

## **Consultancy Companies: Catalyze Ltd**

### **Multi-criteria Decision Analysis expertise**

Catalyze Ltd (<http://www.catalyze.co.uk>) provides a range of consulting services, education programmes, software tools and software development capabilities in the fields of Process Consulting and Decision Analysis. Associated with the London School of Economics and Political Science (LSE) through activities such as research project funding, discovery initiatives, knowledge transfer and practical sponsorships; Catalyze is at the leading-edge of Process Consulting and the Social Sciences.

Catalyze's mission is to help organisations to achieve alignment to their strategic objectives, through the creation, communication and application of usable scientific knowledge about decision making. Catalyze is a global organisation, helping many private and public sector organisations, developing innovative processes and software tools to support effective decision making.

The Company has five complementary streams to its business; Decision Conferencing, Decision Analysis Tools (Hiview3 & Equity3), Client Education, Custom Software Services and Process Consulting.

#### **Principal Facilitators**

Catalyze can boast some of the best known and most experienced practitioners of decision theory in Europe, through its close working relationship with the LSE. Catalyze's Principal facilitators have over 35 years of commercial experience in delivering Multi-criteria Decision Analysis (MCDA) support and Decision Conferencing services to both the private and public sector. This level of experience and the highest of reputations has led to the implementation of Catalyze-led MCDA techniques into the direct decision making processes of many major and global organisations, including the UK MOD, BAE Systems, Local Authorities, DTi, DEFRA, The Environment Agency, Roche, Allergan and 3M.

#### **Professor Larry Phillips**

Professor Larry Phillips is recognised as a world-leading expert in the field of Decision Sciences and has been a Professor at LSE for over 20 Years. During this time, he has written many papers on both the social and technical aspects of Decision science. Working closely with economists he was also one of the main authors of the MCA Manual, a UK Government commissioned guide to using decision making techniques in the Public Sector.

A visiting professor at the LSE, teaching the Masters course in Decision Sciences, Larry has worked both academically and commercially in the field of Decision Sciences for over 30 years, facilitating 100's of decision conferences for both private and public organisations around the globe. His many academic and commercial publications include books, papers and commissioned works for the UK government and other globally recognised organisations. He was also a key figure in the development of long-established and popular MCDA software support tools Hiview3 and Equity3. A founding director of Catalyze, Prof. Phillips continues to provide unique thought leadership in the field of Decision Analysis and the wider aspects of the Decision Sciences.

Recently, Prof. Phillips was honoured by the Decision Analysis Society by receiving the organisations highest award; the Frank P. Ramsey Medal. The award was presented to Prof. Phillips at the INFORMS meeting in San Francisco in November 2005. The Ramsey Medal recognises distinguished contributions to the field of decision theory and its application to important classes of real decision problems. Prof. Phillips is the 17th medallist and the first in an institution outside the United States.

#### **Bob Kitchen**

Bob Kitchen, a senior partner and director has 25 years experience in the consulting business holding a number of senior management positions including Business Consulting, Innovation, Strategy, and new Market development, becoming a Partner & Director of Hewlett Packard's European consulting business prior to forming the Catalyze spin-off from the LSE in 2001. Bob holds a degree in Engineering, is a Member of the IEE and an active Member of the practitioners' society, the International Decision Conferencing Forum (IDCF).

### **Catalyze services and products:**

#### **A. Decision Conferencing**

Decision Conferencing is a proven socio-technical method of achieving more effective decisions. It is designed to bring together groups of people who need to deal with complex issues facing their organisation. Often these groups will include individuals responsible for addressing operational, planning or strategic matters, but with

different functional responsibilities, different measures and different personalities. The Decision Conferencing process assists these groups in:

- *Developing a shared understanding of the issues*
- *Generating a sense of common purpose*
- *Achieving alignment and commitment to action*

It has been applied to most major issues facing private organisations, government departments, charities and voluntary organisations. Topics can cover financial investment, strategy setting, budget optimisation, marketing targets and more.

These techniques are endorsed in the UK by the Office of the Deputy Prime Minister and by HM Treasury and have been used to achieve increased value-for-money or improvements in the effectiveness of the deployment of resources by an average of 30%. Through demonstrating auditable value-for-money decisions, this approach has streamlined and facilitated budget, business planning and governmental approvals.

Decision Conferencing is used for many strategic purposes, including:-

- strategy development
- strategic alignment
- budget consolidation
- policy setting
- crisis management
- resource allocation
- strategic systems design

## **B. Decision Analysis Tools**

Catalyze develops and publishes commercially available MCDA software tools. These tools are designed to support MCDA methodology and Decision Conferencing techniques. These tools are also promoted and supported as part of the curriculum of business and OR courses at many universities around the world.

## **C. Hiview3 – Option Evaluation**

Hiview3 is a decision modelling tool that supports the appraisal and evaluation of options. It is equally effective for individual decisions or group decision making, such as decision conferences. With a host of user-defined features, Hiview3 can be configured to address a variety of problem areas, supporting specific business objectives. Hiview3 incorporates some elements of the M-MACBETH approach to provide the optional elicitation of verbal judgements for scoring, weighting and value function development.

Hiview3 has enabled users to make informed decisions in areas such as strategic option evaluation & selection, scenario evaluation, gap analysis, procurement appraisals & site selection.

## **D. Equity3 – Portfolio Analysis**

Equity3 is an MCDA tool that assists organisations in obtaining better value for-money, when allocating limited resources and budgets. It is highly adaptive and can be used to address a variety of problem areas including R&D investment, marketing portfolio management, project prioritisation, resource allocation, system requirements analysis, capital and revenue budgeting, sales territory reorganisation and negotiations. Equity3 is ideal for use with groups as in Decision Conferences.

## **E. Client Education**

Catalyze is committed to making more people aware of MCDA and associated techniques, so offers a wide range of Client Education and open training Programmes, designed to transfer essential knowledge and integrate processes into client organisations. From specialist MCDA courses to custom implementation programmes for organisations; The cornerstone of these courses is the Advanced Decision Skills: Facilitation & Analysis course, which runs once a year in London School of Economics over 9-days. The 4-day Decision Skills: Theory & Analysis runs twice yearly (May & Nov). We also regularly run other educational courses covering Value-for-money in Procurement, Process Mapping and the Strategic Choice Approach (SCA).

## **F. Software Services**

Catalyze also offers technical and creative capabilities to clients that require specialist Software Development, Implementation and Integration. We have an in-depth understanding of how technology can be used to improve our clients' businesses and we provide consultancy and technology-based solutions to a wide range of clients. Our in-house software team caters for every stage of software deployment: from concept to delivery.

## **G. Process Consulting**

The final service stream falls under the banner of Process Consulting. Here we enable more effective business decisions through a number of process services, such as Process Mapping, Procurement Guidance, Gap Analysis,

SCA and Strategic Planning; all of which draw upon aspects of Multi-criteria Decision Analysis and Decision Support.

### **In practice**

Catalyze is involved in many on-going client projects with organisations in many different sectors and markets. The diversity of these clients is a testament to the versatility of MCDA as an approach, but every client shares common ground in the recognition of the need for a consistent and open approach to decision making, which involves and engages groups to work together to make decisions in the context of the strategy of the organisation. Here are a few recent examples of how these techniques work in practice.

#### **Case 1 - UK Ministry of Defence**

The UK Ministry of Defence are a long-standing Catalyze client, which has engaged the company on a number of specific decision making projects over the past few years. This decision project centred round procurement Specification, Guidance & Negotiation services to support the outsourcing of their IT system.

Catalyze's involvement included the development of the cross-organisational user requirements, with a focus on the benefits of each aspect delivered. The development of a negotiation / trade-off model covering all aspects of functionality and service requirements of the bidder's proposed solutions. An initial series of Decision Conferences were run to facilitate the cross-functional group's evaluation of all the proposed options against the agreed strategic criteria. Further Decision Conferences were designed to engage the senior decision makers in the evaluation of the bids and the preparation for negotiation with a understanding of the value in addition functionality of all aspects of the systems' design. Using MCDA techniques at every stage, Catalyze was able to facilitate the alignment of the whole organisation with the trade-off of benefits, enabling it to negotiate the best practical value-for-money solution and not just project affordability.

Catalyze were also engaged in a subsequent project to align the whole of the MoD behind the prioritisation of the roll-out of solution, maximising the benefits over the implementation timeframes.

#### **Case 2 – The Environment Agency**

This recent project for the UK Environment Agency centred on developing a process for prioritising resources for science projects over the next 3 years. Using MCDA techniques, including Decision Conferencing, the Environment Agency were taken through the process for the first time, helping them to develop the options and strategic assessment criteria.

The structured approach was used to bring user-groups and stakeholders together to discuss and define requirements during the specification phase; defining and outlining the requirements, promoting a clear understanding and alignment of the goals with the organisation's stakeholders.

The approach was refined and adapted to their precise social requirements. The project ensured alignment and agreement on the best value portfolio of science investments for their available budget, whilst ensuring that they meet the overall objectives of the programme. The techniques employed ensured that the requirements were met for the specification to be defined and decisions made on a transparent and auditable basis. Catalyze also provided essential skills transfer, formal training, coaching and documentation of the business processes, so that Environment Agency could continue to use the tools and techniques into the future.

#### **Case 3 – UK Radioactive Waste Management**

Catalyze were engaged to help the Committee on Radioactive Waste Management (CoRWM) review the disposal and storage options for all of the different forms of UK's accumulated radioactive waste.

Catalyze ran a large number of decision conferences with radioactive specialists, public stakeholders, local / central government representatives and other interested parties such as; Greenpeace and Friends of the Earth. An MCDA approach was employed to develop a structured evaluation process of the 14 options against 26 decision criteria for each of 7 different waste streams. A series of workshops were facilitated to draw out the preferences of the various representatives to create and agree scales, value functions, scoring and weighting values. A series of scenarios have been developed and sensitivity analyses conducted in a public forum.

The CoRWM project will be completed in June 2006, using the MCDA evaluation approach supported by the Hiview3 software to make a recommendation to the UK Government on the most appropriate disposal and/or storage options for the UK's radioactive waste inventory.

### **Conclusion**

Whether clients use software tools as a sanity check to their thought processes, base their decisions on the outcomes of fully-fledged MCDA-led Decision Conferences or bring MCDA techniques and tools into everyday use through training, they have all realised the operational power and potential of MCDA methodology and processes.

For more information, product downloads, academic papers and case studies, visit: <http://www.catalyze.co.uk>