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Decision Making in ADR: Science, Sense and Sensibility

Tania Sourdin¹

Abstract: Research about how we make decisions reveals that our decision-making is influenced by many factors. We are conscious of some of these factors and unconscious of others. Some theorists suggest that the processor of the brain is divided into two distinct systems that dictate how we think and make decisions. One system is fast, intuitive, reactive, emotional and often unconscious. The other system is slow, deliberate, methodical, rational and conscious.² Other writers and theorists also suggest that the process of decision-making is a combination of feeling and reason.³ While some theorists have talked about a modularity, or specialisation, of brain function by area with particular reference to right-brain and left-brain thinking, these approaches remain under investigation. Some past work suggests that cognitive or other processes can be ‘lateralised’ in parts of the brain and that conditions such as depression are linked to a hyperactive right hemisphere, with particular parts of the brain more likely to be involved in ‘... processing negative emotions, pessimistic thoughts and unconstructive thinking styles’, and a relatively hypoactive left hemisphere ‘specifically involved in processing pleasurable experiences’ and ‘relatively more involved in decision-making processes’.⁴ This paper explores the way in which the brain works and the making of decisions in Alternative Dispute Resolution (ADR) from a neurobiological and neuroscience perspective by reference to some of these theories. It also considers emerging theory in the decision-making area in the context of factors that can lead decision-makers in arbitral and advisory processes astray.

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Introduction

The logical stages involved in determinative and advisory ADR decision-making include the rational gathering, analysing and considering of information, and the making and communicating of a decision. However, some of what takes place in advisory and determinative decision-making is not rational, logical or neatly divided into stages. The emphasis, approach and understanding applied to the determinative or advisory decision-making process by the parties, their representatives (if present) and the decision-maker as well as variations in the involvement and skills of all these players will determine the outcomes of the dispute resolution process. For example, at the most basic level, in gathering information, the processes used can vary according to the circumstances and can involve a decision-maker adopting a facilitative stance and using many of the techniques of introduction, understanding and questioning that are more common in mediation processes and thus influencing outcomes by enlarging the material to be gathered, reflected upon and even considered.

However, in most introductory stages of arbitral processes, there will generally be a greater focus on the technical requirements, such as the available review processes, onus of proof and legislative requirements than in other forms of decision-making. There may also be reference to the way that written material is to be used as well an explanation of bias and natural justice approaches. This framework will not import a Vulcan-like response in the arbitrator dealing with a dispute, and numerous commentators have remarked that accepting that a predominantly rationalist approach exists in respect of determinative forms of decision-making is flawed in light of the ever-expanding literature and research relating to neuroscience and cognitive perspectives.\textsuperscript{5}

In determinative processes, the information-gathering stage can be protracted and have as its focus the determination of rights rather than interests (or some other matter). Indeed in relation to judicial processes, many experienced judges indicate that in complex matters the information-gathering stage that occurs prior to any actual hearing process is essential in terms of managing

\textsuperscript{5} See J Drobak and D North, ‘Understanding ... Judicial Decision Making: The Importance of Constraints on Non-Rational Deliberations’, 26 Journal of Law and Policy (2008) 131 at p 132. The cognitive revolution is said to have taken place over the past 30 years: ‘today the study of cognition dominates psychology in the same way that the study of behaviour dominated the middle of the twentieth century’ at p 17. See L Burton, D Westen and R Kowalski, Psychology, 3\textsuperscript{rd} ed (Australian and New Zealand ed, Wiley, Queensland, 2012).
process and assisting to ensure that outcomes are determined promptly. However, no matter what information is being gathered, the neurobiology of the decision-maker helps to sort, store, omit, rank and at times distort information. In the later stages of determinative decision-making, both the brain and the body continue to influence how material is analysed, considered and determined. The stages are not linear in that we constantly gather, sort and analyse; however, in most determinative decision-making that is rooted in the adversarial system, the final analytical stages may occur some time after the ‘in court’ or ‘in arbitration’ gathering and sorting stages have taken place.

**Gathering and Sorting**

To ensure that decision-makers consider the relevant material required to make a complex decision, decision-makers, advocates and parties ask questions at each stage of a determinative hearing process. Within the formal litigation system, some aspects of the information-gathering process may be governed by practice and procedure as well as rules of evidence. In arbitration, there is more scope to vary the information-gathering process. This is specifically mandated in more recent arbitral legislation (discussed in more detail below). However, it is increasingly the case that even within the litigation system judges are varying the way in which they gather information.

Within the judicial context, most decision-making has been considered by judges from the perspective of the analysis of material, and there are a few significant cases that guide judges in terms of their decision-making. The leading Australian case in this area is *Markarian v R*, which considered whether or not judges making sentencing decisions should use an instinctive approach. Justice McHugh referred to two main approaches to decision-making in sentencing as follows:

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By two-tier sentencing, I mean the method of sentencing by which a judge first determines a sentence by reference to the “objective circumstances” of the case. This is the first tier of the process. The judge then increases or reduces this hypothetical sentence incrementally or decrementally by reference to other factors, usually, but not always, personal to the accused. This is the second tier. By instinctive synthesis, I mean the method of sentencing by which the judge identifies all the factors that are relevant to the sentence, discusses their significance and then makes a value judgment as to what is the appropriate sentence given all the factors of the case. Only at the end of the process does the judge determine the sentence.

The two-tier sentencer contends that using the instinctive synthesis is inimical to the judicial process and is an exercise of arbitrary judicial power, unchecked by the giving of reasons. ...

This form of decision-making was supported by the majority of the High Court, although the majority in *R v Markarian* rejected the notion that instinctive synthesis means that judges do not have to give transparent reasons. Some commentators have suggested that the High Court decision in *Markarian v R* means that:

... from a neurobiological perspective, the court’s preferred consciously considered and articulated methods of sentencing decision-making are those most likely to result in rational and well reasoned, yet humane, sentences. All information is initially sorted and prioritised at an unconscious level, a process of sorting reliant upon attaching emotional significance to information on the basis of the previous experience of the judge. Without this ranking system, the brain would become overloaded with indistinguishable information. ... Once this prioritising has taken place, however, the judge is able to consider the individual case in the context of all relevant legal, social, and personal considerations. Irrelevancies may be excluded and feelings and emotional reactions scrutinised for appropriateness.  

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9 *Markarian v R* [2005] HCA 25 at [51]–[52].

Despite the emphasis placed on instinctive synthesis by the High Court in *Markarian v R*, it is clear that the court considered that this process involves an intuitive and careful sorting of all of the relevant factors. This intuitive sorting requires a high level of awareness of self and others and raises issues about how unwanted influences can be resisted.

There are many matters that can influence the effectiveness of the information-gathering stage in decision-making. It is clear that the way in which the human brain works can influence decision-making, and the structure and processes of the brain are influenced by a person’s innate characteristics and their environment. It may be, for example, that someone with less well-developed orbitobasal/ventromedial areas of the brain may find it difficult to choose between alternatives or make a decision when information is incomplete (see below). This could mean, for example, that some of us are less likely to be successful in a decision-making environment or may find it more difficult to gather information (essentially, they may find it hard to stop the information-gathering process).

In addition, decision-making can be influenced by factors that may not only be related to brain structure. For example, the following factors can impact upon information-gathering as well as the overall decision-making process:

- when and what a person has eaten;\(^{11}\)
- the time of day;\(^{12}\)
- how many other decisions a person has made that day (decision fatigue);\(^{13}\)
- personal values;\(^{14}\)


unconscious assumptions;\textsuperscript{15}
- reliance on intuition;\textsuperscript{16}
- the attractiveness of the individuals involved;\textsuperscript{17}
- emotion.\textsuperscript{18}

The extent to which these factors influence determinative decision makers such as arbitrators is unknown, but it is likely that even if we become aware of these factors, we are likely to underestimate their impact.\textsuperscript{19} This is partly because we are more likely to exaggerate information about our own personal qualities that we perceive as positive and less likely to accept information that raises any questions about our positive characteristics.\textsuperscript{20}

In the arbitral area, recent legislative changes mandate more arbitral control over the information-gathering phase. For example, under s 17(3)(g) of the \textit{Commercial Arbitration Act 2010} (NSW), an arbitrator may take a number of measures to manage the arbitration including ‘dividing, recording and strictly enforcing the time allocated for a hearing between the parties (a ‘stop clock’ arbitration)’. This change and the wider powers that arbitrators now have mean that it is even more important for arbitrators to consider factors that may unconsciously impact upon their information-gathering.


\textsuperscript{17} M Agthe, M Sporrle and J Maner, ‘Does Being Attractive Always Help? Positive and Negative Effects of Attractiveness on Social Decision Making’ (2011) 37 Personality and Social Psychology Bulletin 1042. The researchers in this area suggest that there may be a bias away from attractive same sex individuals and a bias towards attractive other sex individuals.


\textsuperscript{20} For an interesting discussion of this phenomenon, see D Brooks, \textit{The Social Animal} (2011, Random House, New York) at p 220.
Sorting Information

In arbitral and judicial decision-making (unlike some other areas of complex decision-making), it is unusual for information to be gathered and sorted using a team problem-solving approach. It is therefore less likely that decision-makers will be challenged to perceive the information in a different manner or from a different perspective from their own. While advocates may attempt to persuade a judge or arbitrator (with varying degrees of success), it is rare for any form of distributed decision-making to take place. Essentially, the determinative decision-maker must choose one preferred approach and each advocate will advocate for their own approach. The determinative decision-maker is ‘helped’ to make a decision, but the options or potential outcomes are expressed in polarities.

This approach has important consequences in decision-making. For example, according to one theory, a decision-maker could (particularly if rapid decision-making is required) adopt an approach of ‘take the best, ignore the rest’.\(^{21}\) This means that a decision-maker weighs information quickly, makes a yes/no judgment and ‘... if that works, they stop and assume their inference is good enough.’\(^{22}\) The adoption of this type of inferential approach may mean that information is not necessarily weighed as carefully as it might be with other more team-based approaches to decision-making.

There may be ways in which the information-gathering and sorting stages can better support determinative decision-makers in their analysis. For example, concurrent evidence processes can assist in decision-making in judicial as well as ADR determinative and advisory processes. Justice McClellan, Chief Judge at Common Law of the New South Wales Supreme Court, has described the impact that concurrent evidence processes can have on the information-gathering stage, suggesting that these processes may reduce levels of tension in some circumstances. His Honour said that when these processes are used:


Within a short time of the discussion commencing, you can feel the release of the tension which normally infects the evidence-gathering process. Those who might normally be shy or diffident are able to relax and contribute fully to the discussion.  

This approach assumes that decision-making will not involve perfect information or rationality and that the behaviour of those involved in the process can be improved by using group decisional processes in some circumstances. Such processes may be helpful not only in the gathering and analytical stages but also in the ‘sorting stage.’ In this regard, group or team approaches could be used to discourage a sorting ‘bias’ (see below).

One particular and related issue in the sorting stage is how we may ignore, distort or reject information because of conscious and unconscious bias. To prevent bias in the information-gathering and sorting stages, Feigenson and Park suggest a four-step process to reduce or eliminate emotional bias:  

1. Be aware of the unwanted influence.  
2. Be motivated to correct the bias.  
3. Be aware of the magnitude and direction of the bias.  
4. Be able to adjust the response accordingly.

They also suggest that simply being aware of a person’s accountability for a decision ‘will attenuate the effect of incidental emotional influence on decision-making.’ According to Mason, attending to this bias requires us to ‘expose, debate and contest generalised attitudes so as to appreciate their

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proper influence upon judicial decision-making, and to remind all judges of the need to stand outside themselves and to question their own certainties.26

Another approach may require a rethinking of systemic approaches (rather than individual approaches) to judging. The material on group decision-making suggests that the impact of belief systems might be minimised if groups, rather than individuals, are involved in sorting at least in complex cases or disputes. This is an interesting notion given that most arbitrators work alone, and even if they work together (for example, in a panel environment), they may not necessarily share the sorting activity (although they may share the writing up of a decision).

One significant and contentious change in the commercial arbitration area is related to the ability of arbitrators to adopt a ‘med–arb’ model, which may impact upon the processes used to sort information and therefore the quality of the decisions made. To some commentators, a combined med–arb model enables disputants to have the ‘best of both worlds’.27 The amendments to the domestic Commercial Arbitration Acts created a new section that is not contained in the UNCITRAL Model Law on International Commercial Arbitration, which is intended to enable med–arb processes to be used by consent. The new s 27D has, however, proved to be controversial and there has been considerable discussion about removing it. An issues paper on this topic prepared by the previous Standing Committee of Attorneys-General (SCAG) in 201128 has noted:

The consultation model Bill permitted an arbitrator to act as a mediator in proceedings relating to a dispute if the arbitration agreement provided for this or both parties consented in writing. Mediation is generally a dispute resolution process that involves the mediator having separate, private meetings with the parties. Two issues were raised relating to this, both concerning the situation where the alternative mechanism fails to resolve the dispute and the arbitration proceedings recommence. Stakeholders raised concerns about the potential for abuse of natural justice and the risk of bias.29

SCAG decided to retain the med–arb provision in s 27D, noting that:

Ministers noted that submissions to consultation on section 27D of the model Commercial Arbitration Bill 2010 expressed different views on the formulation of the section. Ministers

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28 SCAG has now transitioned into a new body – the Standing Council on Law and Justice (SCLJ).

agreed to clarify that consent to an arbitrator resuming arbitration following mediation should be obtained after the termination of the mediation in the form contained in the NSW Commercial Arbitration Act 2010.\textsuperscript{30}

While the new provision may, on the one hand, increase the likelihood of an abuse of natural justice and increase the risk of bias, it may on the other hand create a different and potentially more collaborative decision-making environment – a group decision-making environment. However, the changes also support the need for a more careful review of bias issues.

**Neurobiology and Decision-making**

Clearly, decision-making is a complex process. Recent research on neurobiology and neuro-awareness suggests that information-gathering and decision-making are likely to be governed by different parts of the brain and may be influenced by factors that are neither rational nor logical. Using a conceptual model of brain function, it seems that many different brain areas are involved in decision-making (summarised below in tabular form and partly taken from Bennett and Broe)\textsuperscript{31} and in the information-gathering stage.

We constantly sort, ignore and add information before analysing, and our analytical processes are also individual and linked to our individual brain structure and processes. An injury to one part of the brain or alcohol and substance abuse can have more impact on some regions than others. In addition, as most cognitive processes occur simultaneously, if brain connectivity is harmed, overall brain function may be reduced. Considering these activities from a brain specialisation perspective, the areas of the brain involved in the decisional processes are set out below:

**Table 1. Decision-making and the Brain**

<table>
<thead>
<tr>
<th>Brain Area</th>
<th>Function</th>
</tr>
</thead>
</table>


<table>
<thead>
<tr>
<th>Region</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefrontal regions, particularly orbitobasal/ventromedial and dorsolateral cortices</td>
<td>Enable humans to make multi-attribute decisions based on explicit deliberation and integration of information from a wide range of sources.</td>
</tr>
<tr>
<td>Limbic system</td>
<td>Integral to neurological decision-making</td>
</tr>
<tr>
<td>Amygdala (part of limbic system)</td>
<td>Essential to processing emotion</td>
</tr>
<tr>
<td>Ventromedial region</td>
<td>Associated with ability to see future consequences of decision-making and also with instinctive and non-conscious decision-making.</td>
</tr>
</tbody>
</table>
| Dorsolateral cortex (DLC) | Involved in working memory, thus plays a key role in:  
- reasoning and deliberating  
- making complex decisions from multiple sources of information  
- comparing alternatives  
- integrating input from previously learned and stored knowledge together with externally derived information. |
| Ventromedial cortex (VMC) | Involved with processing emotion and feelings and the relationship of those states to reason and decision-making. Particularly involved in processing stimuli that have a personal, social or moral focus, to the extent that the VMC can associate incoming stimuli with appropriate emotional reactions and feelings. |

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One theory is that the VMC automatically activates previously learned information whenever a person is presented with a situation similar to a previous experience, and also activates the emotional disposition associated with the experience. This allows activated facts to be recalled together with feelings and can be either conscious or unconscious. When unconscious, the emotional association can act as a biasing element. This process facilitates logical reasoning by allowing certain outcomes to be rapidly assessed and rejected, also allowing relevant and selected information to be available for further higher level processing by the DLC. According to Damasio, without this element of ‘bias’ (instinctive/gut reaction), people would not be able to make any decisions at all.

Once the DLC takes over the process of reasoning, the feelings that arose from the somatic/emotional state are available to cognitive awareness. This allows for deliberate rejection or suppression of a particularly inappropriate ‘emotionally charged’ choice, as long as attention is given to the fact that it was in conflict with the knowledge of legal requirements.


35 Table prepared by C Carter, Project Officer, Judicial College of Victoria 2011 as part of a working project into judicial decision-making education workshop facilitated by the author.
This approach to brain specialisation also supports the notion that the conscious and unconscious brain are intertwined with a simultaneous reaction and response. However, many theorists suggest that the unconscious brain is more powerful than the conscious part as it:

- has a vast implicit memory system;\(^{36}\)
- has a higher processing capacity and can absorb data more quickly;\(^{37}\)
- can converse with all parts of the body and undertake complex tasks without thinking (for example, being able to drive a car after learning the task);\(^{38}\)
- is better at solving problems with many variables.\(^{39}\)

This suggests that in the race to make a decision, the unconscious brain is more likely to dominate or at least trigger the primary response. However, reason, which is acquired through study and the development of reasoning and analytical skills, helps the brain to make ‘good decisions’ that involve more careful risk calculation (that the unconscious parts of the brain may not support).

**Reasoning**

Clearly, brain structures have an impact on the information-gathering and sorting process, but how do they have an impact on reasoning? To answer this question, it is necessary to consider reasoning processes and how sensibility can conquer sense. Reasoning is generally defined as the processes by

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which we generate and evaluate arguments and beliefs. Inductive reasoning enables us to consider and apply understandings from specific observations to create general propositions. Deductive reasoning is the logical reasoning that enables us to draw a conclusion from a set of assumptions based on logical rules. Although deductive reasoning suggests that a decision-maker will be logical, there is much research to show that the content of problems influences how they are solved. Another form of reasoning is analogical reasoning; essentially, we understand a new situation by relating it to a familiar situation.

When dealing with problem-solving or undertaking a reasoning process, there are some significant barriers to rational decision-making. These can be described as:

- Functional fixedness – the tendency to rely on data or methodologies that have worked in the past even when alternatives may work more effectively.
- Confirmation bias – the tendency to search for confirmation of what is already believed.
- Heuristic systems – essentially cognitive shortcuts where similarity matching is used to infer an outcome.

The work on reasoning suggests that reasoning is essentially the struggle between sense and sensibility, the unconscious and the conscious, and that our deductive, analogical reasoning processes must be tested in the decision-making process. The ‘balancing act’ that is reasoned judging assists the conscious brain to assess risk, while the unconscious brain attempts to hijack it by manipulating the information it receives and sorts. Reasoning requires us to be aware of the ‘spark’ or intuitive response, and then to question it (not justify it) in judicial reasoning.

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Personal qualities can impact on ‘decisiveness’ and reasoning capacity. Clearly, a person’s decisiveness and reasoning capacity is not only linked to brain structure and connectivity, but also to other innate factors and is a product of learned and other experiences. Some people may require a lot of detailed information to make a decision, while others may require less. Some discuss the options available with colleagues or others. Cultural factors in terms of individual and group decision-making might also be relevant in relation to how completely options and alternatives need to be explored and framed. This is important as the quality of the decision is a matter that is largely determined by those who are affected by it. A clearly reasoned and well-thought decision may, for example, be open to criticism or invite an appeal if it is imperfectly or clumsily framed.

**Decision-making and Conveying a Decision**

There has been some recent work on the ‘framing’ of decisions that reviews how decisions or options are expressed. Much of this work has been considered in the context of cognitive heuristics, and there has been limited work in the decisional domain. Sharp described the 1981 study by Tversky and Kahneman that demonstrated how normatively inconsequential changes in the statement of a problem dramatically affect preferences and choices. Tversky and Kahneman provided two groups of subjects with the following scenario based on a hypothetical outbreak of a rare disease that was expected to kill 600 people: both groups were told that two alternative programs were being considered to deal with the outbreak and asked which they preferred. The alternatives provided to group 1 were framed as follows:

(a) If program A is adopted, 200 people will be saved; or
(b) If program B is adopted, there is a one-third probability that all will be saved and a two-thirds probability that none will be saved.

Of the 158 respondents in group 1, 76 per cent chose program A. In contrast, group 2’s alternatives were framed as follows:

(a) If program A is adopted, 400 people will die; or
(b) If program B is adopted, there is a one-third probability that no one will die and a two-thirds probability that all will die.

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Of the 169 respondents in group 2, only 13 per cent chose program A.\textsuperscript{48}

The work on framing, anchoring and expressing options and outcomes therefore suggests that decision-makers may support greater uptake of options and compliance with decisions if they express outcomes by referring to:

- award rather than loss;
- assessing alternatives and both the positive and negative implications of each.

This work also suggests that good decision-making may also involve ‘good framing’ and a closer analysis of what framing is more likely to support compliance with outcomes. Work on anchoring and heuristics is also relevant in the broader ADR environment as it suggests that it is more likely that lower or higher outcomes will be accepted or adopted if the brain is primed to accept them.\textsuperscript{49}

Other work on framing suggests that information about a process as well as information about options and outcomes will all impact on compliance with outcomes as well as the outcomes that are reached. This work has implications for all forms of dispute resolution and supports the giving of procedural explanations throughout an ADR process (this can prime disputants to provide higher quality information) as well as ensuring that outcomes are canvassed before the conclusion of the dispute resolution process.\textsuperscript{50}

**Future Decision-making**

In terms of future decision-making, it is clear that a revolution in technology is taking place, which will have an impact on judging. Rule-based Artificial Intelligence (AI) approaches have functioned to support games, decision-making, word processing, design and many human activities over the past


\textsuperscript{50} See D Weitz, ‘The Brains Behind Mediation: Reflections on Neuroscience, Conflict Resolution and Decision-Making’, 2011, V12 No 2 Cardozo Journal of Conflict Resolution at 6–7. Weitz refers to experiments by Bargh, which demonstrated that students would be more polite if ‘primed’ and that subtle words used to prime can result in subjects behaving differently in a range of ways (see J Bargh, What have we been priming all these years? On the development, mechanisms, and ecology of nonconscious social behavior, V 36 2006, European Journal of Social Psychology, 147-168.)
two decades. Judicial decision-making will not be immune from this revolution.

Decision-making can also be supported by technology. Increasingly, AI is used to support decision-making in relation to decisions that require simple options and outcomes (consumer decision-making) and more complex data-mining and team approaches (environmental, medical and social problems).\(^51\) AI refers to computer systems that perform tasks and/or solve problems that usually require human intelligence.\(^52\) These processes have emerged over the past 50 years\(^53\) and have been directed at technical as well as legal analysis.\(^54\) They have the capacity to be blended with existing adjudicatory or non-adjudicatory processes. However, it is most probable that their benefits will be greatest where determinative and advisory processes are concerned.

Legal information and AI systems can use sophisticated ‘branching’ technology to create elaborate decision trees that can suggest outcomes to disputes. This is done by a system that emulates human intelligence. Essentially, what takes place is that the system asks the user a number of questions about the dispute to enable an accurate description of it to be built up. The computer then forms a conclusion by applying the law to the dispute description. It does this by applying rules for specific sets of facts.\(^55\) Finally, the computer can perform tasks based on the description given.\(^56\) This process may enable indicative decisions to be expressed. However, there are many other factors that have an impact on decision-making. The Australian Law Reform Commission (ALRC) has noted that such factors include induction and intuition as well as the capacity to assess

\(^{51}\) See Kaggle.com (accessed 8 May 2012).


\(^{53}\) For a history of the development of AI, see P Gray, *Artificial Legal Intelligence* (Brookfield, Dartmouth, United Kingdom, 1997), Ch 2.


the social impact of decisions.  

Branching technology that is not rule-based was used in a project of the Intelligent Computing Systems Research conducted by La Trobe University and Victoria University (called ‘Split-Up’). The project, which determined that there are 94 factors relevant for a percentage split decision, was directed at applying AI to assist in calculating the division of property in family law proceedings and led by Professor John Zeleznikow. ‘Split-Up’, a hybrid rule-based neutral network system that grew out of this research, offers advice on how a property is likely to be distributed if the matter is determined by a court. It has been trialled by some judges, judicial registrars and registrars of the Family Court of Australia as well as legal practitioners, mediators and counsellors. A more advanced approach, which is oriented at supporting negotiation, is called Family_Winner.

It is unlikely that these technologies will replace judges or decisional dispute resolvers; however, they do have the capacity to help them – by checking logical rules and even by creating a community of decision-making that can test the unconscious. As Keith Mason has noted – this will not lead to the demise of human decision-making – or judging – as discretion is still a critical feature of all good judging processes:

But it is men and women enjoying judicial independence who administer justice, not automata or computers. In many areas judges are given broad discretions for a variety of reasons. If legislators wish to guide, inform or limit those discretions they are generally free to do so, but much room for movement is left – often deliberately. Within the rules, judges “have the capacity, and sometimes the obligation, to exercise qualities of judgment, compassion, human understanding and fairness.”

Conclusions

There are other relevant factors in the context of decision-making that influence the way that

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determinative dispute resolvers make decisions and can be linked back to the overarching objectives of the particular form of the decision-making. For example, objectives that relate to conventional adjudication emphasise the importance of precedent setting and the development of law. These objectives can be contrasted with broader objectives: will the decision be effective (complied with) or will the decision promote respect for the arbitral system? It may be that ‘blended’ adjudicative processes can meet these objectives more readily than traditional adjudicative processes, because there is an active consideration of issues relating to how the decision is made and communicated (rather than only considering whether or not the decision is ‘right’).

The objectives of any decision-making processes play an important role in framing the neurobiological responses to those processes. They create a broader framework within which dispute information is sorted, questioned and analysed. Procedural explanations by those involved in determinative and advisory processes are critical in helping to ensure that this work is undertaken in an orderly and effective manner. These explanations also help arbitrators and all participants to engage appropriately and promote the more logical gathering and sorting of information. However, even when these frameworks are in place, innate, learned and situational factors will impact on decision-making processes. Much of this article has considered these neurobiological issues from the perspective of rational and irrational thinking responses; and it is clear that sometimes these individual factors will enable the brain to be hijacked and resist rational decision-making.