Implementing Values by Setting Goals: What could Possibly go Wrong?

By

MIKE MCDERMOTT

Abstract

The Millenium Development Goals failed, the U.N. plan to improve the world by 2030 is failing, and the World Bank's Environment Strategy 2012-2022 is not advancing as hoped.

The Environment Strategy's first priority is natural capital valuation (NCV): its proposed new development paradigm is rooted in that, including valuing externalities such as emissions. It considers objective, accurate NCV to be vital and critical, but also recognizes that undervaluation is systemic, and a key factor in environmental decline.

Granted all of the above, what can market valuers, whose entire professional lives are spent in developing their understanding of markets, contribute to improving the success rates in implementing such crucially important goals? And can axiology, the branch of philosophy concerned with valuations, and other value-relevant disciplines such as behavioral economics and neuroscience help to provide the broad and deep visions and balanced judgements required to better frame and achieve such goals?

They have already established that applying recipes and formulas will not be enough. The focus of this presentation, then, will be to move beyond such mechanistic approaches towards practicality by opening processes to enfold all relevant values towards the achievement of those goals held not only by implementing agencies but also those of affected parties. Only once the breadths and depths of those valuation scapes are brought to attention, can one extend approaches from those applicable in simple and complicated problem spaces to the others optimal to address complex and wicked problem spaces.

With such a practical framing in place, many things will still go wrong, but many that would have gone wrong by dint of inadequate regard to the complexities faced in implementation of goals will have been

avoided, leaving more time and resources available to tackle the inevitable problems rather than waste them on avoidable ones.

Introduction

An online dictionary defines the noun "value" in two ways: as "relative worth, merit, or importance", and as "monetary or material worth, as in commerce or trade". Similarly, it defines the verb "value" in two ways: "to regard or esteem highly", and "to calculate or reckon the monetary value of; give a specified material or financial value to; assess; appraise". It also remarks that the words "value" and "worth" imply intrinsic excellence or desirability, and that "Value is that quality of anything which renders it desirable or useful" (Dictionary.com).

Our FIG commission is responsible for values in the following context in particular:

"FIG Commission 9 is focusing on the economic strand of surveying and specifically the valuation/appraisal of real estate. Commission 9 also looks at compulsory acquisition, sustainable land and property taxation, new technology such as AVMs, informal land markets, new sectors such as natural-ecosystem value and international standards such ILMS and IVSC valuation standards and methodology".

The IVSC has a broader remit than just real estate, but within the real estate sector we professional valuers still address several definitions of value as provided within the IVS, with the most central and commonly used definition being that of market value, which is currently defined as follows:

Market Value is the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion. (IVS 104 p18 30.1)

Under that definition, a valuer's responsibility extends to ensuring that the real estate sales evidence used in a valuation is also consistent with that definition. When examining circumstances of a sale being considered as evidence of market value, one should ask, "what made the parties willing to trade?", as the motives, means and opportunities must be those at play more generally in the market concerned to be evidence of market value. In making such investigations into circumstances of sales, the words "knowledgeable" and "prudent" are essential filters of evidence, with the seller implementing proper marketing to get the best price, and the buyer attempting to ensure as little a difference from an underbidder as practicable. That is,

comparable sales are to be those generally replicable in the relevant contexts.

When one conducts such investigations, one finds that the first pair of noun and verb – "relative worth, merit, or importance", and "to regard or esteem highly" may well be core factors in determining the result of the second pair of noun and verb: "monetary or material worth, as in commerce or trade" and "to calculate or reckon the monetary value of; give a specified material or financial value to; assess; appraise". So to keep the distinction clear, I shall refer to the first pair as general values, and the second pair, those of core concern to the IVSC, as monetary values.

Axiology, the discipline focussed on attempting to understand general values, is one of the most complex areas of philosophy, of similar import to ontology (on the nature of being), epistemology (the nature of knowledge) and phenomenology (the nature of phenomena). While these subjects may sound airily academic, the reality is quite the opposite: they are about as fundamental as one can get, and if you don't get them right in framing a question, in some problem spaces the answers you find will be sub-optimal at best, and catastrophically wrong at worst:

If a question is ill posed, ill stated, if the premises from which it issues cannot be accepted—then a direct answer to it will automatically be tantamount to falling into error (Panikkar 1989, p.11).

The contention of this paper is that falling into error in both general and monetary valuations can be a core reason for project failures when attempting to implement values by setting goals.

As the introduction to the Valuation Studies Journal states:

Valuation indeed stands as a crucial problem for the social sciences and the humanities today, in more than one way. Understanding the tensions, determinants, contexts and effects of valuation practices appears indeed as a decisive requirement for the understanding of how our world is constructed, transformed or fractured. An interdisciplinary approach is required in order to investigate the technical cultures, the political imaginaries, the historical processes, the methodological problems and the institutional settings that shape the ways in which things are valued, and to identify relevant shifts, controversies and struggles. Sociological, anthropological, cultural, political, semiotic, historiographic, legal, institutional, critical, organisational approaches to the study of valuation phenomena are needed in order to establish tractable, actionable interdisciplinary knowledge on valuation as a problem (https://journal.ep.liu.se/index.php/valuationstudies).

While it is claimed within our monetary valuation profession that:

Valuation is at the heart of all economic activity. Everything we do as individuals or as groups of individuals in business or as members of society is influenced by the concept of value. A sound working knowledge of the principles and procedures of valuation is essential in all sorts of decisions (Ring and Boykin 1986, p. 1):

This paper extends that claim beyond the monetary valuation category to the general valuation category:

Several theories suggest that personal values lie at the broadest level of the cognitive belief system that guides an individual's behavior from within, while motives operate on a more specific level (Rokeach, 1973; Vinson et al., 1977; Honkanen et al., 2006).

Values and motives could thus both be identified as internal guiders of behavior, only operating on different levels: values are abstract, stable and applicable to various life domains, whereas motives are specific, transient and applicable to one single domain (Claessens, Gillebaart and de Ritter 2023).

Therefore, accompanied by motives, means and opportunities, our general values may influence our general activity of all kinds (McClelland 1985).

At the global scales, projects open to such falling into error in both general and monetary valuations include the Millennium Development Goals, the U.N. plan to improve the world by 2030 (the Sustainable Development Goals for 2030), and the World Bank's Environment Strategy 2012-2022.

The World Bank considers its Environment Strategy's first priority to be natural capital valuation (NCV), and that objective, accurate NCV is vital and critical. However, implementing that is not a simple problem: in reality it enters multiple wicked problem spaces, as it involves "a multidimensional spectrum of motivational and contextual factors that go far beyond broad classification into preference economization versus preference moralization" (Wanek et al. 2023). The result?

[A]n enduring disjunction between vision and execution in this field: the promises simply do not materialize. Economizing nature proves to be extremely complex, raising not only technical hurdles but also intractable conceptual and ontological issues (Maechler and Boisvert, 2023, p. 118).

The UN-HABITAT/GLTN initiative I have been involved with over the last decade or so, the Valuation of Unregistered Land (UN-HABITAT/GLTN 2018 and 2021), has been addressing such issues around both general and monetary valuations. In particular, while we valuers focus on the value-driven "Principle of Equivalence" in monetary terms (affected parties should be no worse off financially than they were before), donor organisation and several governments are looking to extending that Principle to the general values of the affected parties. Where monetary compensation is sufficient to fulfil the Principle of Equivalence and where other means are required is a developing concern, and one that impacts not only the appropriate compensation, but also impacts the far broader topic of this paper.

The Roles of Values in Both Setting and Implementing Goals

Why is the road to hell paved with good intentions?

This paper mainly concerns itself with what are termed "amity values" (Levontin and Bardi 2018), insofar as they are the kind of values driving the goals set by the abovementioned global scale initiatives:

Values are broad motivations that can serve as the basis for goals. We propose that values can be used to understand the motivational basis of amity goal orientation, a prosocial goal orientation within achievement situations ... power values are positively related to performance-approach goal orientation; self-direction values are positively related to mastery goal orientation, and security values are positively related to performance-avoidance goal orientation. These findings can explain the pattern of correlations previously found among achievement goal orientations, and open up the potential for new research on amity goal orientation as well as other value-based achievement goal orientations (Levontin and Bardi 2018).

Once amity values set those with the motives, means and opportunities off along their paths to setting goals and implementing them, what kinds of problems may be encountered? In particular, what good intentions emerging from amity values may pave the road to hell?

The axiologist Robert S. Hartman distinguished three main kinds of value:

intrinsic, extrinsic, and systemic, which he often symbolized as I, E, and S respectively. Individual people are intrinsic values; useful things, actions, and social roles in public spacetime are extrinsic values; and conceptual constructs like mathematics, logic, moral rules, cultural conventions, institutional structures, philosophical ideas, religious dogmas, and all thoughts as such, are systemic values. Degree of value

depends on richness in properties, Hartman thought; unique persons are richer in properties than things and social roles, and things and social roles are richer in properties than ideas about them, or any ideas as such. Thus, in the hierarchy of values, people (intrinsic values) rank first; things, actions, and social roles (extrinsic values) rank next; and ideas, rules, constructs (systemic values) rank last. (Edwards et al 2021, pp. 2-3).

Clearly, amity valuations emerge from intrinsic valuations, and as such are more valuable than either extrinsic or systemic values. The prominent modern philosopher takes intrinsic value much further, claiming it to be "an admissible conjecture given the available evidence" that "value is not just an accidental side effect of life; rather, there is life because life is a necessary condition of value" (Nagel 2012, pp. 123-124). This framing has important implications in general valuations, but from our professional valuers' perspective also in monetary valuations, and in particular in one of the areas of Commission 9's explicit remit: valuations for compulsory acquisition.

In our monetary valuers' domain, a direct consequence of Hartman's revaluation of values is the need to consult with affected parties in compulsory acquisitions, yet at the same time remain objective in our assessments of the market value. It is not our job to try to please anyone in any space but the quality of our monetary valuations, which are purposed to the extrinsic value of affected parties' compensation, and it is fraudulent, when acting as an expert, to adjust a figure to suit a client, or anyone else.

However in so doing the views of affected parties may inform both monetary value-related and general value related issues: the former should be considered by the valuer in the monetary estimate, and the latter may be reported to other professionals with relevant competencies beyond our remit. Just as we do, for example, when we suspect a site may have special qualities appealing to intrinsic valuations active in the area, such as a beautiful view, or, on the other hand, the site may be contaminated in some way or another which may significantly reduce the value of the property and may even make it negative. A site may even possess both of those qualities and others besides.

It is in that process of performing valuations in accordance with international valuation standards that we may encounter different kinds of problem spaces. Our categorisations of problems can be problematic themselves, especially so when they treat all problems as objectively resolvable.

When one has the values, motives, means and opportunities to address the problems, two kinds of problems are objectively resolvable (simple and complicated), one kind may be (complex problems), one kind cannot be, but the best that can be done at the time may be discernible (A wicked problem is a complex issue that defies complete definition, for which there can be no final solution, since any resolution generates further issues, and where solutions are not true or false or good or bad, but the best than can be done at the time. Such problems are not morally wicked, but diabolical in that they resist all the usual attempts to resolve them" (Brown, Deane, Harris and Russell in Brown, Harris and Russell 2010, p. 4).), and one kind not even that can be discerned (chaotic problems) (Nason 2023).

| Simple Problems | Complicated Problems | Complex Problems |
|--|--|---|
| Example: Following a Recipe. | Example: Sending a Rocket to the Moon. | Example: Raising a Child. |
| The recipe is essential. | Formulae are critical and necessary. | Formulae have a limited application. |
| Recipes are tested to assure easy replication. | Sending one rocket increases assurance that the next will be OK. | Raising one child provides experience but no assurance of success with the next. |
| No particular expertise is required. But cooking expertise | High levels of expertise in a variety of fields are necessary for success. | Expertise can contribute but is neither necessary nor sufficient to assure success. |

| increases success rate. | | |
|---|---|--|
| Recipes produce standardized products. | Rockets are similar in critical ways. | Every child is unique and must be understood as an individual. |
| The best recipes give good results every time. | There is a high degree of certainty of outcome. | Uncertainty of outcome remains. |
| Optimistic approach to problem possible. | Optimistic approach to problem possible. | Optimistic approach to problem possible. |

Table 1: Examples of Simple, Complicated and Complex (Glouberman and Zimmerman 2002, p. 2)

| Wicked Problems (| Chaotic Problems |
|---|--|
| Examples: global climate change, natural hazards, healthcare, the AIDS epidemic, pandemic influenza, international drug trafficking, nuclear weapons, homelessness, social injustice (Wikipedia). | Examples: Natural disasters such as earthquakes, tsunamis, bushfires Man-made chaos such as occur in wars, civil disturbances, mass panics |
| Formulae may have applications to aspects of the problems, but per se they are inadequate to | · · |

address the whole. If a formula indeterminable within the solves a problem, it was not a turbulence formulae and wicked problem. inapplicable. Successful precedents "Act \rightarrow Sense \rightarrow Response. Look may provide clues, but are of no for what works; Take immediate assurance of success. action to re-establish order (command and control); Provide direct communication; Compartmentalise and split-off "chaotic" components as "nice to haves" from main project" (Oehmen et al, 2015). Expertise can contribute to These problems, "for all practical determining best practice, but is purposes, change faster than we neither necessary nor sufficient can observe and learn, and are, to ensure success. therefore, not manageable through analytic techniques but instead rely on robust decision-making heuristics" (Oehmen et al, 2015). Every problem is unique and Every problem is unique and to be optimally addressed must be cannot be understood in its unique understood as both systemically particulars. and organisationally. High uncertainty of outcome Very high uncertainty of outcome remains. remains.

Solutions are impossible, but finding optimal means to address may be possible.

Significant policy, legal and institutional infrastructure needs to be in place to optimally address chaotic problems as they arise (emergency services etc.) and during and after they occur (ADBI 2023).

Table 2: Examples of Wicked and Chaotic Problems.

Systemic problems are simple to complicated, and may be sufficiently addressed mechanically by reference to recipes, formulas, algorithms and the like. Organisational problems involve organisms, and may enfold not only simple and complicated problems, but also complex or wicked ones. The complex and wicked aspects, by definition, cannot be optimally addressed by mechanistic simple or complicated approaches. Chaotic problems are different in kind from the other four, require prior preparedness to be optimally addressed before, during and after the chaotic event/s, and can emerge from both inorganic and organic sources.

Instead of optimally addressing a problem, an inaccurate categorisation can exacerbate it. For example, "treating complex projects as simple makes them chaotic", and if chaotic problem projects "are executed as 'complex' projects, i.e., assuming relatively stable requirements and relying on complex and highly mutually dependent activities and project plans, they typically fail and result in significant cost and budget overruns" (Oehmen et al 2015):

"Key Insight: The vast majority of current project, programme, and portfolio management processes focus on 'simple' systems. We assume that we can follow a staged and deterministic process by defining requirements, investigating alternative solutions, evaluating solutions, and implementing them. The reality, however, is characterised by

'wicked problems'—complex projects where true requirements are

unknown (or unknowable) before the projects start and develop in

parallel with the solution. Treating them as simple often turns them into

chaotic projects" (Oehmen et al 2015).

The category errors Oehmen et al mentioned are not confined to their

project management discipline: they are endemic globally, particularly

in treating complex problems as if they were merely simple or

complicated. For example, by treating humans (complex) as if they

were mere machines (complicated), or affected parties treated as if they

were inanimate objects that were in the way. For example, an

infrastructure program requiring the compulsory acquisition of the

affected parties' land and their resettlement elsewhere may misidentify

that problem. Organisms are valuers: machines can be engaged to

value, but only within the "GIGO" principle.

Therefore, a focus on mere extrinsic and systemic values and goals –

ticking boxes - while essential for the maintenance of complicated

machines such as the aircrafts so many of us came here in, is the wrong

tool for the job when it comes to fellow humans, who are complex

beings (organisms) with complex needs, and if their intrinsic valuations

are not addressed by a complex project, even when driven by amity

values, the success of that project will be less than optimal, cause

unnecessary problems distracting from the necessary ones, including

engendering wicked problems even from simple ones, and may well

create new unnecessary problems and even fail as a result.

With Oehmen et al's 2015 warning in place, I add that "A conflict of

values amongst stakeholders isn't just a by-product of the problem's

wickedness; it's actually a core reason why it's wicked in the first

place" (Conway, nd). With wicked problems, the values affected parties

hold are core to their emergence and sustainability: as such, in

designing a framework to address wicked problems, I placed

Hartman's values typology - I, E, and S - at the fulcrum of the

Implementing Values by Setting Goals: What could Possibly go Wrong? (12579)

Michael Dermot McDermott (Australia)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all

Accra, Ghana, 19-24 May 2024

methodology I consider to be best practice in addressing wicked

problems (McDermott 2019).

My general framing is based upon the work of the neuropsychiatrist and polymath Iain McGilchrist (McGilchrist 2009 and 2021), who

hypothesises that the differences between the functions of our brain

hemispheres is not as assumed in folk psychology (since the 1970s,

neuroscience has established that both hemispheres work on all

problems contemporaneously), but lies in their mode of approach to the

problem: what they are looking for, differs. The left hemisphere is

looking for manipulation, and our right hemisphere is looking for

understanding problems. In addressing wicked problems, both

hemispheres should be optimally engaged, with McGilchrist

emphasising that our right hemisphere's approach of understanding

should manage the approach to the problem concerned (as he terms it,

be the Master) and our left hemisphere should serve that value of

understanding (as he terms it, be the Emissary for our right

hemisphere's attempts to understand).

This approach is no more applicable to simple or complicated problems

than a cabbage would be to be used as a set of pliers, and the same goes

for the other way around. It is also excessive for complex problems. It

is insufficient, even sometimes inapplicable, for chaotic problems. But

where intrinsic values are in internal conflict, or in conflict with

extrinsic or systemic values – wicked problem scenarios – then I claim

its processes will open to door to what may be considered due diligence

towards optimally addressing them.

The left hemisphere's eagerness for simple answers for complicated,

complex, wicked or chaotic problems is a major producer of wicked

problems. Extending the Nobel Laureate Daniel Kahneman's

"Thinking Fast and Slow", wicked problems need both those

competencies, but they need axiology even more: valuing fast and slow.

Moreover, they need an approach that facilitates a cooperative

Michael Dermot McDermott (Australia)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all

developmental action inquiry approach (Torbert et al 2004) between

affected parties and implementing agencies for the implementation of

amity value projects such as the MDGs etc.

There are three introductory levels to this framework. At the high level,

I term it The Interbehavioural Approach to Addressing Wicked

Problems. The next level down, I call it "HVN↔HBA", the "HVN"

representing the organocentric, intrinsic-value discerning right

hemisphere, the "HBA" the extrinsic and systemic value-discerning

left hemisphere, and the "↔" between them signifying their necessary

inter-relationships. The "HBA" is where the due diligence performance

protocols can be found, with the "H" representing core framing aspects

(HIDEGRE: a hexagonal frame, and five principles to be activated in

the inquiry, being the identity, development, Goldilocks, and related

evolution principles, and the "A" of the HBA to review all domains and

dimensions, all levels and lines, and all scales potentially involved in

the problem space. And the fulcrum point between them, the "B",

stands for black swan events and butterfly effects (beware of chaotic

potentialities), and I, E, and S: Hartman's Intrinsic, Extrinsic, and

Systemic values.

Conclusion

In sum, one of the main things that could possibly go wrong are clashes

of values between parties, particularly the implementing agencies and

the affected parties in major projects such as the MDGs. Such dangers

are particularly extreme when our left hemisphere ignores the intrinsic

values that are the domain of the right hemisphere, and focusses on

extrinsic and systemic values that are fine for simple and complicated

problems, but can be catastrophic when applied without understanding

to complex and wicked problem spaces.

As far as I am aware, the above Interbehavioural Approach to

Addressing Wicked Problems is the first to combine the neuroscientific

research and its implications as described by McGilchrist with the

Implementing Values by Setting Goals: What could Possibly go Wrong? (12579)

Michael Dermot McDermott (Australia)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all

Accra, Ghana, 19-24 May 2024

| As such, I com | mend it to my | professiona | l colleagues | for their atte | ntion. | |
|----------------|---------------|-------------|--------------|----------------|--------|--|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

References

Agustian, H.Y. (2023) "The Critical Role of Understanding Epistemic Practices in Science Teaching Using Wicked Problems." *Sci & Educ*. https://doi.org/10.1007/s11191-023-00471-2. Accessed 050124

Alexander, A., Walker, H. & Delabre, I. (2022) "A Decision Theory Perspective on Wicked Problems, SDGs and Stakeholders: The Case of Deforestation." *J Bus Ethics* 180, 975–995). https://doi.org/10.1007/s10551-022-05198-8.

Brown, V. A., Harris, J. and Russell, J. 2010. *Tackling Wicked Problems Through the Transdisciplinary Imagination*, London, Earthscan through Routledge.

Burman, Chris & Aphane, Marota & Mollel, Naftali. (2018). "The Taming Wicked Problems Framework: reflections in the making." *Journal for New Generation Sciences*. 15. 51-73. https://www.researchgate.net/publication/324646298_The_Taming_Wicked_Problems_Framework_reflections_in_the_making/link/5f3cc a6b458515b7292c8637/download?_tp=eyJjb250ZXh0Ijp7ImZpcnN0 UGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW 9uIn19.Accessed 05012024

Claessens, W.H. Gillebaart, Marleen, and de Ridder, Denise T.D (2023). "Personal values, motives, and healthy and sustainable food choices: Examining differences between home meals and restaurant meals." *Appetite*, Volume 182,106432, ISSN 0195-6663, ttps://doi.org/10.1016/j.appet.2022.106432.

(https://www.sciencedirect.com/science/article/pii/S01956663220052 32. (Accessed 060124)

Conway, J. (n.d.) Value conflict in wicked problems. Online at: https://waldencroft.com/value-conflict-in-wicked-problems/ (Accessed 080124).

Courage, C. et al (Eds). 2021. *The Routledge Handbook of Placemaking*. Abingdon, Oxon. Routledge.

Edwards, R. B. (Ed). 2021. *Formal Axiology and its Critics*. Volume 33 of the Hartman Institute Axiology Studies (HIAS) Value Inquiry Book Series. Amsterdam-Atlanta, GA. Rodopi.

Levontin, L. and Bardi, A. (2019) "Using Personal Values to Understand the Motivational Basis of Amity Goal Orientation." *Frontiers in Psychology* DOI=10.3389/fpsyg.2018.02736 ISSN=1664-1078

https://www.frontiersin.org/articles/10.3389/fpsyg.2018.02736. Accessed 060124

Maechler, S and Boisvert, V. 2023. "Performing Nature's Valuation: The art of natural capital accounting". *Valuation Studies. Theme Issue. Valuation as a Semiotic, Narrative, and Dramaturgical Problem.* 10, 1., pp. 118–147. https://valuationstudies.liu.se/announcement/view/33 (Accessed 160124).

McClelland, D. C. (1985). "How motives, skills, and values determine what people do." *American Psychologist*, 40(7), 812–825. https://doi.org/10.1037/0003-066X.40.7.812

McGilchrist, I. (2009). *The Master and His Emissary. The Divided Brain and the Making of the Western World.* New Haven and London. Yale University Press.

McGilchrist, I. (2021). *The Matter With Things: Our Brains, Our Delusions and the Unmaking of the World.* Perspectiva Press. Kindle Edition.

Nachbagauer, Andreas (2021). "Managing complexity in projects: Extending the Cynefin framework." *Project Leadership and Society*, Volume 2, 2021, 100017, ISSN 2666-7215, https://doi.org/10.1016/j.plas.2021.100017. (https://www.sciencedirect.com/science/article/pii/S26667215210001 19,(Accessed 050124)

Nagel, T., (2012). Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False, Oxford, Oxford University Press.

Nason, R. 2023. "Challenges of implementing complexity in healthcare". *Healthcare Management Forum*, Volume 36, Issue 6. https://doi.org/10.1177/08404704231191956. (Accessed 070124).

Oehmen, J., Thuesen, C., Ruiz, P. P., & Geraldi, J. (2015). "Complexity Management for Projects, Programmes, and Portfolios: An Engineering Systems Perspective." *PMI White Paper*. https://www.pmi.org/learning/library/complexity-management-projects-programmes-portfolios-11141 (Accessed 070124).

Panikkar, R. 1989. *The Silence of God*, New York, Orbis.

Parks-Leduc, Laura and Guay, Russell (2009) "Pesonality, values, and motivation". *Personality and Individual Differences*, 47. DOI 10.1016/j.paid.2009.06.002

Ruben, D.H. "The "interbehavioral" approach to treatment". *J Contemp Psychother* 16, 62–71 (1986). https://doi.org/10.1007/BF00946166

Ring, A. A. and Boykin, K. A. 1986. *The Valuation of Real Estate*, Englewood Cliffs, N.J., Prentice-Hall.

Snowden, D. and Boone, M. (2007). 'A Leader's Framework for Decision Making,' Harvard Business Review, November 2007. https://hbr.org/2007/11/a-leaders-framework-for-decision-making https://doi.org/10.1057/s41599-023-01789-6 (Accessed 050124).

Snowden, Dave; Goh, Zhen. (2021) Cynefin - Weaving Sense-Making into the Fabric of Our World. Cognitive Edge Pte Ltd. Kindle Edition.

Tieu, M., Lawless, M., Hunter, S.C. et al. (2023) "Wicked problems in a post-truth political economy: a dilemma for knowledge translation". *Humanit Soc Sci Commun* 10, 280.

Torbert and Associates. 2004. Action Inquiry: the Secret of Timely and Transforming Leadership. San Francisco, Brett-Koehler Publishers, Inc

UN-HABITAT/GLTN, 2018. McDermott, M, Myers, M and Augustinus, C. *The Valuation of Unregistered Land: A Policy Guide*. Nairobi, UN-HABITAT/GLTN,

UN-HABITAT/GLTN, 2021. McDermott, M. and Wyatt, P. *The Valuation of Unregistered Land: A Practice Manual*. Nairobi, UN-HABITAT/GLTN

Wanek, E., Bartkowski B., Bourgeois-Gironde, S. and Schaafsma, M. (2023) "Deliberately vague or vaguely deliberative: A review of motivation and design choices in deliberative monetary valuation studies", *Ecological Economics*, Volume 208, 107820. https://www.sciencedirect.com/science/article/pii/S092180092300083 6 (Accessed 180124).