria values that the organisations will choose.

"MCA provides an objective approach to the prioritisation of the programme and can help Programme Management make more informed consistent and transparent decisions."

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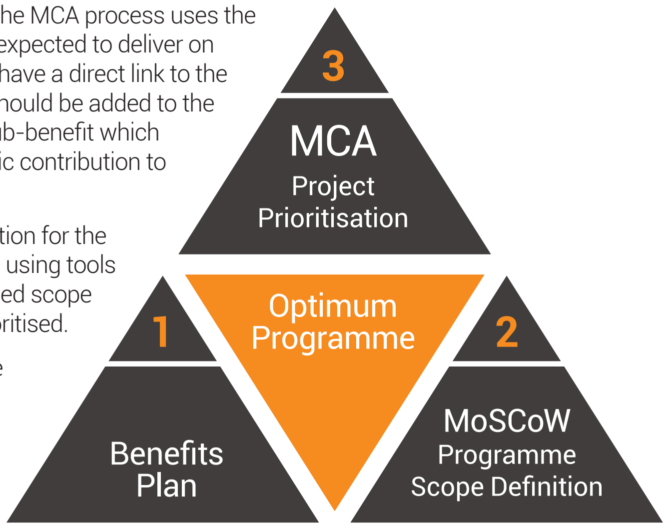
Underpinning for MCA.

For MCA to work, three predecessor building blocks have to be in place before the prioritisation process can occur.

1. The Benefits Plan has to have been fully developed. The MCA process uses the key objectives that the overall programme of work is expected to deliver on its completion. The strategic benefits in the MCA will have a direct link to the overall business drivers and objectives. No benefits should be added to the ranking that are not in the overall plan unless it is a sub-benefit which has an auditable trail that provides part of the strategic contribution to the programme.

2. The second building block needed is the Scope definition for the programme which will have already been rationalised using tools such as MoSCoW and NICR. Work from the rationalised scope that has been moved into contingency will not be prioritised.

3. The solutions will also have been grouped into outline projects but as a general point of principle no optimisation processes, i.e. clustering, combining of projects, use of runways etc. should have occurred. The optimisation work follow after prioritisation.



Advantages of MCA

A major advantage to using this methodology, compared to a single criteria approach such as cost benefit analysis, is a single criteria analysis usually falls short of satisfying all the business needs, and in many instances results in additional criteria being added to prioritise the investment. This does not mean MCA is the only tool in the organisation's approach to prioritisation, but if set up correctly, does provide the organisation one of the most balanced methodologies.

How Does MCA work?

MCA provides an objective approach to the prioritisation of the programme and can help Programme Management make more informed consistent and transparent decisions. MCA can be adapted to suit any organisation; Programme Management should act as a facilitator to ensure that all stakeholders are in agreement with the methodology used.

The MCA process prioritises projects in a sequence order that protects the specific benefits which are needed to deliver the future state and support the overall strategic objectives. It also quickly identifies projects that are not fulfilling that criteria.

By applying the strategic risk as well as the benefit it immediately challenges the company's capability of delivering the benefit.

If delivery timescales are applied as a strategic risk, it forces a more balanced approach by bringing shorter, but less strategic projects, higher in the ranking.

In general MCA follows five key steps:

Identifying the Prioritisation Blocks (Benefits and Risks)

At the Programme Prioritisation stage we now need to introduce some form of Multi Criteria Analysis based on the business drivers and risks of an organisation.

These can be at a high level, such as:

Drive Business Success	Legal Requirement
Customer Service	Health and Safety

An evaluation of investment risks should also take place, such as:

Timescales	Complexity
Capital Expenditure	Revenue Recovery

Other more detailed items that can be considered include:

New Technologies	Carbon Reduction
Security	Early Delivery

Developing the Ranking

Decide on the prioritisation criteria that should be used to evaluate each project within the programme of works. These should represent the strategic benefits the organisation's stakeholders consider to be the most important when considering investments.

The criteria on both the benefits and risks has to be carefully considered and in some cases the information is rolled up from other data sources.

Previously the company should have set out the overall programme benefits plan and the business drivers and benefits should have been clearly documented. The preliminary ranking results usually need a further discussion and potential minor adjustments.

The portfolio is critically important in determining where investment should be focussed within a programme and, in some cases, where a project should be deferred or recycled as the benefits are not at a level that warrants investment.

Building the Prioritisation Matrix

The prioritisation matrix is bespoke to every programme but in simple terms the principles are that all the key strategic benefits and key strategic risks are identified.

Model 1

The benefits identify which projects are desirable to be delivered first, but the strategic risks highlight issues and help drive a practical delivery order. In many cases the basic simple principles of scoring is the sum of one is deducted from the sum of the other. In other cases more complex models are developed.

Overall this information forms:

- A benefit score
- A risk score
- A delivery score.

Each of these can be ranked indicating which will benefit the company to the greatest extent based on the pre-defined benefits and risks.

Example of MCA Table for Prioritising Projects

	Strategic Risk								Strategic Benefit							Score		
Criteria	Power Genration GW	Project Complexity	Project Duration	New Technology	Regulatory Approval	ROI timescale (y)	Capex £b	Strategic Risk Total	Profit once generating to year 20	Legal Requirement	Energy security	Carbon Reduction over first 20 y	Energy Generation over first 20 y	Early Power Generation Requirement	Strategic Benefit Total			
Weighting	1 to 5	1 to 5	1 to 15	1 to 10	1 to 5	1 to 40	1 to 15		0 - 20	0 or 5	0 or 20	1 or 15	1 or 30	1 or 5		Strategic Priority for Balanced Power generation	Risk - Benefit	Pre Mitigated Delivery Priority
		Rating							Rating							Score and Rating		
Nuclear Power Station	3.2	5	10	10	5	23	18	71	14	0	20	12	22	0	68	1	3	2
Gas Power Station	2	2	5	5	1	11	10	34	6	0	5	0	10	5	26	3	8	4
Offshore Wind Farm	1	1	5	2	2	6	1	17	2	0	1	5	2	5	16	4	1	1
Coal fired station with Co2 Capture	3.2	2	7	5	3	20	14	51	6	0	5	0	28	2	41	2	10	5
Onshore Wind Farm	0.5	1	5	2	4	6	1	19	1	0	1	5	1	5	13	5	6	3

Model 2

The second Multi Criteria Assessment, has a similar technique but does not apply the same rigour to the delivery risk:

- Agree a weighting or percentage which reflects the importance of each of the criterion selected (ensure these equal 100%) and ensure that all stakeholders agree that the weightings are appropriate for the criteria.
- Once the weightings and ratings have been agreed then score each projects' contribution giving each project a total score.
- Rank and collate all projects into a prioritised listing

In this example the risk is not taken into the calculation, but a judgement is made to allow the approach. If two projects achieve the same score the project with the lowest risk would take priority.

Another aspect in this table is the fact that an outline budget is known for each project, allowing the budget to be divided by the MCA score to give a score per £ expenditure. This again can be used in the ranking system and provides evidence of value for money.

Assessing the Benefits for the Business?

Ultimately there is no replacement for management judgement although this objective approach to project prioritisation can help organisations make more informed, consistent and transparent investment decisions. This technique can be undertaken periodically to refine weightings and review the programme against the agreed strategic objectives.

Agreed Criteria Weightings General Arrangement

			20	20	10	25	5	5	10	5				
Project Name	Budget	Risk	Supports at least one strategic objective	Realises significant benefits in Year 1	Impacts Health and Safety	Legal requirement	Improves customer satisfaction	Improves Staff wellbeing	Mitigates against corporate risk	Honours an existing contractual obligation	MCA Weighted Priority Score	£/Score	Rank on MCA Score	Rank on £/MCA Score
Project H	£0.100	L	10	5	10	10	0	10	5	0	7.5	£1.33	1	1
Project A	£2.100	M	5	5	10	10	5	5	10	10	7.5	£28.00	1	3
Project T	£0.550	L	5	10	0	0	0	0	10	10	4.5	£12.22	3	2
Project B	£5.100	H	5	5	10	0	10	5	0	0	3.75	£136.00	4	6
Project F	£1.600	M	0	0	10	10	0	0	0	0	3.5	£45.71	5	4
Project Z	£4.100	H	5	5	0	0	10	5	5	0	3.25	£126.15	6	5

Key Benefits

- Consistent Approach
- Every project can be ranked
- Provides an effective challenge on "preference projects"
- Helps all parties to accept decisions
- Shows Risks and Benefits

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