The
VALUE
TIMES

INSTITUTE OF VALUE MANAGEMENT AUSTRALIA
Ensuring better value for money

WINTER EDITION 2019

President's Message

Knowing the price of everything and the value of nothing.

We are probably all familiar with the saying that someone "knows the price of everything and the value of nothing."

Lesser known will be the source of the quotation: it is from Oscar Wilde.

In his play *Lady Windermere's Fan*, he defined a "cynic" as one who knows the price of everything and the value of nothing.

Also, in his book *The Picture of Dorian Gray*, he said that "Nowadays, people know the price of everything and the value of nothing." The word "nowadays" in the quotation relates to the late 1800s, but I wonder to what extent the quotation applies to 2019?

I think that the principle behind the quotation is quite relevant today. The actual words of the quotation were, of course, exaggerated to give effect.

What I mean by this is that no one could possibly know the price of literally everything.

But the principle is clear – *we often focus on price to the exclusion of value*. With this, I strongly concur.

This all takes me back to the time when I was writing my PhD thesis and I came upon the work of the famous philosopher and mathematician, Daniel Bernoulli.

"We often focus on price to the exclusion of value"

In 1738, Bernoulli wrote that "the value of an item must not be based on its price but rather on the utility which it yields".

If his advice had become normal practice, then Oscar Wilde, some 150 years later, would have had no cause to write what he did.

Bernoulli's statement – *value is to be found in utility, not price* – is profound and, since the time that I learnt about it during my PhD journey, it has continued to guide my thinking and practice.

It was during my PhD journey that I began to wonder how we could put Bernoulli's observation into practice in Value Management.

I could see that conventional Value Analysis and Value Engineering went some way towards that end in focussing on 'function' (utility) but those conventional processes still combined 'value'' and 'cost' (or price) into a single entity (expressed as value = function/cost).

I thought that if we could separate 'value' from 'price', then we would have a means to rationally consider any entity – literally anything – in terms of its value and its price; recognising that the value is not in the price – it's something separate.

This was the challenge: develop a structure and/or process that would help people to determine the value of something, quite separately from determining its price.

If this could be achieved, then Oscar Wilde's observation that "Nowadays, people know the price of everything and the value of nothing" would be rendered obsolete.

We want to separate 'value' from 'price' (or 'money'). Note that when we talk about 'value', we do not mean 'monetary value'. We mean it in exactly the way that Bernoulli meant it in his statement that v*alue is not in the price.*

We also mean it in exactly the way that Wilde meant it in his quip about k*nowing the price of everything and the value of nothing.*

First, let's look at 'value'. Why does something have value?

Continued on page 2

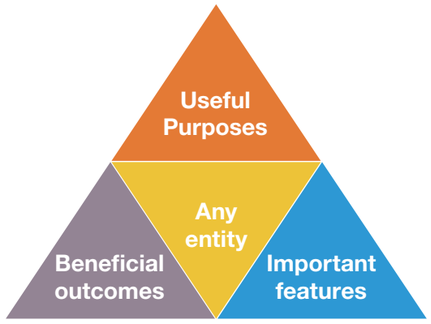
President's Message

Continued from page 1

Something has value, at least to someone, for these reasons:

- It fulfils a useful purpose
- It delivers benefits as a result of fulfilling the useful purpose, and
- It has important features or characteristics.

We embody these three attributes diagrammatically within a 'Value Triangle' as shown in the following diagram.



Value Triangle

If the 'thing' delivers at least one of these attributes, then it will have value, at least to someone. 'Value' is a very subjective matter and will change from person to person, organisation to organisation, place to place and time to time.

If we want to know the value of a new hospital at the commencement of planning and design, then it is of no use simply asking the CEO of the hospital to answer the question – except from her or his point of view.

We must also seek the views of those who will use the hospital and a variety of stakeholders and then, collectively, create a 'Value Statement' that captures their collective views of 'useful purpose', 'benefits' and 'important features'.

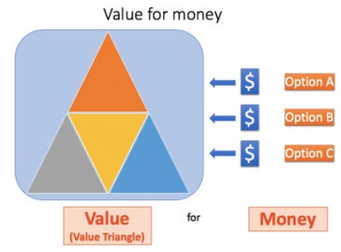
We can produce such Value Statements for anything and, having done that, we can turn our attention to 'price' – i.e. the price being charged to deliver the thing of value.

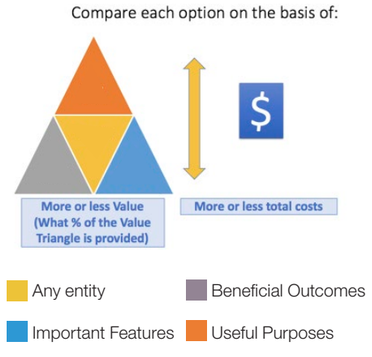
In virtually all procurement activities, there are multiple ways in which specified needs can be provided. Our challenge in Value Management is to help people select the option that delivers best value-for-money.

Once we have a Value Statement, then the task of determining best value-for-money is significantly simplified.

What is required is to systematically compare the extent of 'value' provided by each option with the prices for each of those options.

Where possible, 'price' should reflect 'total costs', not simply the initial price paid. This is shown in the following diagrams:





"Once we have a Value Statement, then the task of determining best value-for-money is significantly simplified."

While I have used this model of practice for well over 20 years, I have only recently written about it in the international literature (see "The Value for Money Concept" in this edition of *Value Times*).

In the paper referred to, I make the point that the principles underpinning the process of achieving best value-for-money apply whether the subject is a multi-billion dollar mine project or breakfast at a local café.

These concepts of 'value' and value-for-money are embedded within the Australian Standard on Value Management AS 4183-2007. This standard differs from other VM standards and practices around the world in its separation of 'value' and 'money'.

By doing this, it enables us to consider how much 'value' we're getting for our 'money', completely satisfying Bernoulli's position that value is not in the price, and giving everyone a solid defence against Wilde's accusation of knowing the price of everything but the value of nothing – as long as they do this!

Dr Roy Barton
President, IVMA

The Value for Money Concept

The following abstract refers to a peer-reviewed paper published in the ***Project Management Journal Vol. 50(2) 210–225 a 2019.*** *IVMA's President, Dr Roy Barton, was the primary author, together with his colleagues at the University of Melbourne, Dr Ajibade Aibinu and Jose Romero (PhD candidate).*

"The Value for Money Concept in Investment Evaluation: deconstructing its meaning for better decision-making"

Roy Barton, Ajibade A. Aibinu, and Jose Oliveros

Abstract

The term 'value for money' (VFM) is a poorly understood concept in practice. There is a lack of clarity in its application, especially in the distinction between 'value' and 'money' when assessing VFM in investment evaluation and decision-making. This article clarifies the ambiguities in VFM by conceptually deconstructing its meaning using a 'value triangle model' and, on that basis, we propose a six-step VFM assessment procedure, which has been tested during VFM workshops on infrastructure projects. Departing from the existing concept of 'value' in Value Management and Value Engineering literature, the 'value triangle model' rests on Daniel Bernoulli's concept of 'value' as captured in his famous quotation: "The value of an item must not be based upon its price but rather on the utility which it yields" (Bernoulli, 1954, p. 24). We deconstruct 'value' into three components using everyday language: 'useful purpose', 'beneficial outcomes', and 'important features', making it applicable to any VFM decision context. By making a clear distinction between 'value' and 'money' and, by treating 'value' and 'value for money' as separate notions, greater clarity of VFM is provided, thus enabling more effective measurement in practice. Implications of the proposed deconstruction of VFM and the six-step procedure are discussed using stakeholder theory.

Keywords

'decision-making', 'money', 'private sector', 'procedure', 'procurement', 'public sector', 'value', 'value for money'

John Bushell
Chair Publications and Events Committee, IVMA

"The value of an item must not be based upon its price but rather on the utility which it yields"

Where to, Australia?

"A stronger economy. More jobs. Guaranteeing essential services. The government living within its means. That is what this budget is about."

Scott Morrison, Australian Prime Minister, 8 May 2019.

Less than one month later, on 4 June 2019, the Reserve Bank dropped interest rates by 25 basis points to 1.25%: lower even than the 1.55% rate set in response to the 'global financial crisis' that occurred between mid-2007 and early-2009.

On the same day the historic 'low' in interest rates was announced, the Productivity Commission issued its "PC Productivity Bulletin, May 2019".

Despite the Government's protestations to the contrary, this information points to a steadily weakening economy over the last 6 years with little sign of improvement in the near term.

While some discrete sectors of our economy have performed relatively well, the Productivity Commission has found a number of weaknesses in the Australian economy, which have "far reaching" implications. These include:

- Labour and multi-factor productivity performance in the economy deteriorated in 2018 when compared with the two previous years – generally we are doing things worse rather than doing things better.
- This results in stagnation of real wages growth, (the difference between wages and consumer prices) which is the lowest since the mid-1980s with consequent slowing of demand in the economy generally.
- In the last 3 years capital investment has fallen to less than half the average annual capital investment growth of 4% in the previous 42 years. This is troubling because investment typically embodies new technologies, which complement people's skill development and innovation and increase productivity.
- The weak growth in economy-wide labour productivity impacts some key market sector industries including "*electricity, gas, water and waste services, agriculture, forestry and fishing*".

Continued on page 4

Where to, Australia?

Continued from page 3

- Growth in research and development (R&D) capital formation is even more subdued than capital formation generally, so that the R&D investment share of total investment has also fallen.
- The investment share of businesses that are innovators, that is going beyond R&D, is no longer growing.

However, as Gaylord Nelson observed in 2002, "*The economy is a wholly owned subsidiary of the environment, not the other way around.*"

It is no use having a strong economy – or even a weak one – if you have not secured the environment within which that economy operates. In this regard, two recent United Nations reports give cause for even greater alarm than the recent economic events referred to above:

- The "Global Warming of 1.5 degrees" report issued by the Inter-governmental Panel for Climate Change in February 2019
- The "Global Assessment Report on Biodiversity and Ecosystem Services" issued by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on 6 May 2019

The first report states that man-made greenhouse gas emissions must be halved by 2030 and be reduced to zero by 2050 to avoid catastrophic global warming impacting on life on earth.

The second report warns that at current species extinction rates, one million of earth's 8.7 million known species risk extinction by 2030 with significant negative impacts on our economies, livelihoods, food security, health, and quality-of-life worldwide.

Both reports warn that human impact on our oceans is critical: 93% of the heating of the planet goes into the oceans and acidification, dead zones, overfishing and plastic pollution place further stress on these critical resources.

It should be clear by now that our economic focus now needs to be based primarily on preserving a viable planet on which both the environment and human economy can prosper.

This will not be easy.

NASA's Goddard Institute of Space Studies has advised that, in order to achieve the required reductions in man-made greenhouse gas emissions, we will need to reduce global emissions at a rate of between 6.5 – 8% per year to 2050.

This may seem a high rate for a 30-year period but there are three major 'growth factors' that we must account for and combat:

- Increasing human population (forecast to increase from the current 7.8 billion to 9.8 billion and 11.2 billion by 2050 and 2100 respectively)
- Increasing demand for higher standards-of-living, particularly in developing nations

Unpredictable climate acceleration factors, primarily 'feedback loops' and 'forcings'- both of which are expected to accelerate as the planet heats-up further.

The Climate Council has advised that for Australia to meet this challenge, by 2030 we must reduce emissions by 60% from their level in 2005 – not the current government's target of 26 – 28%.

However, we are failing spectacularly to meet even this low goal.

Ndevr Environmental – a specialist carbon, energy and sustainability focussed consultancy – has advised that Australia's financial-year 2018 greenhouse gas emissions, excluding unreliable land-use changes, were the highest on record at 558 million tonnes of carbon dioxide equivalent.

Just in the last 3 months of 2018 alone, Australia's emissions exceeded the 60% reduction trajectory by the equivalent of driving 23 million cars over the same 3-month period.

Therefore, just to survive, let alone prosper, Australia needs motivation and direction – plus effectively utilised capital and innovation – to reduce our emissions based on the best science available.

First, lets look at motivation and direction.

On 2 May 2019, following 10 days of extensive demonstrations in London by Extinction Rebellion, the United Kingdom Opposition Leader, Jeremy Corben called on the government to declare a "Climate Emergency".

By 25 May, 594 jurisdictions in 13 countries had declared a 'climate emergency'. Populations now covered by jurisdictions that have declared a 'climate emergency' amounted to 70 million citizens.

Should it wish to do so, our government could take the following advice attributed to Sir Winston Churchill: "*Never let a good crisis go to waste".*

Action to reduce Australia's greenhouse gas emissions, and to encourage other nations to do likewise, should come from the realisation that Australia is the developed nation that will be most impacted by ongoing global warming with consequent ballooning negative social and economic impacts.

Direction can best be provided by putting a price on greenhouse gas emissions: as recognised by economists worldwide but apparently not by the latest crop of politicians in Canberra.

Now capital and innovation.

The first place to look for capital is to rapidly reduce and eliminate the $7 billion in fossil fuel subsidies that Australia 'invests' annually to hasten global warming.

The joint Oil Change International and the Overseas Development Institute also found that G20 economies are paying $633 billion annually as subsidies to oil, gas and coal companies – more than three times the subsidies to the low-emissions renewable energy industries.

The second place is to take advantage of the recent lowering of interest rates which, with inflation, make the real cost of borrowing for research, development and infrastructure close to zero over time.

The need for innovation, for both environmental and economic reasons, is nationwide and multi-sector: energy generation and use, transportation, buildings, industry and agriculture.

This urgent need for innovation should raise interest in the Value Management community! Value Management, together with science and technology, can significantly improve products and services whilst reducing risk – a critical factor when addressing global warming.

And it can do so effectively at low cost.

The article, **Value Management in Germany** in this edition of *Value Times*, demonstrates the effectiveness of Value Management in European industry.

So what could be the benefits of taking effective action to minimise the damage from global warming?

Key benefits from a rapid reduction in emissions include:

- Possibly avoidance of catastrophic global warming leading to extinction of life on earth
- Avoidance of some of the 'avoidable costs' of deaths and infrastructure destruction resulting from more extreme weather events
- Reduction in the present 8 million human deaths annually as a consequence of airborne pollution and related poor health within the 91% of the global population who live in areas where air quality exceeds the World Health Organisation guidelines.

Finally, our children and grandchildren would benefit if we follow the advice of the patron saint of Europe, St Catherine of Sienna (1347 – 1380): *"This world is not a gift from our fathers but a loan from our children".*

John Bushell
Chair Publications and Events Committee, IVMA

Value Management in Germany

Dr Engineer Marc Pauwels

In April this year, Dr. Engineer Marc Pauwels made his first visit to Australia exploring areas of the east coast including the Great Barrier Reef.

Marc is a qualified and experienced Value Management (VM) consultant who, in addition to European qualifications, is a Certified Value Specialist and also a fellow of the Society of American Value Engineers.

Marc is director of Krehl & Partner GmbH & Co. a Karlsruhe-based Value Management consultancy.

The company's founder, Prof. Hermann Krehl, introduced Value Management into Germany in 1967. The company's application of VM takes an holistic approach and spans from value analysis of processes and products to strategic corporate management. The company has successfully completed more than 3,500 commissions.

IVMA representatives Colin Davies, Mark Neasbey and John Bushell met with Marc Pauwels to exchange information and ideas on the application of VM in Germany and Australia.

In Germany, considerable use is made of VM in manufacturing and almost none in infrastructure investment — whereas the reverse is true in Australia.

The key qualifications in VM in Europe are Professional in Value Management and Trainer in Value Management.

Continued on page 6

Value Management in Germany

Continued from page 5

Approximately 1,000 people per-year receive basic training in VM to become Qualified Value Associates. There are 72 qualified Professionals in Value Management in Germany today.

Initially VM was used in Germany to improve existing products but, by 1987, a new German standard for VM was issued. The new standard reflected a move towards applying VM very early in the product development process — at the project definition/project specification stage.

Krehl & Partner has an extensive list of clients across all areas of manufacturing including ABB Automation Products, Bayer and Electrolux.

Results of commissions have included significantly improving and extending the functionality of products, reducing processing time by up to 80% and reducing production costs by up to 40%.

Their studies have also reduced risk at both the production and corporate level for their clients.

VM commissions in Germany typically last from 3 to 9 months and include significant follow-up work including incorporating quotations from suppliers, prototypes, tests and initial production runs.

IVMA members explained that in Australia, whilst VM was introduced in the early 1960s, its major use has been from 1990 onwards and mainly in state-managed infrastructure developments for both new works and refurbishment/ modifications to existing infrastructure.

Major areas have been transport (road and rail), water supply and sewerage systems, healthcare, education and community facilities such as sports facilities.

Typically the studies are performed at an early stage of the project or program development process when representatives of all stakeholder groups participate in the studies, which may include some 30 to 40 participants.

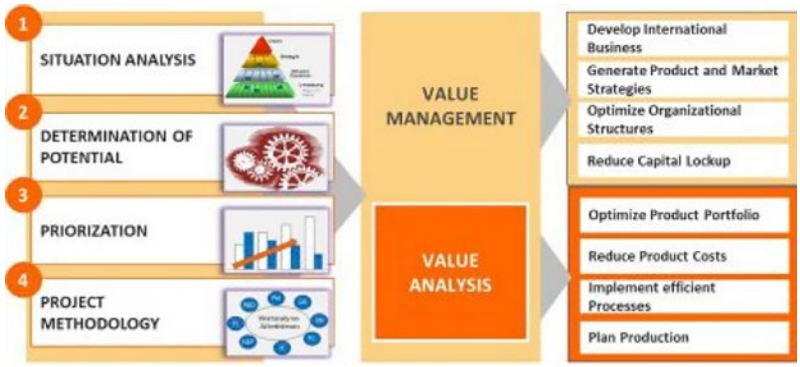
This approach ensures that there is a clear understanding and agreement of the project 'value', 'objectives', 'scope' and 'required outcomes'.

VM played a significant part in the success of the year 2000 Olympic Games that were held in Sydney. The techniques were applied at the strategic level to reach rapid agreement on the transport strategy and to the brief and design stages of all the games' venues as well as operational procedures and safety processes for the management of people flows.

Key benefits of the application of VM means that, in a commercial application, Board approval is usually achieved on first application because all the difficult questions raised by Board members have already been identified and answered in the VM study.

In the government application, after the VM study the disparate stakeholder groups will have achieved consensus and will support the project through to completion and operation.

John Bushell
Chair Publications and Events Committee, IVMA



Value for the Belt and Road Initiative

The Hong Kong Institute of Value Management is holding a conference specifically aimed at encouraging nations that may benefit from China's Belt and Road initiative to adopt the application of Value Management on infrastructure projects.

The conference will have speakers from Kuwait, Sri Lanka, Iran, Malaysia, Netherlands, Indonesia Philippines, Pakistan, Brunei and Hong Kong.

The focus will be on understanding the current international application of Value Management particularly in a Project Management context.

The conference will be held in Hong Kong on 29th and 30th June 2019.