ISSN 1029-0982 Vol. 10, No. 2, 2004

THE VALUE MANAGER

The official publication of The Hong Kong Institute of Value Management

THE HONG KONG INSTITUTE OF VALUE MANAGEMENT

THE VALUE MANAGER

Editor: Prof. Geoffrey Q.P. Shen, PhD
Assistant Editor: Mr. Jacky K.H. Chung

The Hong Kong Institute of Value Management, P.O. Box No. 1358, G.P.O., Hong Kong.
Tel: (852) 2766 5817, Fax: (852) 2764 5131, URL: http://www.hkivm.com.hk

COUNCIL MEMBERS

AIMS AND OBJECTIVES OF THE HKIVM

- To create an awareness in the community of the benefits to be derived from the application of Value Management in Hong Kong.
- To encourage the use of the Value Management process by sponsors.
- To establish and maintain standards of Value Management practice in Hong Kong.
- To contribute to the dissemination of the knowledge and skills of Value Management.
- To establish an identity for the Institute within Hong Kong and overseas.
- To encourage research and development of Value Management with particular emphasis on developing new applications of the process.
- To encourage and assist in the education of individuals and organisations in Value Management.
- To establish and maintain a Code of Conduct for Value Management practitioners in Hong Kong.
- To attract membership of the Institute to support these objectives.

TABLE OF CONTENTS

EDITORIAL

It is my great pleasure to bring the 2nd issue of the publication this year to you. Inside this issue, we have included three articles, all of them were presented at the last International Conference organised by HKIVM. The first paper is written by Perera and and Karunasena on application of VM in the construction of Sri Lanka, which introduces the development and increasing relevance of VM in the construction industry in Sri Lanka in the last decade and VM systems that have been developed in the industry. The second paper is written by Ku et al on managing value management workshops to ensure value for money for water supply projects, which presents the development of VM in the Water Supplies Department and the experiences of the department in managing VM workshops. The third paper is written by Barton and Pretorius on the challenge for public projects in Hong Kong in managing values, which revisits the notion of value and values and presents a view of capturing and integrating values into VM for public sector projects.

I would also like to take this opportunity to call for more contributions from our members to this publication. The Value Manager should be of the members, from the members and for the members. With your support, we can make it better!

Geoffrey Shen

Editor, The Value Manager

MESSAGE FROM THE PRESIDENT

Tony Wilson
President of HKIVM

The hot, humid Hong Kong summer lives up to normal expectations and mosquito's are targeted for extinction to reduce the chance of dengue fever. Schools are on holiday so traffic seems a little lighter than normal unless you run into one of our many roadwork operations.

This is the time for planning and refreshing ideas for the year ahead. Vacations can be the great tonic this, for to get out of the normal routine. I hope everyone will have or has had a good time.

International Conferences are now being planned. The Institute of Value Management in Australia has scheduled their conference for the 4th and 5th November 2004, in Geelong, Victoria, Australia. The title is "Optimizing Innovation and Value". Calls for papers have been sent out. The sub theme is, "VM paving the way for Australia's Manufacturing, Services and Project Industries", something very close to our hearts as we would so much like to introduce VM to similar clients in Hong Kong. Contact Lynne Lucas at Deakin University by e-mail : **luco@deakin.edu.au** Phone 61 3 5227 8121 or view the IVMA web page: **www.value-management.com.au** for more details.

We have appointed a team to manage our own 7th International Conference which coincides with out 10th Anniversary. It is scheduled for early June 2005. Doug Castledine e-mail: **dougcas@pacific.net.hk** is the lead co-ordinator at the moment, therefore if anyone wishes to contribute, please contact him directly with ideas for themes, sponsorship etc.

We have issued membership subscription requests for 2004 and expect to issue certificates in due course. In relation to this, Frederick Pretrious our Membership Secretary (e-mail: **fredpre@hkucc.hku.hk)** requests you all to send any change of address or new e-mails contacts to him right away.

We held a very interesting and informative evening event at the Yacht Club on June 29th where Jim Rains gave us a presentation on Facilitation together with a FAST diagram to show his approach. Thanks to Dr. Mei Yung Leung and Lindsay Pickles for helping to arrange this.

Being our 10th Anniversary in 2005, we are proposing the International Conference as our main event. We would appreciate members' views on what else you consider we could do to mark our continued and steady development as a Professional Institute. Please e-mail myself: **wilsoar@archsd.gov.hk** or Lindsay Pickles on **pontex@netvigator.com** with any ideas and thoughts.

A small story which I think originated from Martyn Philips, about managers and professionals for consideration:-

A man in a hot air balloon realized he was lost. He reduced altitude and spotted a man below. He shouted down, "Excuse me, can you help me? I promised to meet a friend I would meet him an hour ago, but I don't where I am."

The man below answered, "You are in a hot air balloon, hovering approximately 10 meters above the ground. You are between 40 and 41 degrees north latitude and 59 and 60 degrees west longitude."

"You must be an engineer," said the balloonist.

"I am", replied the man, "but how did you know?"

"Well", answered the balloonist, "everything you told me is technically correct, but I have no idea what to make of your information, and the fact is I am still lost".

The man below responded, "You must be a manger".

"I am", replied the balloonist, "How did you know?"

"Well", said the man, "You don't know where you are or where you are going. You made a promise, which you have no idea how to keep, and you expect me to solve your problem. The fact is, you are in exactly the same position you are in before we met but now somehow, its my fault!"

As in Value Management, asking the right questions in the right manner at the right time, combined with good forward planning, would certainly have helped the manager in the balloon.

Looking forward to hearing your views about 10th Anniversary events.

Best Regards

A.R. Wilson

President of HKIVM

APPLICATION OF VALUE MANAGEMENT IN THE CONSTRUCTION INDUSTRY OF SRI LANKA

Dr Srinath Perera
University of Ulster, UK

Gayani Karunasena
University of Moratuwa, Sri Lanka

ABSTRACT
The concept of VM is becoming more relevant to Sri Lankan construction industry. VM provides a structured, documentable consideration of project stakeholders to ensure that projects are required, framed to satisfy value and sufficiently supported by all stakeholders to ensure successful completion (Austin and Thomson. 2001). This is supported by the definition of Albert and Betty (1996) that VM is a structured, systematic, flexible, team oriented approach for assessing the relationship between function, cost and worth. The aim of this paper is to illustrate the development and increasing relevance of VM in the Sri Lankan construction industry in the last decade and to describe the VM systems which have developed within the industry. An outline also is given of the objectives of VM and the methods developed for the application of VM. The paper concludes with the identification of benefits of the process and justifying its relevance with brief case studies which had been carried out to demonstrate the success of the process.

INTRODUCTION

Construction industry is important to the Sri Lankan economy. It has contributed 6-7 % of the GDP (Gross Domestic Product) over the past decade (Central Bank Report, 2002). It is considered that construction industry is responsible for about 50% of the total GDFCF (Gross Domestic Fixed Capital Formation) (National Account of SL, 2002). It is also seen that Construction generates other benefits including income, employment, tax revenue etc. Therefore it is evident that the construction industry makes a significant contribution to the economy of the country both in terms of production output and the provision of employment. As a result efficiency of the construction industry is a crucial factor for the developaat eporfoli h oma

ptitgivn(ess(of)TJT(thei(ndustr)589(y)-75(,c)4.8n)5.5dis coragdsr theldeve(of)TJT0.001 Tc0.0
of
thei(ndustr)6(y)-7.3( )5.5(t)5.5selfe and of t%e vnerll eeconoym
mnra relemae
t is sp(ec ofin effiancy)-761(,alcnst(ereruction)TJT0.0007 Tw5(y)-75(st em)5.04)5.4emst, trgen
proces dursing
pdymenNatiot and
ofao(prj(ec). Itieno(m)7.6(y)-7.9assre)-3.9(fao)TJT0.0006 Tc0.0008 Tw5ec ofscyprocdurkes an
prj(ecevalnue trou%)3.5gt(the)TJT0.0058 Tc0.0096 Tw1fea of the fail(t)5.1(y)-77(")-1.7.n
r
re(ar04)53(ch aie)-589(m)784(s-1.7 hatvideni)-589i.sing andmm
the prj(ece an/ foradssig pne foj)-5.1om ed that anf
duyof(iiatalg)TJ0 -1.153 TD0.0011 Tc0.0003 Tw5tagds:radssig,e constructiono
no(m)7papnenpti(m)7 rilyyg aalyyaess
ofVM inr thegltoibindustryttobyanb
reporsr thestautt(ofVM inr theSri Lankanf)TjT0.0008 Tc(construction i)5.4(ndustr)5.9(y)-7.4(.)-
mgfti nsinsn ofaemaj reVM (re(e)-3)3arct( )TJ0 -1.153 TD5(prj(ec underte)4.9akdelbcy)-7.9(t
y en inr chideving thenhcccessar(y)-7.9( )TJ0 -1.1475 TD0.001 Tc0.0004 1swfinuctioss(ofam)77

through project operation (http://www.cclcon.com).

Several authors have described value management in different ways. Larry Miles (1961,cited Michel 2001), who is considered as the father of VM, defined good value as:" a product or service that has appropriate performance and cost and as a problem solving system aimed at reducing expenditure of time and money whilst maintaining or increasing performance". This is the view that has been promoted by most VM associations worldwide until recently and has found its way into national standards, from the seventies to the nineties.

The new vision of VM as defined by the European VM standards states it as "a style of management that evolved out of previous methods based on the concept of value and functional approach". It claims that VM uniquely brings together, management style, positive human dynamics, consideration of external and internal environment and effective use of methods and tools.

How is best value achieved or improved

Three basic elements provide a measure of value to the user. These elements can be interpreted by the following (Figure 2).

$$\text{Value} = \frac{\text{Function} + \text{Quality}}{\text{Cost}}$$

Where Function	=	The specific work that a design/ item must perform
Quality	=	The owner's or user's needs, desires and expectations.
Cost	=	The life cycle cost of the product.

Therefore, value is the most cost effective way to reliably accomplish a function that will meet the user's need, desires and expectations. It was said by researchers that value methodologies may be applied at any point during the project development. But best results or best value is obtained through early application. Ideally the value process is used as early as the needs identification stage and is used for facilitating strategic partnering workshops including the development of dispute avoidance procedures (Phillp 2002).

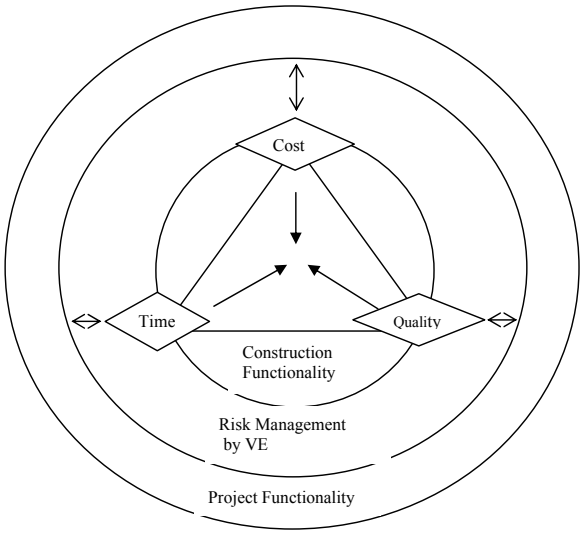


Figure 1 - Value Criteria – managing time, cost, quality, risk and Project functionality

GUIDE TO RESEARCH TREE

The following section will focus mainly the research carried out by the authors. The research methodology, which was applied for this research can be, illustrated as follows (Figure 2):

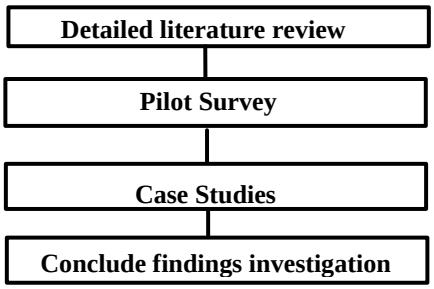


Figure 2 - Method of Study

The stages identified above are explained in detail in the following sections.

Detail literature review

A literature review was carried out to identify local as well as global view of VM practices, to develop a working knowledge of the physical process associated with the research under consideration.

Pilot survey

To obtain industry-wide perspective of VM a survey will be carried out among the large-scale construction organizations operating in the Colombo metropolitan area. This is justified by

the fact that these are the organizations that has the capability of investing on VM. The survey will cover different stakeholders such as clients, contractors and consultants of construction industry. Semi-structured interview will be carried out to collect the information on VM practices. This will enable the researchers to develop statistics as to the past status of VM application in Sri Lanka.

Case studies
A systematic selection of case studies to achieve the objectives of research was adopted. Accordingly a total of six case studies were selected so as to correspond with the different VM stages. For the purposes of comparison and evaluation all the projects were carefully selected to fall within same procurement method and within the Colombo metropolitan area.

The objective of the case studies is to illustrate the potential benefits of application of VM to project performance in terms of improvement in Cost, Time and Quality. It is hypothesized that the enthusiasm of the clients as well as the consultants will be aroused only by showing the benefits of VM in a practical manner. Except the project on value engineering stage (on-going project) all the other case studies are planned to be carried out with the use of in-house resources. A real VM workshop will be conducted by the researchers in order to get the actual inputs from the team.

Conclude findings investigation
Analyze the findings of investigations and introduce a procedure for application of value management to construction industry.

Benchmarking
The term benchmarking has been adopted when the comparator is regarded as the best available. Benchmarking compares a snapshot of performance at a particular point in time. This indicates the current performance and the inherent potential for future performance.
In the above case studies the original time, cost and quality targets are taken as benchmarks.

- Time: The project duration established originally is taken as the benchmark for comparison.
- Cost: The budgeted cost is taken as the benchmark for comparison.
- Quality: Quality is a subjective measure.

Therefore it is proposed to use VM process as a quality assurance process that will ensure achieving required quality targets. Further the method of procurement can affect quality of projects. Hence case studies having the same procurement methods were selected.

CURRENT STATUS OF VALUE MANAGEMENT IN SRI LANKA

As discussed above, enormous contribution to economy of Sri Lanka can be achieved through construction industry. When comparing with other countries, in Sri Lanka the application of VM in construction organizations is relatively new. At present a very few instances of application of VM can be found in the industry. Eg: A VM study was done to the project of World Trade Centre (Colombo) throughout the project. After occupation also there is some studies carried out for energy saving, increase productivity in business etc. by some consultants related to the same project. According to research carried out by SAVE, application of VM ensures a minimum of 30% cost saving in projects (www.value-eng.org). However there are no such statistics available for the Sri Lankan industry. Further research by the authors hope to develop case studies primarily in terms of value analysis related to construction projects in Sri Lanka.

Reasons for the absence of Value Management
The initial studies and investigations indicate that there is very little evidence on application of VM in the construction industry of Sri Lanka. There are various reasons for the absence of value management in Sri Lankan construction industry. A main factor could be the greater fragmentation of the industry. Following are some factors that can be highlighted as potential factors to this situation.

- A key fact is that professionals do not share common design environment.
- According to the traditional contract that the contractor is not introduced to a project until it has been fully designed.

- Under this regime, the architects, traditionally the consultant team leader often takes an insufficiently detailed brief.
- The design professionals do not act as a cohesive team throughout a project.
- No guidance or knowledge about the benefits of VM among the clients developers etc.
- There is no standard procedure available for VM process in Sri Lanka.
- The construction industry regulatory body does not actively encourage the practice of VM in their documentation, advice or guidance on projects.

Research findings

Value management opportunities commence at the inception of the project and continue through the project's life. The researchers have selected six projects for this research at different stages of construction process (Value Planning, Value Engineering and Value Analysis). Two projects are taken into analysis at each stage (Table 1).

Table 1 - Projects considered for case studies

Project	Project Stage	VM Stage
Hospital	Briefing	VP
Auditorium & Office	Briefing	VP
Proposed House	Project Evaluation	VE
Proposed Apartment Complex	To be Awarded	VE
Shopping Mall	Completed	VA
Show Room & Office	Completed	VA

There are various triggers for a value management exercise. Following are identified as triggers for VM (Kelly, Morlrdge and Wilkinson 2002):

- The enthusiasm/ interest of the researchers in the application of VM
- The planning of a complex construction operation
- An overspent budget
- Provide basic knowledge to investors, developers and construction consultants
- Educate consultants in application of VM
- As a developing country VM programme gained enormous benefits.

Research reveals some of the projects that were completed during 1999 to 2002 in Colombo area there are cost and time overruns.
When analyzing the reasons for the Time and Cost overruns on the projects the following were revealed:

- Heavy design changes.
- Structural inputs and the solution for structural problem very poor.
- Poor coordination between the Architect, Structural & mechanical & electrical consultants. Very less chance for the Contractors' inputs.
- No study taken place for life cycle costing.

At the heart of all these problems is the fact that there is poor consideration of functional requirements of the project at the project initiation stage or even at the construction stage and the lack of understanding of client requirements well in advance. These are fundamental factors that could be overcome by the application of VM process. Since the research is in progress at this stage it is little difficult to predict what would be the final out put. Hence the researchers feel a good system or procedure could be introduced to the construction industry for the application of VM.

Benefits of VM in construction

Benefits of VM highlighted by design consultants included (Corne de Leeuw 2001):

- Proof that the initial design was indeed the best.
- The owner was receiving good value for money.
- Introduction of higher quality products.
- Best up-to-date technology at least cost.
- A clear focus on project objectives.
- Several alternatives for the design being considered.

Additional advantages highlighted by contractors' included:

- Improved project programs.
- Improved site management structures.

- Reduce waste.
- An opportunity for a detailed analysis of the required project.

In terms of disadvantages the majority of respondents' comments related to the design programme & the contract period.

How to improve the knowledge of VM, in Sri Lanka context

Following are the some directions for the improvement of usage of VM in Sri Lanka:

- Conducting Seminars and educating the industry.
- Perform some workshops on very low cost initially.
- Conduct short courses on VM.
- Implement some regulation for application of VM for some projects (make it mandatory for public sector investment projects.
- Introduce any regulatory body to observe and regulate the application of VM.
- Follow up and get the knowledge from other developing countries how they are successful in application of VM.
- Above is not a comprehensive list of action but possible action list. The researchers intend to elaborate on these aspects towards the completion of the project.

CONCLUSION

Value management is a structured, systematic, flexible, team oriented approach for assessing the relationship between function, cost and worth (Albert and Betty 1996). The philosophy of value management is based on the premise that a certain amount of unnecessary cost is inevitable in building design due to the inherent complexity of the process and that significant cost savings can therefore be achieved by the identification and subsequent elimination of unnecessary cost. VM has worked successfully in the US, UK, Australia and many other developed countries either under the name of value engineering, value analysis or value planning. The absence of proper cost control techniques such as cost planning in the construction industry of Sri Lanka further exacerbates the need for Value Management in Sri Lanka. However it is still a relatively new concept in Sri Lanka. Thus the main theme of this paper was to report the state of application of VM in the Sri Lankan industry and to introduce the application of value management to the Sri Lankan construction industry while highlighting the potential benefits of it.

REFERENCE

Austin, S.A. and Thomson, D.S. (2001) construction value management revisited: The designer's role, Glasgow Caledonian University, Glasgow, UK.

Albert, P.C. Chan and Betty, P.M. Ho (1996) Value Management in construction, Journal of Building Economist , AIQS, Australia.

Department of Statistic (2002) Central Bank annual report, Central Bank of Sri Lanka, Sri Lanka.

Department of Census & Statistic (2002) National Account of Sri Lanka, Ministry of Finance & Planning, Sri Lanka.

Institute of Civil Engineers (1996) Creating Value in Engineering Projects, Thomas Telford, London.

Michel, T. (2001) Will the European Value Management Standard change the way we practice? Proceedings of the PMI Europe , London.

Society of American Value Engineers (SAVE) www.value-eng.org.

Norton, B. R. and McElligott, W.C. (1995) Value Management in construction-a practical guide, Macmillan Press, London.

Institute of Engineers Sri Lanka (2002) Public Seminar on Value Management, Sri Lanka.

Phillip, M. (2002) A value and risk management approach to project development, New Civil Engineering International, London.

Kelly, J. , Morlrdge, R. and Wilkinson, S. (2002) Best Value in Construction, Blackwell Publishing, UK.

Corne P. de Leeuw (2001), Value Management: An Optimum Solution, International Conference on Spatial Information for Sustainable development, Kenya.

MANAGING VALUE MANAGEMENT WORKSHOPS TO ENSURE VALUE FOR MONEY FOR WATER SUPPLY PROJECTS

Ir Damien C.C. Ku
Hong Kong SAR Government, HK

Prof. Geoffrey Q.P. Shen
Hong Kong Polytechnic University, HK

Ir S.K. Mak
Hong Kong SAR Government, HK

ABSTRACT
Water supply projects are mostly unique, large in scale, integrated with many related systems and involve a large number of stakeholders. Value Management (VM) has proved to be very useful in identifying options to satisfy the required functions of the water supply projects at the lowest total cost without compromising quality and standard of performance. The benefit of a VM study depends very much on the successful completion of the VM workshop which demands active participation of key stakeholders to contribute together towards the objective of the study within a very short period of time. This paper presents briefly the development of VM in the Water Supplies Department (WSD) and the experiences of WSD in conducting VM workshops to illustrate how beneficial outcomes can be produced effectively and efficiently for some of the WSD projects.

INTRODUCTION

The WSD is an engineering department in the Government of the Hong Kong Special Administrative Region (HKSAR), responsible for the planning, construction, operation and maintenance of the waterworks infrastructure for the provision of water supply in Hong Kong, covering from water resources to customer care. The Director of Water Supplies (DWS) is the Water Authority under the Waterworks Ordinance, and is vested with the legal power to protect water resources and waterworks installations, and to stipulate standard practices for the public to follow with respect to water supply services in the community.

One of the missions of the WSD is to make the best use of resources and technology in striving for continuous improvement in the provision of quality water services. In this connection the application of the VM process has proved to be very useful. It is noted that while water supply projects are mostly unique, large in scale, integrated with many related systems and involve a large number of stakeholders, VM provides an organized methodology applied to the analysis of functions, components, goods and services, from the point of view of the system as a whole, to satisfy the required functions of the project at the lowest total cost without compromising quality and standard of performance.

In view of the likely benefits and the relatively low cost involved, it is now the norm that VM studies are to be considered for every major project to be implemented by the WSD. This is in line with the Technical Circular recently issued by the ETWB (2002). The experience gained in managing values systematically in the course of project development has enabled the WSD to achieve the departmental vision and missions in providing quality water services in a more cost effective manner.

WATER SUPPLY PROJECTS

The provision of a reliable and wholesome water supply to the community is one of the vital factors to support the sustainable growth of Hong Kong as a metropolitan city and a dynamic economic centre. A few decades ago, Hong Kong had been facing serious water shortage problems. The much improved situation of high quality water services now is the result of many mega-projects with innovative ideas. The use of seawater for flushing, building reservoirs in the sea, and delivering raw water from Dongjiang in

Guangdong over the hills to Hong Kong are some well-known examples.

Broadly speaking, water supply projects may be grouped under the following functional categories: water resources, water treatment, distribution and customer services. Over the years, the coverage and complexity of the water supply systems in Hong Kong have grown significantly. The scale of waterworks installations is shown in Table 1.

Table 1 - Waterworks Installations (as at 31 March 2003)

Installations	Nos.	Total storage/ installed capacity
Impounding Reservoirs	17	586.05 Mm^3
Water Treatment Works	20	4.55 Mm^3/day
Fresh Water Pumping Stations / Houses	145	29.60 Mm^3/day
Salt Water Pumping Stations / Houses	30	1.65 Mm^3/day
Fresh Water and Salt Water Pumping Stations / Houses (Combined)	7	0.26 Mm^3/day
Fresh Water Service Reservoirs	151	3.66 Mm^3
Salt Water Service Reservoirs	45	0.21 Mm^3

Water mains and tunnels	Total Length
Fresh Water Mains (20mm-2,400mm diameter)	5,689 km
Salt Water Mains (20mm-1,200mm diameter)	1,450 km
Catchwater	120 km
Water Tunnels	198 km

At present, there are still perpetual needs for further enhancement and improvement of the supply systems. Apart from extending the water supply to remote areas or new development areas (NDA), many waterworks projects in recent years are to increase the reliability and efficiency of the existing supply systems, as some of the old ones have deteriorated in physical conditions and thus functional performance. These water supply projects not only involve complex planning, design and construction activities, but also often necessitate negotiations with a large number of stakeholders whose interests may be conflicting with one another. For example, provision of water supply to a NDA is more than just placing water mains under the ground in the area. The adequacy of the water supply right from the source needs to be examined. On a territory-wide basis, Hong Kong relies heavily on the raw water supply from Dongjiang in Guangdong. Although the demand increase due to a single NDA may not necessarily require the corresponding increase in Dongjiang water supply, yet the cumulative effects of each development creating additional loading on the related supply systems need to be accounted for.

There are often many alternative solutions to meet a particular requirement, but some may have a greater potential to offer more benefits than others. For example, integration of existing systems to fully utilize their supply capacities available could meet the demand from a NDA as good as simply constructing a new system for the development, but the two options would result in different values for money, in the short term or in the long term.

In between the raw water supply sources and the consumption ends, the project proponent needs to consider many technical, economical and social factors. The case would be even more complicated when due considerations are given to uncertain factors, such as market price variations resulting from new technology development, unpredictable local raw water yields due to varying rainfall patterns, responses of local residence to the construction activities and the final infrastructures, etc. Nowadays, with the rapid advancement of engineering, science, technology and

nt, but the two

demands and operational conditions in water supply systems economically with a high degree of reliability through mechanization and automation. These may sound the unthinkable, yet it was unthinkable decades ago to build reservoirs in the sea.

Waterworks can sometimes offer more value-added opportunities than just supplying water. As an example, protection of the water gathering grounds also provides the natural environment greatly needed in an extensively urbanized city. In Hong Kong the water gathering grounds have conveniently formed part of various Country Parks for people to enjoy the natural environment. Some of the impounding reservoirs have also been used for flood mitigation by providing storage to receive peak inflows during heavy rainstorms, thus relieving the flooding risks in the urban drainage system downstream. Hence, it is possible to add values to a waterworks project making it more deserved for its total project life-cycle cost.

With all sorts of variability, the WSD will need the input and advice from a wide range of experts and stakeholders to reach the recommendations that are of greatest value and well-received by the stakeholders concerned.

VM APPLICATIONS IN WSD

During a VM study, each member's ideas can be stimulated by others within the team under a specially-designed circumstance for creating large amounts of ideas. According to Dell'Isola (1982), a multi-disciplinary design group can work out 65 to 93% more ideas than that from an individual working alone. Better ideas can therefore be derived from the large number of ideas generated. This is one of the reasons that the Commission of the European Communities (1990) has seen VM as a potentially-useful tool for innovation and technology transfer.

After a trial VM study in 1998, WSD has since then conducted a total of 18 VM exercises for water supply projects and special studies. Table 2 lists out the VM workshops conducted in 2000 to 2002. It can be seen that many of the projects were at the planning stage when the VM workshops were conducted.

Table 2 - List of VM Workshops by WSD

Serial No.	Project Title	Date of Workshop
1/00	Water Supply to Remote Villages in Sha Tin, Tai Po, Tuen Mun, Sai Kung, Lantau Island and Outlying Islands	14.1.2000
2/00	Siu Ho Wan Treatment Works Extension	18.1.2000
3/00	Replacement and Rehabilitation of Water Mains, Stage 1 Phase 1B Package 1 – Investigation	24.5.2000 25.5.2000
4/00	Replacement and Rehabilitation of Water Mains, Stage 1 Phase 1B Package 3 – Investigation	31.10.2000 3.11.2000 6.11.2000
1/01	Preliminary Project Feasibility Study for the Project "Water Supply to Hung Shui Kiu, Kwu Tung North, Fanling North and Ping Che / Ta Kwu Ling New Development Areas"	2.3.2001
2/01	Preliminary Project Feasibility Study for the Project "Uprating of Tuen Mun Salt Water Supply System"	22.3.2001
3/01	Water Supply to North-western Tuen Mun, Construction of Tuen Mun North No. 2 Fresh Water Service Reservoir and Associated Mainlaying – Investigation	26.4.2001
4/01	In-situ Reprovisioning of Sha Tin Water Treatment Works	7.5.2001
5/01 10/01	Feasibility Study on Development of Desalination Facilities in Hong Kong	1.6.2001 17.8.2001
6/01	Feasibility Study on Recycling Effluent for Potable and Non-potable Uses in Hong Kong	11.6.2001 12.6.2001
7/01 9/01	Feasibility Study on Maximisation of Collection and Storage of Surface Water in Hong Kong	15.6.2001 16.7.2001
8/01	Water Supply to Development at Whitehead and Lok Wo Sha	22.6.2001
1/02	Feasibility Study on Modernization of Tsuen Wan Water Treatment Works	13.12.2002

It is believed that getting things right the first time is always better than getting things wrong and remedying them later. Early VM studies for the projects can avoid abortion of design and redesign and therefore save time and money eventually.

It is now an established practice in WSD to conduct VM workshops for major studies and projects. While most of them are conducted at the early project stage, further VM studies may be conducted for the same projects at later stages if considered beneficial.

PRE-WORKSHOP PREPARATION

Project Team

The project team refers to the WSD officers or the consultants responsible for the water supply project. It has to carry out the following tasks in a VM study: to establish the study timetable; to define the workshop objectives; to finalize the study team, including technical specialists; to identify stakeholders; to circulate background materials to stakeholders; to solicit commitments from stakeholders and to arrange a venue for the workshop.

In order to accomplish the above tasks in a coherent manner, the experiences of the project team both in the water supply project itself and in the logistics for conducting VM studies are very important.

In particular, the project team has to determine an appropriate topic for the VM workshop and to identify the key stakeholders so that the benefits of a VM workshop can be maximized. Experience shows that the more controversial the topic chosen for the VM workshop, the more active the stakeholders will participate in the VM workshop. The attendance rate of the stakeholders will also be high. However, the main function of the subject project must always be the target in order to bring out the best value of the VM workshop. For VM workshops choosing some trivial topics, it is found that not only the attendance rates are low, but also the discussion not so enthusiastic.

Besides choosing an appropriate topic for the VM workshop, the project team has to see that the pre-workshop materials are comprehensive enough to cover the possible subjects to be discussed and possible issues to be raised during the VM workshop. Failing this, there will be a lack of essential information to allow the smooth progress of the VM workshop, and in the worst scenario the whole process needs to be repeated in another VM workshop when the necessary information becomes available. Therefore, the project team should have some preliminary idea of the needs of the stakeholders. The more controversial the topic for the VM workshop, the more pre-workshop information will need to be prepared by the project team. It is therefore essential that the project team is experienced and works diligently before the VM workshop.

It is also worth mentioning that an appropriate venue will facilitate the smooth running of a VM workshop according to the planned schedule of the Job Plan. An easily accessible and fully serviced venue is desirable. The WSD has the experience in holding VM workshops in the office, in university campus, in convention centres and hotels. The choice often depends on the availability of the venue and the cost. By its nature, VM workshops require spacious areas for group discussions. A well-serviced venue will enable the Facilitator, the project team and the participating stakeholders to make full use of the time available and focus on the VM workshop with minimal external interference.

Facilitator

The Facilitator is the leader of the VM workshop. The WSD normally engages an external Facilitator to conduct the VM workshop. The prime consideration is that an external Facilitator is often more readily accepted by the stakeholders, as he is impartial and will be less biased towards the project team. This will help the development of group dynamics in the VM workshop.

Stakeholders

The commitment and participation of the stakeholders in a VM workshop cannot be over-emphasized. With proper planning and preparation, the attendance and commitment of stakeholder government departments can be very high.

The challenge is for the project team to identify the relevant stakeholders. Moreover, there is an

upper limit on the size of the group participating in the VM beyond which communication will become ineffective. With this limitation, it is very important for the project team to identify a VM group that can represent a wide spectrum of interest groups. It does happen that during VM workshop new stakeholders are identified.

CONDUCTING VM WORKSHOPS

Project Team

Since the VM Facilitator will facilitate the VM workshop from the beginning to the end, members of the project team can actually participate in the VM workshop as stakeholders. In fact, with their knowledge of the related water supply systems, they should be able to provide useful information on the feasibility of different system enhancement options put forward at the creativity and development stages.

The project team will also need to ensure that the pre-workshop materials are readily available and conveniently enhanced for immediate use.

The project team and the facilitator need to have a prior agreement on the logistics, such as tea breaks and lunch breaks so as to ensure that the facilities available are utilized efficiently. The project team has also to ensure that the logistics such as ventilation, air-conditioning, the audio-visual aids, computer facilities are functioning effectively and efficiently.

When participating in the VM workshop, the project team should be open to accept all suggestions, to set as few constraints as possible, to act in a transparent way and to avoid holding project team meeting during the workshop.

Facilitator

The VM Facilitator is the leader in a VM workshop. He will lead the stakeholders to execute and complete the Job Plan. It is important that the Facilitator is, and is seen to be, an impartial leader throughout the workshop.

The execution of the Job Plan for a VM workshop is a key element of the VM workshop (Standards Australia, 1994). The WSD VM workshop would usually follow the typical Job Plan which comprises the information phase, the analysis phase, the creativity phase, the judgment phase and the development phase. A well-executed Job Plan is the key to the success of a VM workshop.

During a VM workshop, the Facilitator will take charge of the whole work flow. The experience and skills of the Facilitator will directly influence the participation of the stakeholders as well as the achievement of the objective of the workshop.

The Facilitator will provide important stimulus to encourage ideas from the participants, and maintain the momentum of the group when ideas 'run dry'. It is particularly important for the Facilitator to recognize, and be able to overcome, the potential blocks that prevent the flow of innovative ideas. The Facilitator's knowledge about the process and his interpersonal skills will be vital in establishing an open forum where all participant's contributions are valued equally. On the other hand, time control to ensure proper completion of the various stages of the Job Plan is also very important. Repeated views should be kept to a minimum.

Stakeholders

Active participation of the stakeholders is the source of valuable contribution. The more experienced the stakeholders are in VM workshops, the more readily they will contribute to the workshop.

Very often the stakeholders will offer stimulating suggestions of added values on top of project objectives. Such suggestions must be adequately considered and given due weight in the analysis stage.

POST-WORKSHOP ACTIONS

After the VM workshop, the Facilitator is required to prepare a VM study report immediately and circulate to all participants for comment before finalization. The report should be finalized as soon as possible, preferably within 4 weeks of the VM workshop, while the memories of the participants are still fresh. With consensus commitments, the report serves to record a summary of the workshop findings and recommendations as well as an action plan

stating what, by whom and when follow up actions are to be carried out. A copy of the final report should be forwarded to the concerned stakeholders for follow-up actions.

The VM workshop report is a very important document. However, this report will not replace further consultation with all the stakeholders in the subsequent stages of the water supply project. If necessary, another VM workshop will be conducted when new information is available or when new stakeholders are identified.

CONCLUSION

Our experience shows that VM is a very useful tool in identifying alternative options to satisfy the required functions of water supply projects, which are mostly unique and large, integrated with other systems and involve a large number of stakeholders, at the lowest total cost without compromising quality and the standard of performance. The prerequisite for achieving the expected benefits is successful completion of the VM workshop, which demands for active participation of key stakeholders to contribute collectively towards the objective of the study within a very short period of time.

Well-planned pre-workshop preparation is also essential to ensure the right composition of the study team and adequate reference materials to support discussions. Well-organized logistics will help the smooth running of the workshop and allow the participants to be more attentive to the discussions with less distraction. At the creativity and development stages, all relevant information on the related water supply systems should be put together to allow feasible options to develop. Added benefits should be duly recorded and weighted for consideration at the analysis stage. After the workshop, a report should be drawn up as soon as possible while the memories of the participants are still fresh, and the key points should be clearly noted for follow-up actions or future reference.

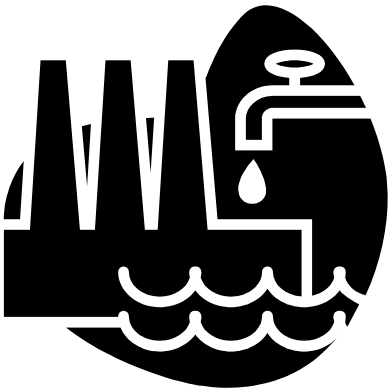
REFERENCES

Commission of the European Communities (1990), Value Analysis in the European Community – A tool for value management, EUR 13096 EN, Office for Official Publications of the European Communities.

Dell'Isola A.J. (1982), "Value Engineering in the construction industry", Van Nostrand Reinhold Company, Third Edition.

ETWB Technical Circular (2002) (Works) No. 35/2002, Environment, Transport and Works Bureau, Hong Kong SAR Government.

Standards Australia (1994), Australian / New Zealand Standard: Value Management, AS/NZS 4183: 1994, Homebush.



MANAGING VALUES: CHALLENGE FOR PUBLIC PROJECTS IN HONG KONG

Roy Barton
University of Canberra, Australia

Frederik Pretorius
The University of Hong Kong, HK

INTRODUCTION

For much of 2003 Hong Kong has been affected by a number of events, ranging from crises beyond our control that originated exogenously such as SARS, to a number of public management crises that were at best preventable, and at worst reflects simply poor collective or societal decision-making. Presently there are a further range of public management problems that are becoming cause celebres, or at least generating extreme concern in many sectors of Hong Kong society. An immediate example is the status of the harbour, with various conservation and environmental interest groups expressing concern about the ultimate loss of a most important part of Hong Kong's heritage, the harbour; with opposing views indicating that economic development and Hong Kong's continued competitiveness requires continued physical infrastructure investment. Of course, the harbour is just one concern out of many, albeit perhaps one that does pose somewhat of a rallying cause for several interest groups to focus on. If Hong Kong is to be Asia's World City, it clearly encompasses concern for the software that guides our decisions about hardware – and the year 2003 must certainly cause Hong Kong society to reconsider critically decisions processes about public sector projects.

The aim of this paper is to present principles for a decision-making process that allows the integration of stakeholder values into value management of public sector projects. Very effective mechanisms have been developed over the world that allow for successful public participation in public sector projects, and we do not attempt to repeat discussion of the actual techniques as the point of the paper. Rather, we aim to explore the challenge of achieving public acceptance for projects through a philosophical approach to value decisions in public sector projects, in this sense drawing on concepts and ideas summarized in Barton (1997, 2000, 2002). This then also suggests a framework for the paper: first we revisit the notion of "value" and "values" as these form part of the value management discourse, then we present a view of capturing and integrating "values" into the value management of public sector projects, followed by a brief conclusion.

RE-VISITING THE CONCEPT OF "VALUE"

In essence, most economic decision-making, public or private, is about the application of limited resources. In particular, under most circumstances that could be considered normal, it may be argued that a guiding principle is not necessarily to "maximize" or "optimize" the use of the resource, as much as it may be to minimize waste or poor use of resources. As it is in the discourse about what constitutes "value", there is no agreement on what its meaning is (as primer, see Appendix 1, also Marietta, 1991). (Similarly though, the notion of "minimizing waste" also means different things to different interests.) It is thus axiomatic that in order to make informed decisions about what constitutes value; an underlying agreement has to exist about its meaning. Similarly, what is generally agreed may not be what is appropriate in specific applications, so a mechanism to integrate levels of abstraction may be required. With this in mind, we consider a number of interpretations of the concept of "value", in an attempt to progress from the notion of "value for money" to that of "integrating values".

To commence, if we attempt to explore the meaning of "value", we note from Encyclopedia Britannica that if we become concerned with a "Theory of Value" (or axiology, derived from the Greek axios, taken

to mean "worthy"; and logos, meaning "science"), thus a "Theory Of Value"; it is deemed the philosophical study of goodness, or value, in the widest sense of these terms. The significance of this broader concern for a "theory of value" lies (1) in the considerable expansion that gives to the meaning of the term value and (2) in the unification that it provides for the study of a variety of questions--economic, moral, aesthetic, and even logical--that had often been considered in relative isolation.

The term "value" originally meant the worth of something, chiefly in the economic sense of exchange value, as in the work of the 18th-century political economist Adam Smith. A broad extension of the meaning of value to wider areas of philosophical interest occurred during the 19th century under the influence of a variety of thinkers and schools: the Neo-Kantians Rudolf Hermann Lotze and Albrecht Ritschl; Friedrich Nietzsche, author of a theory of the transvaluation of all values; Alexius Meinong and Christian von Ehrenfels; and Eduard von Hartmann, philosopher of the unconscious, whose Grundriss der Axiologie (1909; "Outline of Axiology") first used the term in a title. Hugo Münsterberg, often regarded as the founder of applied psychology, and Wilbur Marshall Urban, whose Valuation, Its Nature and Laws (1909) was the first treatise on this topic in English, introduced the movement to the United States. Ralph Barton Perry's book General Theory of Value (1926) has been called the magnum opus of the new approach. A value, he theorized, is "any object of any interest." Later, he explored eight "realms" of value: morality, religion, art, science, economics, politics, law, and custom. Despite these early philosophies in political economy, it is telling that the influential New Palgrave Dictionary of Economics has dropped altogether the concept of "value" from its latest editions – presumably falling in line with simplistic views that may be summarized as "there is no value, there is only price", similar to saying "there is no justice, there is only the law", or "there is no morality, there is only the law".

A distinction is commonly made between instrumental and intrinsic value--between what is good as a means and what is good as an end. John Dewey, in Human Nature and Conduct (1922) and Theory of Valuation (1939), presented a pragmatic interpretation and tried to break down this distinction between means and ends, though the latter effort was more likely a way of emphasizing the point that many actual things in human life--such as health, knowledge, and virtue--are good in both senses. Other philosophers, such as C.I. Lewis, Georg Henrik von Wright, and W.K. Frankena, have multiplied the distinctions--differentiating, for example, between instrumental value (being good for some purpose) and technical value (being good at doing something) or between contributory value (being good as part of a whole) and final value (being good as a whole). Further, many different answers are given to the question "What is intrinsically good?" Hedonists say it is pleasure; Pragmatists, satisfaction, growth, or adjustment; Kantians, a good will; Humanists, harmonious self-realization; Christians, the love of God. Pluralists, such as G.E. Moore, W.D. Ross, Max Scheler, and Ralph Barton Perry, argue that there are any number of intrinsically good things. Moore, a founding father of Analytic philosophy, developed a theory of organic wholes, holding that the value of an aggregate of things depends upon how they are combined.

We draw some inspiration from this diversity in an attempt to guide us into making sense of value. If we consider "fact" as symbolizing objectivity and "value" as suggesting subjectivity, the relationship of value to fact is of fundamental importance in developing any theory of the objectivity of value and of value judgments. Whereas social sciences such as sociology, psychology, anthropology, and comparative religion all attempt to give a factual description of what is actually valued, as well as causal explanations of similarities and differences between the valuations, it ultimately remains a philosopher's task to ask about their objective validity. The philosopher asks whether something is of value because it is desired, as subjectivists such as Perry hold, or whether it is desired because it has value, as objectivists such as Moore and Nicolai Hartmann claim. In both approaches, value judgments are assumed to have a cognitive status, and the approaches differ only on whether a value exists as a property of something independently of human interest in it

or desire for it. Noncognitivists, on the other hand, deny the cognitive status of value judgments, holding that their main function is either emotive, as the positivist A.J. Ayer maintains, or prescriptive, as the analyst R.M. Hare holds. Existentialists, such as Jean-Paul Sartre, emphasizing freedom, decision, and choice of one's values, also appear to reject any logical or ontological connection between value and fact.

While all these notions make for good philosophical debate, we do need to consider "value" also within a context that can guide effectively economic decision making – in the application of limited resources. It appears that in industry and commerce, by far the most ubiquitous use of the word "value" may be viewed as an abbreviated form of the phrase "value for money", being found in retailing, entertainment, in project objectives and in government requirements. It is both pertinent and important to note that in this context "value for money" (or its abbreviated forms), is used implicitly or explicitly as a comparative term, where one option is seen to offer better "value for money" than another. Further, frequently the notion of "importance" seems to be at the centre of economic concerns, for example as with "valued customers". In other cases, the notion of "use" or "usefulness" is conveyed as in the following sentence, "the car is of no value to me now that the MTR has reached Tseung Kwan O". In other situations, perhaps it is "benefit" that is alluded to, such as may be found in a statement from a community group: "Having a shopping centre so close is of great value to us". In each of these cases, the terms "importance", "usefulness", and "benefit" respectively can be exchanged with the word "value" without altering meaning but each given its own particular emphasis. These three terms are not entirely discrete either, they overlap and are also interdependent to some extent. This concept is consistent with the observations of many philosophers who first addressed this complex notion centuries ago, including Plato, Bernoulli, Jevons, Stuart Mill and Smith. For example, Daniel Bernoulli wrote in 1738 that "the value of an item is not to be found in its price, but in the utility (i.e. satisfying a want) that it yields". William Stanley Jevons, in his 1871 paper stated that "value depends entirely upon utility". Figure 1 depicts this concept. We suggest that usage of the term "value" in terms of usefulness, benefit and importance encompasses neatly the convenient but illusive economics concept of "utility".

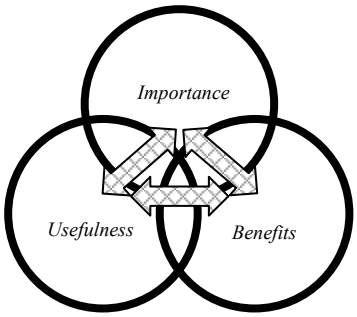


Figure 1 - The Concept of Value

Conventional Value Analysis and Value Engineering typically define "value" in terms of the relation: value = function/cost. Sometimes, as in Miles (1961), the relation is defined as value = performance/cost. Over the years, VEAMAC debates included many such variations. In certain situations, particularly in narrowly defined engineering applications, this relation holds. It should be noted that within the relation "v=f/c", the concept of "value" is inextricably linked to "cost" and, it may be argued, is best stated as "value for money" or, more generally, "value for resources used". The "function" factor in "v=f/c" may be directly aligned with the concept of "usefulness" as previously described. It seems that to limit the notion of "value" to a function/cost relation ignores the essential concepts of importance and benefit. The relation may be used to demonstrate that there is indeed a relationship between value, function and cost but should not, it may be further argued, be seen as a definition of value.

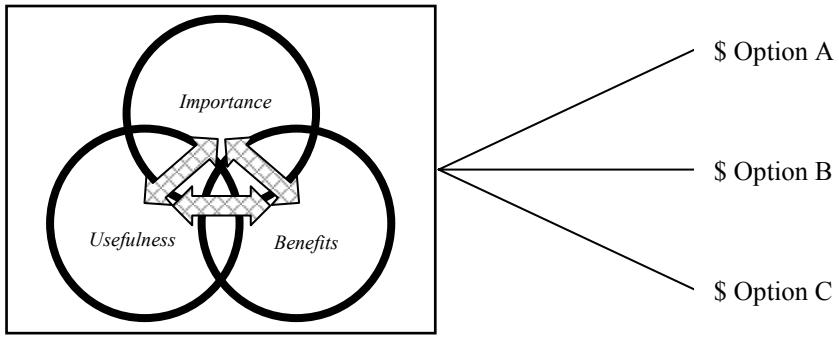


Figure 2 - The Concept of Value for money

The notion of "value for money" is depicted in figure 2, showing how this concept may be seen separately from "value". It means that there are options available that can deliver the same "usefulness, benefit or importance" for less cost. It is argued that it is helpful to explicitly differentiate "value" from "value for money" and also to consider separately the concepts of "usefulness", "benefit" and "importance". It thus is also important to recognise confusing usage of terminology that surrounds notions of "value", "value for money", "function" and "basic function" - all of which permeate the Value Management literature. Clearer distinctions may be observed in practice by explicitly framing the concept of "value" in terms of "usefulness", "importance" and "benefit", and by separating the notion of "value" from that of "value for money".

FROM “VALUE” TO “VALUES”

In exploring the concept of value we have neglected an important underlying principle, i.e. the fundamental idea that in many respects “values” may determine what is “value” – there are issues of perceptions in the search for value. There is considerable evidence to suggest that the way in which individuals perceive the world is influenced by their own background, circumstances and experiences (Cook and Slack, 1991). This applies to the way in which people perceive the purposes or uses of things and hence to the way in which people perceive "value". What is of high value to one person may be of no value whatsoever to another. Further, "value" is not a static notion, but rather one that changes from time to time, place to place, circumstance to circumstance, and organisation to organisation. In order to circumscribe “value” accurately so that it may be operationalised effectively in a practical sense, we thus have to add a plurality of perceptions to it. Conventional Value Analysis and Value Engineering literature presents some serious, inherent problems in relation to this, in assuming a single "customer" who determines "value". There may be individual cases such as in manufactured products where it is appropriate to follow the principle that "the customer determines value". But this principle is found to be inadequate and possibly dangerously misleading when dealing with, for example, the initiation of a public facility such as a toll road, or new hospital. In such cases, the idea of a singular customer is not helpful, and is far more useful to consider a view that may transcend a singular customers notion to include that of a plurality of customers – for convenience we use the popular term “stakeholders”, despite a whole range of definitional contradictions in this term. Our intention is to convey an appreciation for the value (sic) of inclusiveness in the development of an operationalised statement of value (sic). Consider the situation depicted in figure 3.

In cases such as this, it is plurality of perceptions of value that needs to be captured in order for collectively informed decisions to be made. Within any group of stakeholders in public projects, there are likely to be multiple perceptions of what is useful, beneficial and important, following the model presented in Figure 2. Such values will guide the stakeholders' thinking about proposed projects and need to be made explicit at the outset.

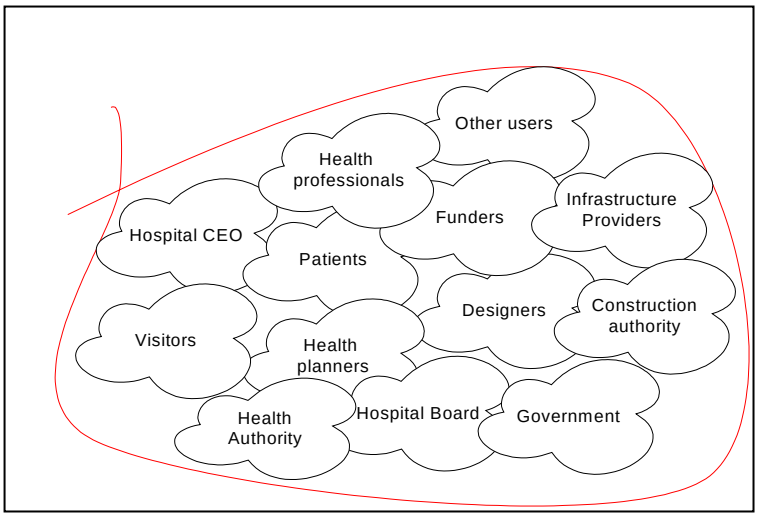


Figure 3 - Plurality of Stakeholders

Even with an intuitively appealing truism such as this, there are philosophical complexities. After all, objectively, what can be viewed as important to a stakeholder and what not? What is subjective and what is objective? It may be endlessly debated, but we can draw on the thoughts and insights of Pike (1982), who asks: "What is a chair", he asks, "if there is no one to sit in it; a flute, with no player; a concert, with no listeners; a of several saw, with no carpenter?" He then proposes that the relevance or intended use of a thing is part of its nature "as experienced by us"; a dimension added to it by its designer or user or deduced by an observer. It is therefore what we define it to be – and what we define it to be will depend on our point of view, or perhaps more encompassing, our values. If we see the notion of "value" as some amalgam of "usefulness, benefit and importance" and consider separately the notion of "value for money"; and if we recognise that in major projects there is not a single customer but a group of stakeholders, each viewing the world through his or her own eyes, experiences and beliefs; and if we accept the simultaneous subjectivity and objectivity of what we see; then and only then, can we begin to see the essential challenge of capturing those various perceptions and translating them into project requirements and, subsequently, into project outcomes.

It would seem that the challenge in planning public sector projects is thus to capture and incorporate explicitly stakeholder values into the overall process that is to guide decisions about what is to be considered value in a more economic (or even value engineering/value analysis) sense (or, for the sake of extending the framework, what is value in an economic sense). Wilber (1996),says that "the allegedly simple 'empirical' and 'objective' world is not simply lying around 'out there' waiting for all to see (or discover). Rather, the 'objective world is actually set in subjective and inter-subjective contexts and backgrounds that in many ways govern what is seen, and what can be seen in the "empirical" world." These points are extremely important if values are to be integrated into and value is to be captured from decision-making. When identifying the functions or purposes of things, it is not simply about the discovery of objective, quantifiable facts. The function or purpose of a hospital, for example, is not simply lying "out there" waiting to be discovered - instead, all stakeholders must explore values in order to "construct" a statement of function or purpose, drawing together both the subjective and, simultaneously, the objective.

THE CAPTURE OF VALUES

How may the construction of a value statement be achieved? It may be argued then that the challenge is to capture, from a pluralistic, stakeholder perspective, core values that will drive planning, design and construction of projects. In a sense, it is necessary to develop a project "value statement" that is to act as touchstone for decision-making in all aspects of the project, including of course economics. This technically requires the capture and

recording of core values held by the stakeholders in relation to the subject of the study. As alluded to before, many techniques exist to generate these, amongst them one-on-one interviews, questionnaires to stakeholders, and more. The task may also be attempted by use of a small, multi-disciplinary team of people (as in conventional Value Analysis and Value Engineering) to build up a picture of project requirements. But these approaches fall far short of what is required when dealing with complex public sector infrastructure projects such as roads, hospitals, or other public facilities. If we take the notion of public participation seriously, what may be needed in such cases is direct interfacing of the various stakeholders, in a forum where they can work together and, vitally importantly, learn from each other. The benefits that flow from such an approach include accelerated progress, together with broad ownership and commitment (Barton, 1997, 2000, 2002). The notion of team or group learning is conspicuously missing from planning, design and Value Management literature. Group learning may be facilitated by bringing together all key stakeholders in facilitated workshops specifically to create a project learning-environment, where the notions of usefulness, benefit, importance and "value for money" can be captured and translated into project requirements. This may be commenced by constructing a project "primary-purpose statement" followed by a project "value statement", using a modified nominal group process is used to do this. Later, the purpose statement is decomposed into a purpose-means model to complete the picture of "usefulness".

Table 1 is a stylized "value statement" developed in an early-planning exercise for a proposed new hospital. It will be immediately clear that these statements show "what is important" or "what is of value" to the stakeholders and are quite distinct from "value for money" considerations. We can determine whether or not we are getting "value for money" by comparing the costs of different ways of delivering what is "of value".

Table 1 - Part of a Value Statement produced for a proposed new hospital. These are some of the things that are important to the multiple stakeholders

A Hospital within a garden	Patient-Centred Care
• Tranquil, restful, healing environment • Sight, scent and sound of nature • Surrounding patients with nature	• Intuitive, easy movement for patients and visitors • Minimal movement for patients • Taking services to patients • Clustering of services and facilities designed for patients' convenience
High Touch	**High Tech**
• Warm, "cuddly" feeling • calming and cheerful environment	• Wireless communication • Digital imaging • Broadband fibre optic network

VALUE INTEGRATION

Having captured the "values" from the stakeholders, a further challenge remains: that of integrating them. Here too there are philosophical guidelines that help greatly to guide thinking, from the particular to general and vice versa, and it is interesting to note that the process becomes much more tractable because there is now more clarity about the various levels of the taxonomy of complexity surrounding the notions of value. In particular, the work of Wilber (1996) is insightful in providing a framework to facilitate integration of project "values", by recognising subjectivity and objectivity simultaneously and concurrently. He developed a four-quadrant framework that enables any phenomenon (product or process) to be approached from an endogenous and exogenous perspective, and also from the viewpoint of an individual and as a member of a collective. He demonstrates this concept through the following diagram (figure 4).

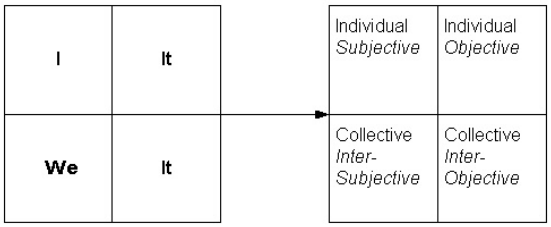


Figure 4 - Wilber's Conceptual Framework

Figure 5 demonstrates how Wilber's model can be applied to create an integrated view of (say) a proposed new hospital. The right hand side of the diagram deals with the objective "facts". It does take a systemic view and enables "wholes", "parts" and interrelationships to be explored but is incomplete without the two left hand quadrants.

"I"	"It"
Personal feelings of "what's important" Priorities Perceptions of usefulness and benefit	Number of beds Number of services Floor area required Cost Time Quality
Cultural "meanings" Equity of health care Access to health services Saftey Roles of doctors and health professionals Roles of hospitals	Systemic relationships between services Systemic relationships between building components Functionality
"We"	"It"

Figure 5 - Wilber's four-quadrant model applied to a new hospital

It may be argued that conventional Value Analysis and Value Engineering deal very well with the top right hand quadrant and, to some extent to the bottom right hand quadrant. Each of these quadrants deals mainly with objective "facts". But the two left hand quadrants frequently attract very little attention, not only in the Value Management literature but also in the project management literature. It is important to see that these two quadrants cannot simply be "added to" current practice, instead integration of all four quadrants is desired. To achieve this, the way we think, and the questions we ask mus Twbd.mwō4(m)8ead

Analys1sis and Value Engineeriinvolvd nes1s .5(the)TJT0012

"Value for Money Management" to a methodology that may be characterised as "Values Integration". It clearly depends on the participation of project stakeholders and sensitive facilitation of various stakeholder values into a project values statement. It is further clear that the notion of public consultation means just that, in order to obtain public support for projects. Further, it is argued that without integrated values, public projects or processes/systems are bound to deliver bad value in one or more of it outcomes, but at worst could function to alienate large sectors of society. It would seem that these are serious concerns in Hong Kong society at present.

REFERENCES

Barton, R.T. (2002). Value Management and Complexity in Infrastructure Project Initiation. PhD Thesis, James Cook University, Queensland, Australia.

Barton, R.T. (2000). Soft Value Management Methodology for Use in Project Initiation - A Learning Journey. Journal of Construction Research. 2:1. Pace Publishing Ltd. Hong Kong.

Barton R.T. and Wilson J. (1997). Value Management - A Vehicle for Project and Team Learning, International Conference on Value Management, Hong Kong (published in conference proceedings), 1997

Cooke, S. and Slack, N. (1991). Making Management Decisions. Prentice Hall International. Hemel Hempstead. UK.

Miles, L. (1961). Techniques of Value Analysis and Value Engineering, McGraw Hill. New York.

Marietta, D. E. Jr. (1991). Thoughts on the taxonomy and semantics of value terms, The Journal of Value Enquiry. 25:43-53. Klewer Academic Publishers, Netherlands.

Pike, K. (1982). Linguistic Concepts: An Introduction to Tagmemics, University of Nebraska Press, Lincoln

Wilber, K. (1996). Eye to eye : the quest for the new paradigm. Random House .Boston.

Wilber, K. (1996). A brief history of everything. Gill & Macmillan. Melbourne.

APPENDIX 1

Various Dictionary Definitions of the term "value" in common use.

Definition	Example of use
The real worth, proper price of something	"they bought the house for less than its **value**"
The property of a thing because of which it is esteemed, desirable, or useful, or the degree of this property possessed; worth, merit, or importance	"the **value** of medicine"
High worth, excellence, usefulness or importance	"the **value** of education"
The power to buy	"the **value** of the dollar fell considerably during the year 2000
The amount of money for which something could be sold	The **value** of the painting
An equivalent or adequate return	"we did not receive **value** for our money"
An estimated worth	"He placed a **value** on his furniture"
Meaning, effect or force	"the **value** of a symbol"
The number or amount represented by a symbol	"The **value** of XIV is fourteen
An established ideal of life	I **value** the environment

PROFILE OF YOUR COUNCILLOR

Dr. Frederik Pretorius – Membership Secretary

Dr. Frederik Pretorius is currently an Associate Professor in the Department of Real Estate and Construction at The University of Hong Kong, where he lectures real estate finance. He has worked in Hong Kong, Australia, New Zealand and South Africa as academic, professional, in the corporate sector and as consultant, in various activities and industries including building, mining and process engineering, real estate development and regional economic development. He has also participated in the conduct of several Value management studies of building and infrastructure projects as part of facilitation teams. Before joining the Department of Real Estate and Construction at the University of Hong Kong, he lectured at the University of Canberra in Australia, and previously at the University of the Witwatersrand in Johannesburg, South Africa. Dr Pretorius has a Ph.D. from the University of Hong Kong and MBA and BSc (QS) degrees from the University of the Witwatersrand.

HKIVM NEWS

- 6 May 2004, our president Tony Wilson gave a presentation to a seminar arranged by MY Leung.
- 12 May 2004, a HKIVM lunch held successfully, very good turnout, thanks to all involved.
- 28 June – 2 July 2004, Value Engineering (VE) Module I Formal Training Workshop – VE Methodology & Application facilitated by Mr. James Rains in Plaza Conference Centre.
- 29 June 2004, HKIVM evening dinner function, presentation was given by Jim Rains. He was invited to give a talk on memorable VM examples and facilitation.
- The election of office bearers was completed in the AGM. An updated list of HKIVM council members was provided in the HKIVM website: http://www.hkivm.com.hk/contact.htm.

FORTHCOMING EVENTS

- 16-18 October 2004, The 2nd International Conference on Value Engineering and Enterprise Technology Innovation will held in Zhejiang University, Hangzhou, China. For more details, please contact Mr. Wang Xiaoyi, Center for Technological Innovation and Industry Development, The school of Management, Zhejiang University, No.38 Yugu Road, Hangzhou 310027, P. R. China. Tel: 86-571-87951838, Fax: 86-571-87965716, E-mail: kevinwxy520@sina.com or visit the website: http://www.cma.zju.edu.cn/icveti.htm.
- 4-5 November 2004, IVMA Conference "Value Management Paving the Way for Australia's Manufacturing, Service & Project Industries, Geelong, Victoria, Australia. For more information, please visit: http://www.value-management.com.au/d_publications/conf.htm.

APPLICATION FOR MEMBERSHIP OF HKIVM

If you are interested in knowing or joining the Hong Kong Institute of Value Management (HKIVM), please download the membership application form from HKIVM website http://www.hkivm.com.hk. Alternatively, please fill in the reply slip below and return it to the membership secretary of HKIVM.

Membership requirements are as follows:

Member (MHKIVM) This classification is available to individuals who can demonstrate an acceptable level of knowledge and experience in the field of Value Management. For admission, details on the Application Form are to be completed and copy of CV outlining professional employment, experiences and value management background enclosed. **Value Management Background** incorporating details of VM training and courses in VM process, application and techniques, number of studies, types of studies, role in process, days and dates should be stated clearly in the CV.

Associate Member The Associate Member classification is available to any individual who can demonstrate interest in the objectives of HKIVM, but may not have had sufficient Value Management experience to qualify as a Member.

✂ -

Request of the HKIVM Membership Application Form

To: **Dr. Frederik Pretorius**
Department of Real Estate and Construction,
The University of Hong Kong
Pokfulam Road., Hong Kong.
Tel: (852) 2859 2128, Fax: (852) 2559 9457
Email: fredpre@hkucc.hku.hk

Please send an application form for membership to the undersigned:

Name: ______________________ **Company:** ______________________

Address: ______________________ ______________________

______________________ ______________________

Title: ______________________

Tel: ______________________ **Fax:** ______________________

Signature: ______________________ **Date:** ______________________