

Comments

Emotional Intelligence in MCDA: Comments on *Mindsets, Rationality and Emotion in Multi-criteria Decision Analysis*

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I welcome Fred Wenstøp's paper. My research also relates the paradigm of multi-criteria decision analysis (MCDA) to other disciplines. I agree with his conclusion that 'that MCDA needs a larger, not smaller, emphasis on values and subjectivity to increase rationality in decision-making'. In my discussion of his paper I intend to show how we have been on similar journeys. I will focus on the differences, not as a criticism, but more to offer a second view in support of his conclusion that 'MCDA should not be shy of subjectivity and emotion'. In doing so I will refer to some of my papers, the milestones of my own journey.

The main problem I had reading his paper was with how he draws from the literature. Some of the views he calls on to support his case are questionable, for instance in his section on Emotion. I nearly agree that emotion is a 'necessary component of rational decision-making'. (Actually I would reverse the order; but people might disagree with me.) However, I dispute some of the ideas he has adopted from Damasio (1994, 2003) such as that feelings are 'mental phenomena', and 'sympathy is an emotion while empathy is a feeling'. Also, he wrongly attributes the beginning of a cognitive theory of emotions to Simon (1967).

I have shown (Brugha, 1998a) that the articulated concept of 'feelings' is very general and can be traced back to Kant (1987) who described it as an intermediate dimension between knowing (cognition) and willing (conation). These reflect a hierarchy of three levels of commitment corre-

sponding to degrees of introverted subjective relating to a development issue. The lowest or *somatic* level is about needs. The middle or *psychic* (usually psychological is preferred) level is about preferences or likes. The highest or *pneumatic* level is about values.

This structure has many facets, including levels of development, personality types and processes. When applied to a process the same commitment structure is conventionally described as three phases of analysis, design and implementation.

I have also described (Brugha, 1998b) a parallel, similarly generic, structure for convincing processes corresponding to degrees of extroverted subjective relating to a development issue. Although traceable back in history as the dialectic, credit for its modern articulation should also be given to Kant (1985). Its levels start with *technical* or *self-orientated* issues, then relates to the *context* of the problem as indicated by the perceptions of *other* people, and finally takes account of *situations* to achieve *goals*, which could be articulated by some significant authority figure.

Although they are independent, the two processes are very commonly used together. Decision-makers like to be convinced as part of moving through a committing process. Maslow (1987) explored this as a hierarchy of needs. Jung (1971) noticed that patients differed in terms of their introverted and extroverted orientations, and then tended to have different usages of thinking functions such as intuiting, sensing, thinking and feeling.

My contribution was to fit their work into the formal structure from Kant, and show that the levels of development activities (Figure 1) and types of subjective thinking (Figure 2) arise as each

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Orientations	Technical / self	Contextual / others	Situational / goals
Somatic / needs	Physical	Political	Economic
Psychic / preferences	Social	Cultural	Emotional
Pneumatic / values	Artistic	Religious	Mystical

Figure 1. Levels of development activities.

Orientations	Technical / self	Contextual / others	Situational / goals
Cognition / analysis	Intuiting	Recognising	Believing
Affect / design	Sensing	Learning	Trusting
Conation / implementation	Experiencing	Understanding	Realising

Figure 2. Types of subjective thinking.

phase of commitment goes through a convincing process.

I use these facets of the generic development structure to help understand other related systems. An example is ethical theory, which the author uses to illustrate faults with the current MCDA paradigm. Ethical theory has three bases: consequentialism, duty or rules, and virtue. In the context of development structures ethics is concerned with how one treats others, and expects to be dealt with by others. Consequently, it corresponds with the middle column of Figures 1 and 2. The fit makes sense, especially when one starts with the middle of the set. What one's duty is tends to be determined by one's culture; rules are learnt.

Clearly virtues correspond to the religious/understanding facet. Consequentialism refers to the fact that we fit within a political structure, which creates its own dynamic in terms of consequences for our actions. People need to recognise how their actions affect others.

Seeing the levels in Figure 1 as a series of stages can help to put two of the author's conclusions into context. The reason why Weber's (1947) rule-based world has no need for emotional decision-making is because he creates a barrier preventing movement beyond the cultural to the next higher level. The same logic explains why values are not engaged if the decision-maker does not experience emotions (Damasio, 1994).

I agree with the author's main thesis that MCDA has been over concerned with the lower of the three, what I call somatic issues, and that Keeney and Raiffa's (1976) foundational book set this pattern. I believe that this is because the cases

that motivated their book were large-scale consultancy projects with major physical (environmental), political and economic aspects, and less concerned about higher-level issues. To be fair to Keeney, he tried to redress this with 'value focused thinking' (1992). I think that the author somewhat missed the point that virtue ethics emerge from our value systems.

The author's thinking is obviously influenced by an MCDA disaster he mentions, which led to a decision by the Norwegian health authorities to stigmatize an immigration group in order to limit the spread of HIV. I am not fully with him when he claims that the MCDA paradigm is 'essentially consequentialistic'. He criticises the separating of values (criteria or objectives) from beliefs about facts (about outcomes as distinct from actions). For me there is nothing wrong with MCDA being about scoring alternatives (decisions), weighting criteria, and synthesising both to suggest implied preferences. The flaw in the Norwegian case was its failure to consider the broader political, ethical and racial implications, indeed the possible consequences, of its chosen alternative.

How could this have happened? The trivial possible reason might have been inexperience on the part of the MCDA decision advisors. There are at least three alternative explanations that relate to the MCDA paradigm. Firstly, the founders of the field focused on utilities (literally things that are useful or utilitarian), and this kept the emphasis on somatic or tangible issues.

Secondly, Keeney and Raiffa's foundational work was in *Multi-Attribute Utility Theory* (MAUT). The emphasis was on the attributes of

the alternatives, not on criteria. The decision-makers would be asked to consider all the possible attributes that each alternative possessed. This approach tends to highlight the obvious and tangible, and marginalise the vague and speculative. So, if only one of the alternatives was a cause of some ethical doubts, such an attribute might not get into the list that would be used in the measurement phase. To be fair, the author alluded to this weakness when endorsing Wright and Goodwin's (1999) criticism of the failure of MCDA methods to visualize outcomes.

My third alternative flaw with the MCDA paradigm goes further than suggesting replacing the emphasis on a list of attributes by a list of criteria. The aim should be to discover the underlying structured criteria tree. The thesis behind this approach is that decision-makers subconsciously use generic decision structures, such as those I have described above in Figures 1 and 2, when they form constructs to make an MCDA preference. This has a particular advantage of showing up potentially missing criteria, ones that are part of the generic structure but not operationalised by the decision-makers.

For example, the author alluded to how the two higher aspects of ethics, duty and virtue, can be reduced to the concept of appropriateness. This can be put more broadly. Probably the most common multi-criteria decision is about making a commitment to a preference in the context of a trade-off between one's needs, preferences and values. Traditionally this has been implemented as cost-benefit analysis, with costs corresponding to the (somatic) decision-maker's other needs that must be taken into account. The (psychic) preferences and the (pneumatic) values are usually subsumed into benefits.

I have implemented these ideas in an MCDA system I call direct-interactive structured-criteria (DISC). In tests of the structured approach (Brugha, 2004) on decisions about career choices the three main criteria were 'will I be able for it?' (somatic), 'will I like it?' (psychic), and 'will it be good for me?' (pneumatic). In other cases the ethical issue fits into this latter category: 'will it be good (for society)?'. The structured criteria approach begs the question about higher issues when they have not emerged from the process, and facilitates their inclusion even later during the process.

One of the most interesting aspects of the author's paper is the discussion of rationality as a foundation for values. I described, above,

committing and convincing as two generic structures. There is one more: adjusting. Its dynamic is based on finding balances between two, four, eight, and sometimes sixteen constructs. The main difference between them is that committing and convincing apply to subjective decisions, and adjusting to objective decisions, what I think the author means by rational.

The four dimensions of rationality that the author introduces, from Føllesdal (1982, 2004), fit the general set of adjusting activities: *proposition*, *perception*, *pull* and *push* (Brugha, 1998a). 'Rationality as logical consistency' shapes what we should propose. 'Rationality as well-foundedness of beliefs' questions our perceptions. 'Rationality as well-foundedness of values' challenges the 'pull' that we feel from our communities and stakeholders. And 'rationality of action' governs what we might push to implement.

The way the author drew from the writings of Confucius meant that he lost an opportunity to link virtue ethics with Føllesdal's ideas about rationality. For Confucius *jen* (human heartedness or virtue) is the essence of humanity and is implemented using four principles, not three, the missing one being *ye* (righteousness) (Chaudhry, 2003). These principles guide how one should adjust, i.e. rationally respond to calls on our human heartedness.

One should consider only those propositions that are consistent with *chung* (loyalty to one's true nature). One uses *shu* (reciprocity) to form perceptions about the likely effects of one's interactions. One uses *ye* (righteousness) to decide how to respond, when others are trying to get us to do something, the 'pull' dynamic. And one uses *hsiao* (filial piety) to decide how much to push ourselves in order to serve others.

Unfortunately for the author's case, the missing *ye* (righteousness) corresponds to Føllesdal's 'well-foundedness of values'.

I think that the author's association of beliefs with MCDA consequences (scores) and values with criteria is not a true interpretation of Føllesdal's model. However, I agree that more attention should be paid to criteria (values). I have proposed (Brugha, 2004) that MCDA should follow an eight-stage structured process of shaping information that satisfies the following criteria. The information should be accessible, differentiable, abstractable, understandable, verifiable, measurable, refinable, and usable. The first four of these are about forming the criteria tree.

I also like the author's proposal in an MCDA context that we 'need to adjust our values so that they become consistent over a range of situations' and that we should consider 'more and more issues until we reach a stable set of convictions that are relevant for the decision situation'. Three out of my second four criteria do that. The decision-maker is expected to verify the criteria constructs, tree and underlying processes. Everything should be refinable: the scores, the weights, and the set of alternatives. And the process should be usable in the sense that it provides preferences, is relatable to generics, and can be used as part of distributed decisions.

And I like his use of rationality in this context, the idea of 'reflective equilibrium'. In my structured MCDA approach there must be balances amongst all eight aspects of the process.

Consequently I would extend this idea of rational adjusting to more than values, as he suggests. I would include needs and preferences, consideration of the constructs we use, the scores of the alternatives, the weights of criteria, and the set of alternatives under consideration.

The most innovative aspect of the paper is where the author argues that the decision-maker should experience emotions to ensure that values are engaged (Figure 1). I would extend this to suggest that decision-makers should also be engaged in implementation (Figure 2).

I find his use of rationality interesting. I found the same structure embedded as a third layer within the subjective structures described in Figures 1 and 2 when applied to a nine-stage systems development life-cycle in Information Systems (Brugha, 2001). At the two higher layers the decision-maker or group had to make subjective judgements about when it was right to move to the next stage in the cycle. But, each stage of the process must be carried out properly, rationally.

I like the author's intuitions about MCDA. He could have gone further, both in making demands on the decision-makers' involvement and in requiring rational scrutiny and adjustment of all aspects of the process. I hope to see more about these ideas, especially in applications to the frontier of MCDA problems, namely publicly sensitive social and environmental issues.

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