

Digital Transformation and Value engineering practice – A real case study application, Jeddah, Saudi Arabia

Presented by:

**Prof. Emad W. Shublaq, F.SAVE, CVS-Life
President**



Cairo – Egypt

Digital Transformation

- **Digital transformation** (DT) is the process of adoption and implementation of digital technology by an organisation in order to create new or modify existing products, services and operations.
- **Digital transformation** is the application of digital technology to fundamentally impact all aspects of business and society.
- The goal for its implementation is to increase value through innovation, invention, and customer experience on efficiency (Wikipedia).

Digitisation and Digitalisation

- **Digitisation**

Is the move from analogue to digital.

- **Digitalisation**

Is using digital data to simplify how you work. The process of using digitised information to make established ways of working simpler and more efficient.

Digital transformation – Before we start !

- **Netflix**

Is a great example, it started out as a mail order services and disrupted the brick – and – mortar video rental business. Then digital innovation made wide –scale streaming video possible.

Today, Netflix takes on traditional broadcast and cable television networks and production studio all at once by offering a growing library of on-demand content at ultra-competitive prices.

Digitisation gave Netflix the ability not only to stream video content directly to customer, but also to gain unprecedented insight into viewing habits and preferences.

That`s digital transformation in action: taking advantage of available technologies to infocus how a business runs.

- **Toys “ R “ Us**

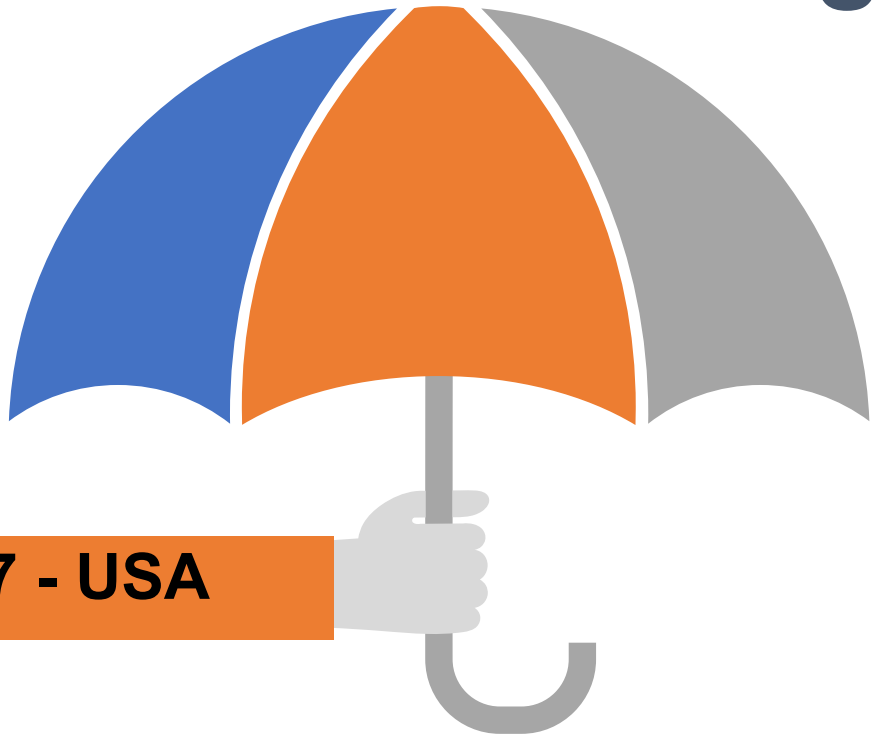
In 2018, 70 – years – old Toys “ R” Us closed its doors for good. Children were beginning to play online games while the shopping experience had moved online. Toys “R” Us lacking the agility to cross over to the digital world, allied itself with a startup called Amazon which led to the toy store collapse.

Value Methodology

Value Methodology (Analysis, Engineering, or Management) is the most effective technique known to improve value, and eliminate unnecessary costs in product design, testing, manufacturing construction, operation, maintenance, data, and processes and practices. While its application to processes and practices is less well known, effectiveness in this area has been highly successful.

Value Analysis Handbook, June 2009
National Economic and Development Authority
Australian Government – AusAID

Value Methodology SAVE-Int.



1947 - USA



Value Analysis



Value Engineering



Value Management

Value Methodology Definition

Value Methodology (VM) as defined by the Society of American Value Engineers (SAVE-International), is

“the systematic application of recognized techniques by multi-disciplined team (s) that identifies the function of a product, a project, a process, or a service; establishes a worth for that function; generates alternatives through the use of creative thinking; and provides the needed functions, reliable, at the lowest overall cost”

VM may be defined in other ways, as long as the definition contains the following three basic precepts:

1

An organized review to improve Value by using multi-disciplined teams of specialists knowing various aspects of the problem under study

2

A function – oriented approach to identify the essential functions of the product, project, or process being studied and costs associated with those functions

3

Creative thinking, which uses recognised techniques to explore alternate ways of performing the functions at a lower overall cost or otherwise improve the design, process, or product effectiveness

Value Methodology Workshop/Study (32 hrs.)

The best results are achieved by a multi-disciplined team with experience and expertise relevant to the project being studied. A certified Value Specialist (CVS) usually leads the team to ensure the VM is properly followed



The 5 main questions in Value Engineering



What is it?



What does it do?



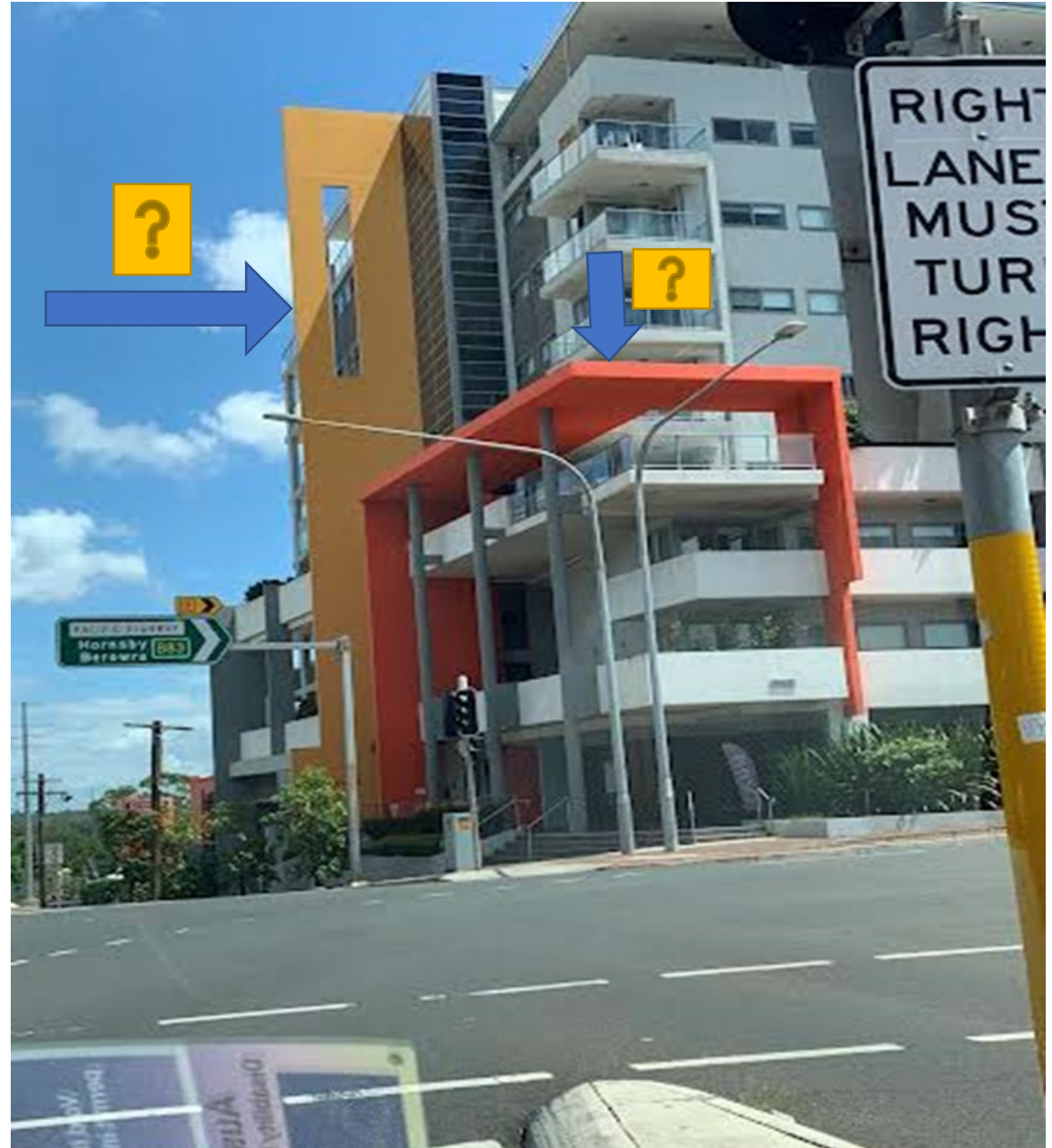
How much it costs?



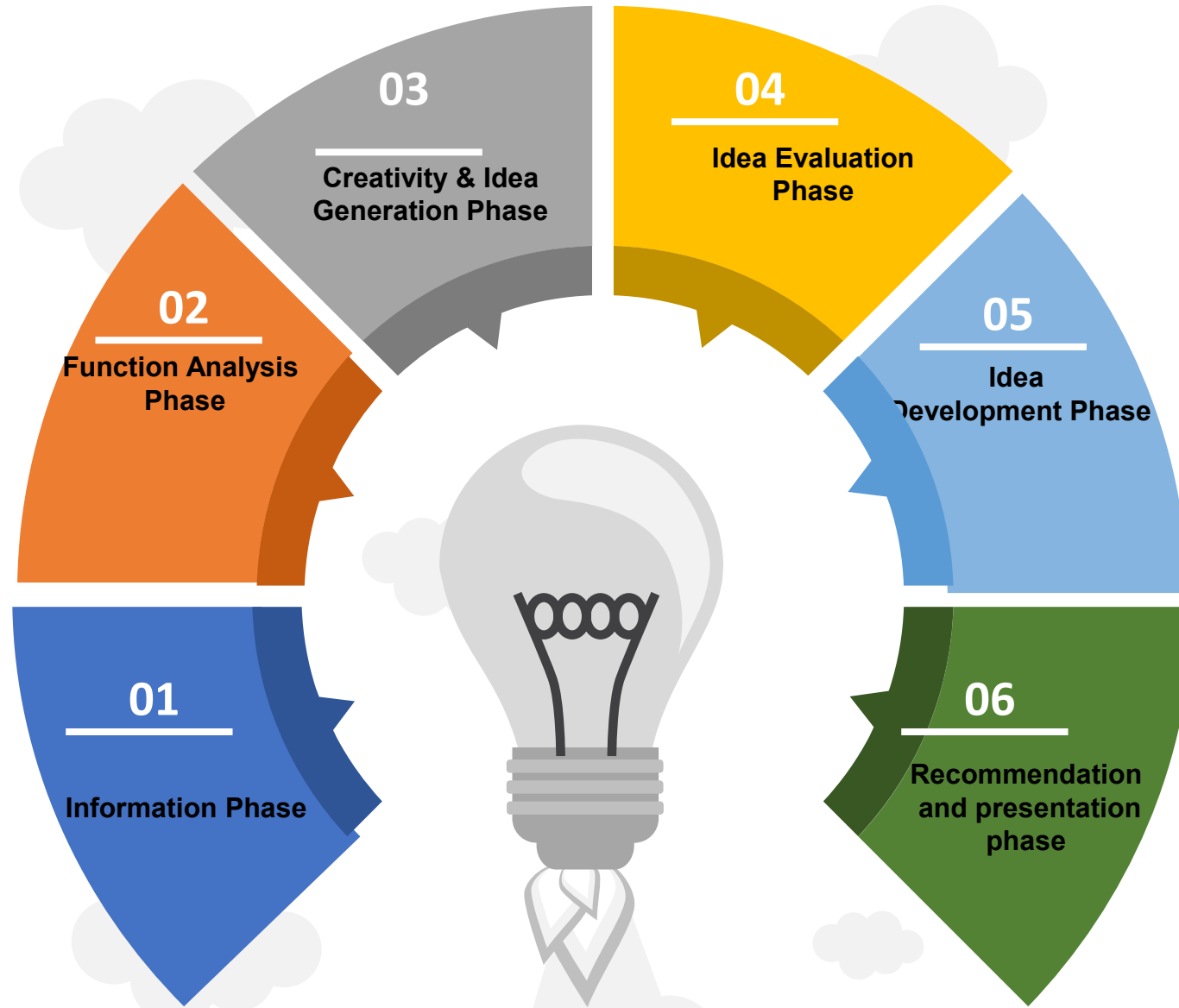
How much it worth?



Value Index – VI?



PREPARATION



IMPLEMENTATION

Value Engineering Job Plan





The 5 main questions in Value Engineering!

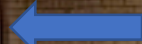
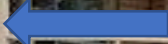




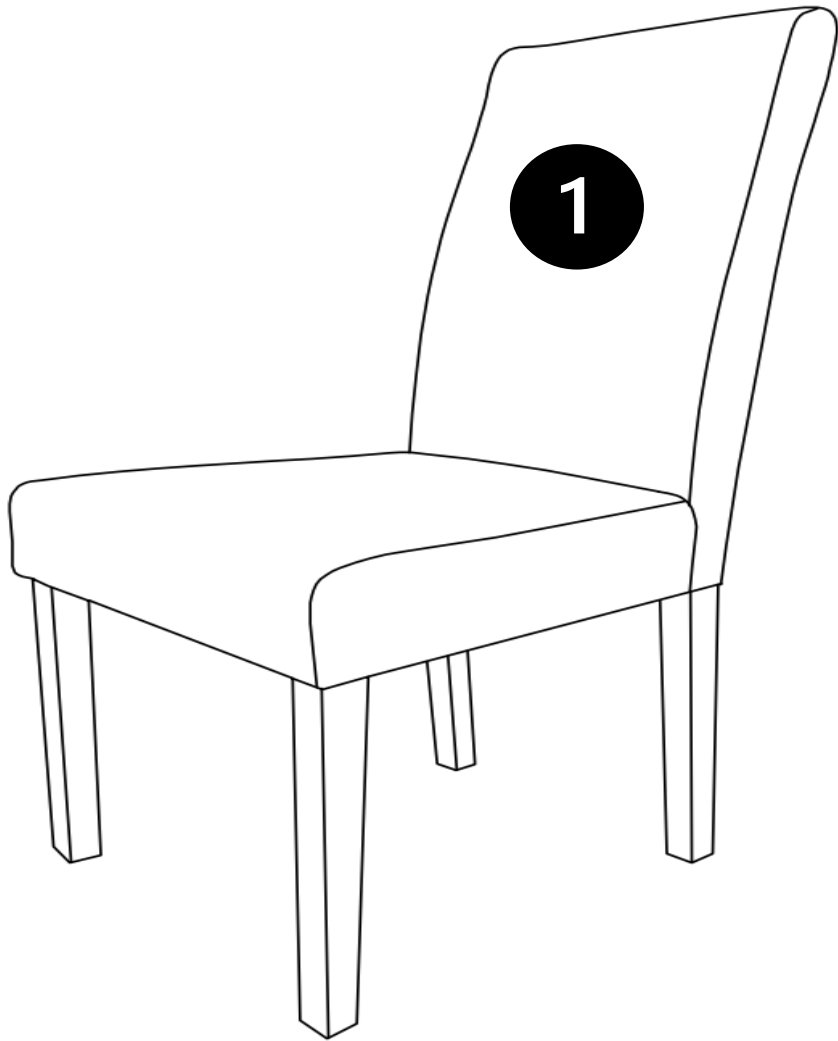
**Do we need 12 Col. to support the roof?
Unless there is something stored there!**



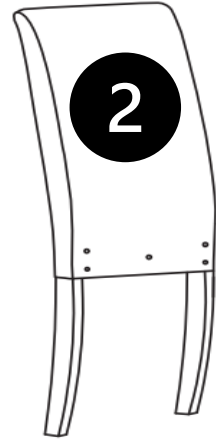
?



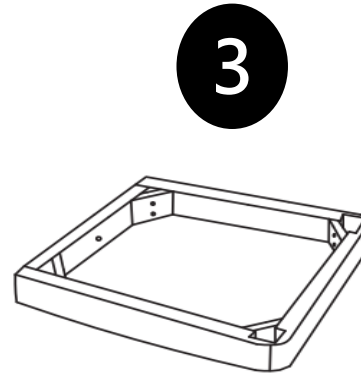
Function Analysis – Example 1



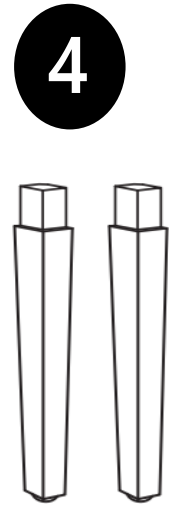
Total Cost = \$69.75



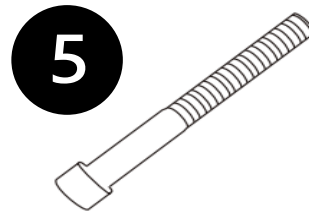
1 x Back Frame
(P1) = \$30



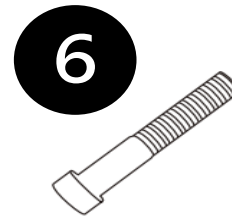
1 x Seat Frame
(P2) = \$20



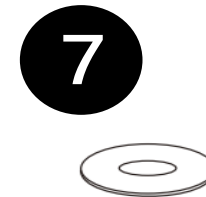
2 x Front Legs
(P3) = \$10
\$5 Each Leg



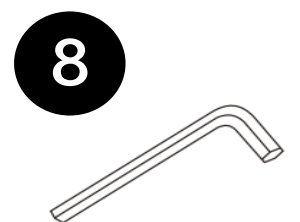
4 x Long Bolts
(H1) = \$1 Each



5 x Medium Bolts
(H2) = \$0.5 Each



9 x Washers
(H3) = \$0.25 Each



Allen Key
= \$1

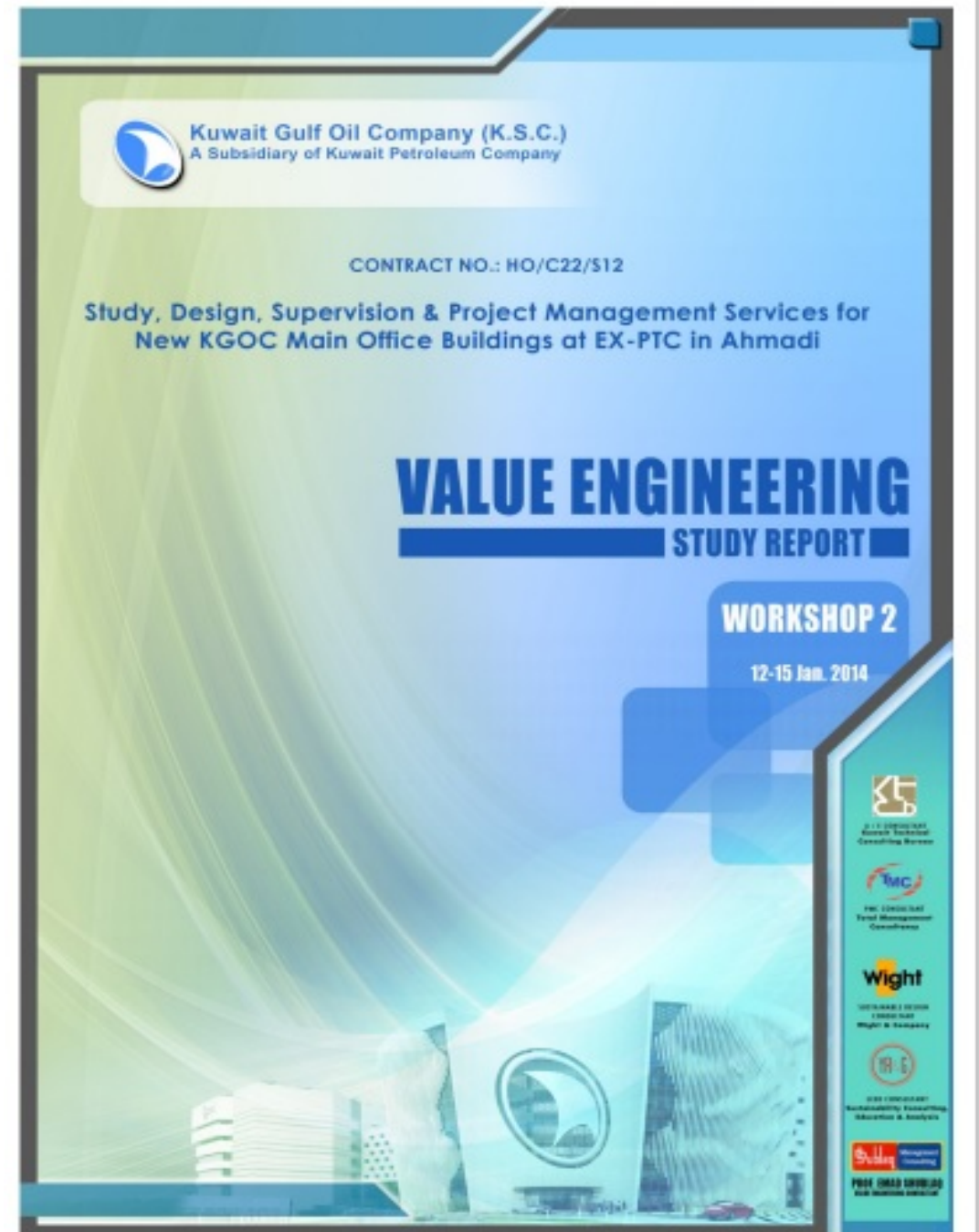
Function analysis : A Chair

Basic Function: Accommodate sitting
OR Maintain seating position

Component	Verb	Noun	Kind	Cost	Worth	Value Index	Comments
1- Chair	Accom. Maintain	Sitting Seating Pos.	Basic	\$ 69.75	\$ 59.75	0.85	Consider Shape redesign
2- Back Frame	Support	Back position	Req. Sec	\$ 30	\$ 20	0.70	Modify shape
3- Seat Frame	Ease / Provide	Comfort	Basic	\$ 20	\$ 20	1	N/Comm.
4- Front Legs	Elevate	Seating/Sitting	Basic	\$ 5x2=10	\$ 10	1	N/Comm.
5- Long Bolts	Tight/Tighten	Components	Basic	\$ 4x1=4	\$ 4	1	N/Comm.
6- Medium Bolts	Tight/Tighten	Components	Req. Sec	\$ 5X0.5= 2.5	\$ 2.5	1	N/Comm.
7- Washers	Control Fix	Fixation Movement	Req. Sec	\$ 9X0.25=2.25	\$ 2.25	1	N/Comm
8- Allen Key	Fasten	Components	Secondary	\$ 1	\$ 1	1	N/Comm.

Kuwait

- ❑ January 2014
- ❑ No. of Ideas: 51
- ❑ Construction cost: U\$ 2.5m
- ❑ Savings: 7.2%
- ❑ Value Index = 0.923 (1:00 is Ideal)
= Cost after VE/Cost before VE



Bahrain

- ❑ December 2017
- ❑ No. of Ideas: 28
- ❑ Construction Cost: U\$ 36.7 m
- ❑ Savings: 6.9 %
- ❑ Value Index: 0.93 (1.00 is Ideal) =
Cost after VE/Cost before VE

VALUE ENGINEERING STUDY REPORT FOR WATERBAY PROJECT - TOWER A



Conducted by:



Omrania عمرانيا

04 December 2017 - 07 December 2017

Manama, Bahrain

Saudi Arabia - Abha

- ❑ March 2018
- ❑ No. of Ideas: 57
- ❑ Construction cost before VE: U\$ 31.2m
- ❑ Construction cost after VE: U\$32.5m
- ❑ Savings: **US\$ - 1.3m**
- ❑ Value Index 1.05 (Ideal is 1.00) = Cost after VE/Cost before VE

OMRANIA
VALUE ENGINEERING SECTION

REPORT NO.
1/3

PRELIMINARY
PHASE

Conceptual

Checked By
Reviewed By
Written By

Checked By
Reviewed By
Written By

Q

almutlag real estate investment
المطلق للاستثمار العقاري

Citadines
SPART HOTEL

**VALUE ENGINEERING STUDY REPORT
FOR BRANDED SERVICED APARTMENTS
ABHA, KSA**

Omrania عمرانيا
Architecture and Engineering Consultants

March, 2018
Riyadh, Saudi Arabia

Australia – NSW

- ❑ August 2020
- ❑ No. of Ideas: 21
- ❑ Construction cost= AUS\$ 930,674
- ❑ Savings: 7.6%
- ❑ Value Index: 0.9 = Cost after VE/Cost before VE

PMRT
Consultants



Civil & Structural Engineers Pty Ltd

Value Engineering Study Report for Duplex and Granny Flats



**23 Tennyson Road,
GREENACRE, NSW**

August 2020

Saudi Arabia – Jeddah

The case study

- ❑ January 2022
- ❑ No. of Ideas: 39
- ❑ Construction Cost: U\$ 43m
- ❑ Savings: 23%
- ❑ Value Index: 0.8 = Construction cost after VE/Construction cost before VE






SAVE International

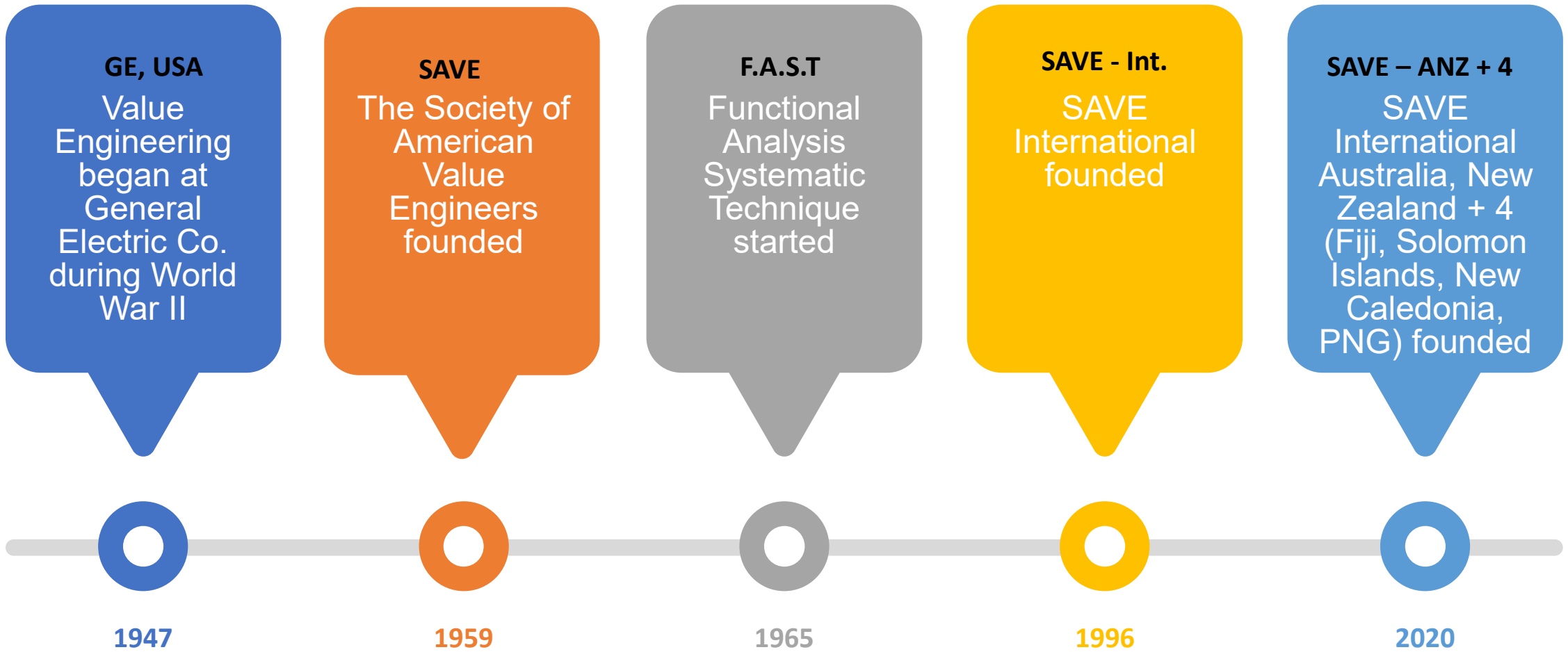
SAVE International® is the premier international society devoted to advancing and promoting the Value Methodology (VM). The Society provides its members education and training, publications, certification, promotional tools, networking and recognition.

SAVE also operates a certification program which is globally recognized as the industry standard for competence in the application of the Value Methodology. The annual Value Summit is SAVE's major event and typically attended by delegates from every continent.



Value Engineering History

1947 - 2022



GE, USA

Value Engineering began at General Electric Co. during World War II

1947

SAVE

The Society of American Value Engineers founded

1959

F.A.S.T

Functional Analysis Systematic Technique started

1965

SAVE - Int.

SAVE International founded

1996

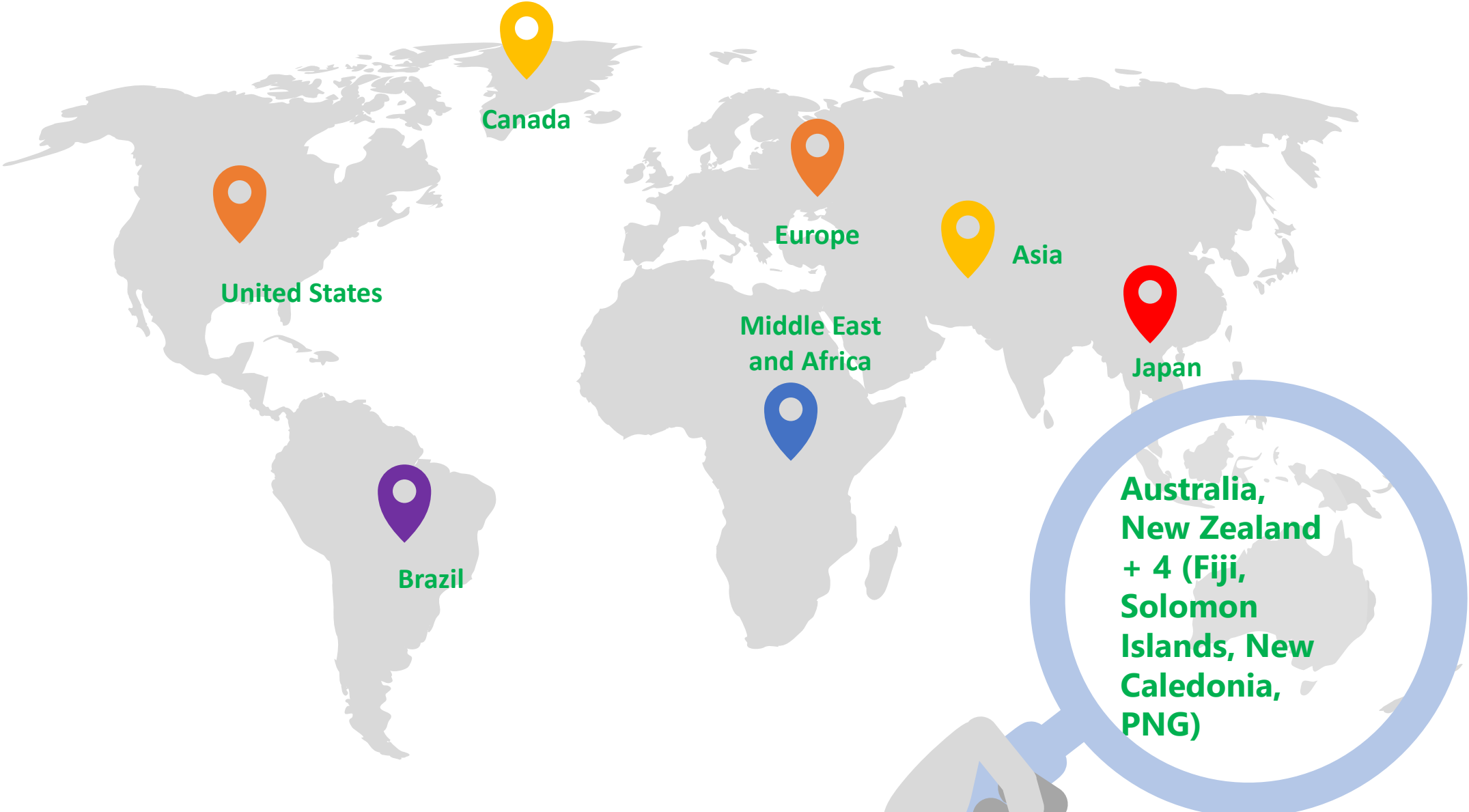
SAVE - ANZ + 4

SAVE International Australia, New Zealand + 4 (Fiji, Solomon Islands, New Caledonia, PNG) founded

2020

SAVE International® Worldwide – More Than 45 countries

1947 - 2022





Vision

Inspiring improvement through the realization of value

Mission

Generate excitement and achieve global demand for the Value Methodology by promoting, advocating, certifying and educating

Value Methodology - Strategic Goals



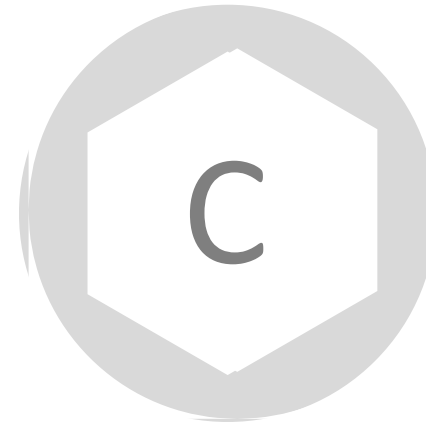
Promote

The Value methodology – the benefits of the methodology to users, customers and the general public while increasing participation in SAVE.



Advocate

SAVE advocates for its members by engaging with public and corporate entities to influence policies to utilize the Value methodology, and through the development of standards and their validation through recognized accrediting bodies.



Certify

Practitioners – SAVE ensures that practitioners meet established criteria by certifying compliance, approving training and maintain standards for the Value methodology.



Educate


People – SAVE gathers and disseminates knowledge on the Value methodology and other Value enhancing methods, and provides training and other educational opportunities for practitioners and individuals.



Our concerns!

Value Methodology is predicated on the proposition that people spend their money on accomplishing functions rather than simply obtain ownership.

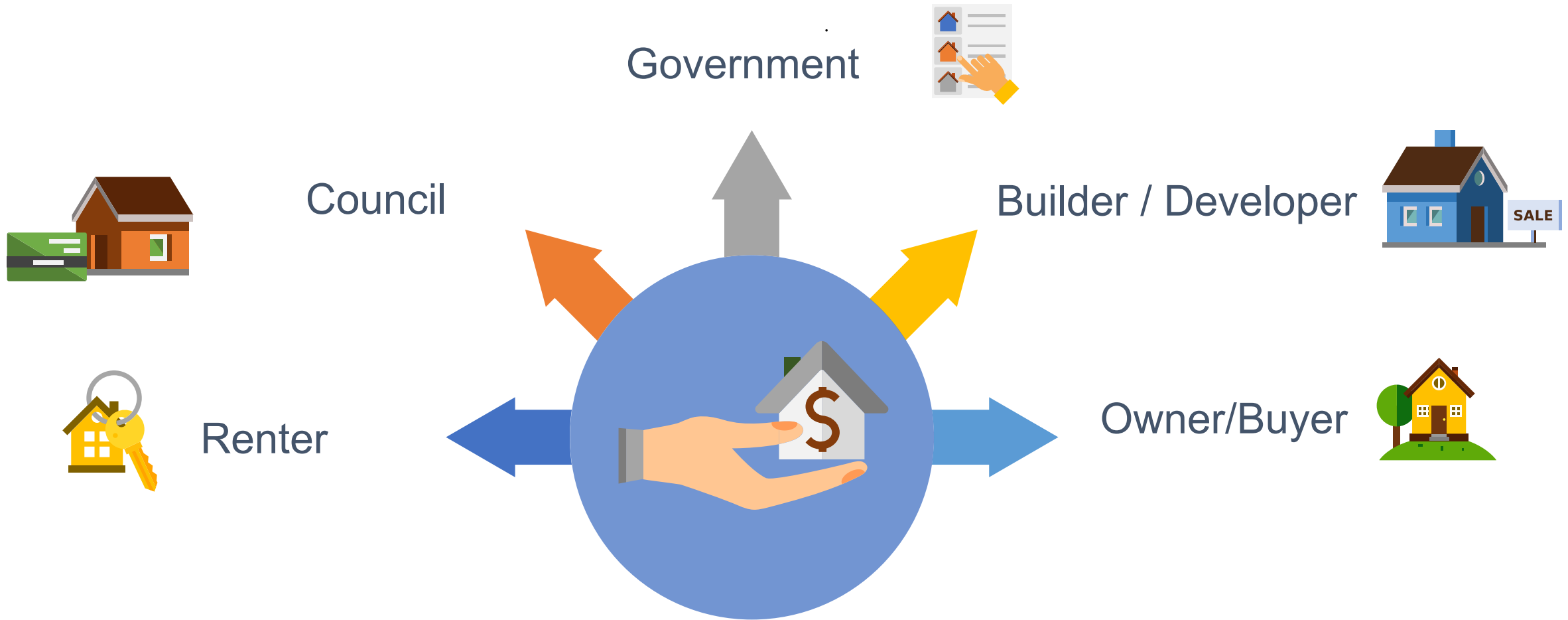
Concern for our environment, energy, and rising costs, requires that the functional needs of safe and efficient project implementation be carefully analysed to obtain these functions in the most economical manners, with minimal disturbance to the environment.



Value Engineering Integration



Value Engineering Interest



ANZ + 4
Chapter for
SAVE
International
Training and
Certification

ANZ + 4 Chapter for SAVE International offers the following courses:

- Value Methodology Fundamentals 1 (VMF 1) – A 32 hours certified training course leading to certification as a Value Methodology Associate (VMA) after passing a SAVE International® Exam
- Value Methodology Fundamentals 2 (VMF 2) – A 32 hours certified training course leading to certification as a Certified Value Specialist (CVS) after passing a SAVE International® Exam
- F.A.S.T. Diagramming

What`s in it for me?

MEMBERSHIP



SAV
Adding Value. Enhancing Ideas.
Australia & New Zealand
+ 4 Chapter



OUR SERVICE

SAVE-ANZ+4 Chapter

Value Engineering Studies

Civil & Construction works,
Infra-structure, Urban
planning, Operation and
maintenance and others



Life Cycle Costing

LCC Studies and Training :

- Present Worth
- Annualized

Value Engineering Training

SAVE –Training programs:

VMF-1

VMF-2

F.A.S.T Diagramming



Value Engineering Integration

Value engineering Vs. TQM, BM, 6
Sigma, BPR, and PM

Value Engineering Certification

Value Methodology Associate
– VMA

Certified Value Specialist –
CVS



Value Engineering R&D

Value engineering
educational and research
development

CONTACT US



602 City view road
Pennant Hills, NSW 2120



edshublaq5@gmail.com



0433991955



www.value-eng.org/group/ANZ

SAV 
Adding Value. Enhancing Ideas.
Australia & New Zealand
+ 4 Chapter