

## A PROPOSED VALUE DRIVEN DESIGN MODEL FOR DISPUTE AVOIDANCE AND RESOLUTION

Michael S. Adams, AIA, PP, CVS  
ADAMS & ASSOCIATES  
Carrollton, Texas



Michael S. Adams, AIA, PP, CVS is an architect and planner. He is President of the firm of Adams & Associates (A&A), Carrollton, Texas engaged in Value Analysis (VA), project management, dispute resolution, and claims investigation. He has a Bachelor of Arts and Bachelor of Architecture degrees from Rice University and a Master of Science in Architecture (Health Services Planning and Design) degree from Columbia University.

Mr. Adams is National Director for Standards and Resources for SAVE and a trained arbitrator and mediator.

---

### ABSTRACT

This paper deals with the expansion of the VA approach to dispute avoidance and resolution. In particular, the VA tools of function analysis system technique (FAST) and deliberate creativity are seen to reinforce a new conflict avoidance and resolution design paradigm as an alternative to the argumentation model prevalent among alternative dispute resolution (ADR) approaches today.

### INTRODUCTION

This is a conceptual and speculative paper. It does not purport to deal with all aspects of implementation of a new model for dispute avoidance and resolution. The ideas advanced here are intended to stimulate further thinking and as an exploration into new connections for and new applications of the value approach.

Creativity is a key part of the proposed model. The works of Edward de Bono<sup>1</sup> combined with over 20 years of my own experience with dispute avoidance and resolution as well as value analysis form the background for the ideas advanced here. The examples and discussion focus on construction, however, it is not intended that application of the proposed alternative model be restricted solely to conflicts in this sector.

### THE OPPORTUNITY

Two incontestable aspects of the design and construction field today are that:

- Disputes are a predictable part of most, if not all, projects and that
- Resolution of these disputes through litigation is slow, disruptive, and costly - both directly and indirectly.

Design and construction are human endeavors after all, subject to human idiosyncrasies and error. Additional contingencies include, but certainly are not limited to, subsurface conditions, weather, market conditions, changes in construction materials and products, aggressive schedules, and a changing regulatory environment.

Owners, constructors, and design professionals alike, enmeshed in construction related claims, quickly discover the hours and dollars involved in attorney and expert fees, court costs, lost staff time, and additional overhead expenses - not to mention other matters like reduced bonding capacity, loss of good will, loss of privacy, and other opportunity costs that go along with litigation. Some years ago, a researcher indicated to me that, among parties to construction litigation that he had interviewed, the subjective but consistent estimate of the combined dollars recovered in litigation as compared with the combined dollars expended amounted to approximately 14 cents on the dollar.

Since disputes are so predictable and the

consequences of their litigated resolution so undesirable, can we not find more effective methods to avoid both? The list of methods that have been employed is quite long and includes document quality control checks, performance specifying, tighter contracts, pre-bid conferences, bidder pre-qualification, and more sophisticated project scheduling requirements. This is hardly a comprehensive list and each method, separately or in combination with others, has had some degree of beneficial impact. However, disputes, litigated resolution, and all their effects persist.

The good news is that ADR approaches have become much more widely and effectively utilized over the last 10 years or so. Arbitration and mediation are perhaps the two best known examples of these approaches. Other examples include direct negotiation, mini-trial, mediation-arbitration, and a host of variations and combinations of these basic forms.

Two additional ADR approaches are worthy of special mention: disputes review boards (DRBs) and partnering. DRBs have been in use since the early 1970's but, along with partnering, came more fully to light in the 1980's when theory and practice had a more tested track record.

DRBs are essentially standing arbitration panels chosen by the parties prior to construction and utilized if the parties do not reach resolution of a dispute by their own means. Typically the DRB's ruling is non-binding but may be used in evidence in the event of litigation. Distinctively, DRBs work in real project time rather than after the project is completed - which may be months or years after the factual basis of the dispute has occurred.

Partnering<sup>2</sup> is project team building approach among the project stakeholders<sup>3</sup> based on the stakeholders' common goals and an understanding of their respective expectations and values. In theory, partnering can, and perhaps should, begin in the earliest design phases. Most experience to date, however, is with construction phase partnering. Though dispute resolution is one of the matters the stakeholders typically address during pre-design or pre-construction workshops, there is little guidance given beyond choosing from among existing ADR approaches.

The bad news is that ADR occasionally has credibility problems. Regrettably, arbitration and mediation are too frequently treated strategically as a

dress rehearsal for later litigation. Arbitration is frequently distrusted because it is believed (particularly in complex technical disputes) that the arbitration panel splits the difference between the claimant and respondent damages. In the mediator marketplace, where it seems that only a global settlement of the dispute counts on the score card, bullying the weaker party, generation of expert reports, extensive discovery, and exchange of lengthy position papers are sometimes seen as perfectly viable facilitation techniques.

With the potential exception of partnering, all current ADR approaches are extensions of the litigation or argumentation model: I am right and you are wrong; I win and you lose; a zero-sum game. With the same exception, all ADR approaches are (by definition) reactive and not proactive or avoidance oriented. Compromise, accommodation, and consensus are hallmarks of the argumentation approach.

Notwithstanding their limitations and occasional credibility problems, all these ADR approaches are worthy alternatives to protracted litigation. All may produce (though they do not always do so) dispute settlement more quickly, more privately, at a lower cost, and under more direct control of the parties than litigation. Certainly, these are all desirable outcomes.

However, the maintenance of or improvement in value may not be assumed since ADR (with the potential exception of partnering) does not systematically address the interests of the parties. We may have pushed ADR about as far as it will go using the existing argumentation model. Perhaps it is time to start conceptualizing a value approach to dispute avoidance and resolution (VADAR). This observation prompts three questions:

1. Is there an alternative to the reactive argumentation model?
2. If so, does this alternative model have the potential to improve value?
3. Can the VA approach support this alternative model?

## DISCUSSION

### 1. An Alternative Model

The argumentation model is essentially analytical

and linear with each step depending on the provability of the preceding one. Any successive new step must be projected through logic. We have come to believe that through better logic we may obtain better projection and "create" new alternatives. This would be acceptable were it not that experience with patterns and paradigms in thinking suggests that breaking out into truly new directions using such projection through logic approaches is seldom if ever creatively productive. The argumentation model, though essential and very useful for many purposes, describes effectively only what is. It facilitates taking positions.

Another alternative is the problem solving model. This is a logical and very appealing approach: analyze the problem, find the source, and set it right. This assumes, of course, that there is a problem or that you wish to characterize the conflict circumstances as problematic. At the outset, the problem solving model always knows where it wants to end up. Though undoubtedly useful for some types of thinking, this may not be the most creative model for dealing with dispute avoidance and resolution.

Yet another possibility is the design model<sup>4</sup>. The design model is decidedly non-linear and logically independent from step to step. A design approach depends on provocative stimulation and conceptual manipulation. It deals with functions, interests, goals, and values (the analogy with project programming or briefing is apt). Whereas the argumentation model is primarily judgmental and closed, the design model is primarily non-judgmental and open. Unlike the argumentation model, the design model must produce an output that is acceptable to the parties whose functions or interests are to be satisfied - it must "fit".

As both a proactive approach to dispute avoidance and a reactive approach to dispute resolution, the design model offers the opportunity for a team rather than an adversarial relationship among the parties in dealing with disputes. It accomplishes this by engaging the parties in joint exploration of alternatives to achieving joint interests.

## 2. Improved Value

The design approach depends upon creativity in the generation of alternatives satisfying the parties' requirements. Creativity is problematic for the logical argumentation model. The theory of both negotiation and partnering recognize the need yet provide little specific guidance as to how to conduct such an

activity. The design model, on the other hand, is more receptive to provocative stimulation as a part of deliberate creativity because it is not bound by logical projection. It is more concerned with creative techniques that provide movement toward multiplying new ideas.

Consider, as an example of dispute avoidance, that an owner, constructor, and design professional, having generated a pre-construction statement of interests for a speculative office building project, had identified "reduce risk" as a critical interest along with the consequent functions of "coordinate intent", "eliminate conflicts", "improve constructibility", and "satisfy tenants". Such interests would undoubtedly be of common value since ambiguities, incompleteness, and conflict among documents give rise to the potential for delays and additional costs.

Based upon these interests, a design approach provocative stimulation to the generation of alternatives might be in the form of the following statement:

"All projects should be built twice: the first time for practice, the second time for real."

This is quite illogical. An argumentation approach would ask: Why not just get all the bugs out of the documents to begin with, have the constructor warrant that he has examined the site and the drawings, and require him to timely notify the designer and owner of any conflicts or inaccuracies (and if he does not, he waives claims for extra costs and delays)? The answer is simple: It doesn't work. Shifting the blame doesn't work. Tighter contracts are not the answer.

Alternatively, in a design approach, discussion of the above provocation by the parties might proceed along the lines of examining what "build" really means in an effort to jointly explore what movement might be obtained from the provocation. We could, for example, build a scale model of the entire project or a mock-up of significant portions where construction sequence may be crucial to quality and productivity. The notion might also be entertained that development of the project drawings through three dimensional Computer Aided Drafting might facilitate not only completion and coordination of design intent, but also provide a vehicle for prospective constructors to explore alternative work sequences (and resulting economies) - in short to rehearse the endeavor prior to committing labor, materials, and equipment to the project in the field.

Demonstration of the proposed sequence of operations in this form would far surpass any critical path method (CPM) schedule for planning and management and might be considered as a constructor bid requirement.

Building on this beginning, the owner might see the value as well of exploring alternative configurations in a more familiar three-dimensional form. Enhanced by "virtual reality", such graphic depictions might be used as a sales tool to take the prospective tenants for a walk through the building. From a life cycle point of view, such depictions, properly maintained during construction (perhaps with "shop drawings" or submittals in the same format), could eliminate or reduce the problems inherent in "record drawings" thus improving the quality of occupancy, operations, and renovation activities.

Consider yet another more speculative example in relation to job site safety on a high rise building. A constructor and its subcontractor have identified "eliminate fall-injuries" as a shared interest. The argumentation model would lead promptly to Occupational, Safety and Health Act fall protection requirements or perhaps would add additional new tighter inspection requirements for this hazardous project. These are appropriate responses. But, is it possible to generate any other potentially better ideas?

A design approach provocative stimulation might be:

"No building should exceed one storey in height."

This is clearly illogical. Picture Manhattan as a series of one storey buildings!

Discussion of this provocation, however, might lead to examination of a much broader use of off-site or near-site prefabrication of building components together with robotics - thus obviating the need for workers to be above one storey during either preparation or erection of the structural frame and exterior skin building modules. Since fall protection measures are easier and less costly to implement and maintain in a fail-safe condition at such a height, fall injury elimination would be more attainable.

Quality control might be improved as well since assembly and inspection would proceed essentially at ground level instead of hundreds of feet in the air where access is slow, difficult, expensive, and hazardous.

The remarkable power of this approach is its potential ability to magnify the number of alternatives - in some cases unexpected alternatives - and to do so in a team forum. Other provocations or other creative techniques might have generated different alternatives; the important matter is that they have been produced in response to the requirements of the parties - they fit the needs of those involved. There is no guarantee that the ideas that are generated will reduce first or life cycle costs (though some of the ideas generated in the examples above might indeed have that outcome) - value improvement is not synonymous with cost cutting.

Regarding dispute resolution using the design model, a previous paper has examined the relationship of the value approach to facilitated principled mediation<sup>5</sup>. Introduction of the design model, in support of creativity, could result in alternative generation results similar to those suggested above for dispute avoidance - provided that interests and not positions are the basis for resolving the conflict<sup>6</sup>.

### 3. VA Approach

The VA approach can contribute to value improvement within the design model in several different ways. Let us begin by looking at the distinctive aspects of this approach.

The three universal characteristics of the value approach are:

1. Value improvement through the study of functions rather than structures; implementation of the Function Analysis System Technique (FAST).
2. Deliberate stimulation of resourcefulness, ingenuity, and inventiveness.
3. A formal information gathering phase conducted prior to 1. and 2. above<sup>7</sup>.

In previous papers<sup>8</sup> I have remarked upon the similarities between the VA job plan, the principled mediation process, and the partnering workshop agenda, noting that the FAST tool of the information phase and the creativity phase of the VA job plan could beneficially reinforce and supplement both mediation and partnering. In similar fashion, VA can play an important role in the design model for disputes.

## FAST

Lists of objectives, interests, and functions are disconnected and may be easily prepared without logical connection of items and, therefore, without recognition of logically missing items. FAST requires sequence, precedence, dependency, and strict economy of description. It also requires recognition of basic and secondary functions. Most significantly, FAST is an exceptionally good tool for getting all the parties on the same side of the table and for making graphic and explicit what are and what are not shared interests. The success of the design model depends on the output having the acceptance of the parties and FAST is an excellent method for gathering and recording this information. The FAST diagram is also the appropriate and essential input to creatively dealing with alternatives.

## Creativity

As a result of a function or interest description of the matter under discussion, the focus shifts from the present structural solution to underlying purposes. We have an abstracted picture of what we are trying to accomplish. Only now can we engage in deliberate creativity.

VA has no monopoly whatever on approaches to creativity. Brainstorming, a product of the advertising industry, is a frequently used technique. There are many others. VA can incorporate the provocation stimulation approach of the design model and can in turn support this model within the VA job plan. The common purpose of all creative techniques however is to remain nonjudgmental and encourage as many ideas as possible - quantity is important here, not a hasty evaluation of quality. The most outrageous ideas often serve as a trigger or platform for other ideas which may well be of better quality, but which would not have arisen were it not for the provocation of the outrageous.

## The Facilitator

In the value approach the role of the CVS team leader/facilitator, is well established. This role is somewhat increased in importance in the proposed design model approach to conflict avoidance and resolution.

The facilitator is an essential "third party" to resist the tendency of the parties to resort to the patterns of argumentation rather than design thinking, provide constant reference to interest statements as

the basis for creativity, and to provide provocative stimulation (or other creativity tools) to maintain movement toward development of alternatives.

## The Value Approach Job Plan

Having been a leader of, or team member on, VA teams that have examined well over \$2 billion worth of construction projects, I have yet to see a project that has not benefited from such workshop activities.

Consideration of the potential project costs attributable to disputes and examination of the conflict approach incorporated into the overall project organization and design both seem to be perfectly valid areas for VA team comment and proposal.

The value approach has demonstrated its ability to deal with manufacturing, construction, and "soft" applications equally well. For this reason, the value approach should be incorporated into all aspects of the life of the project. After all, it may be somewhat unreasonable to expect that value approach tools will be fully implemented in support of the design model of dealing with conflict if these same tools (as well as all others in the job plan) are excluded from other aspects of the project.

## CONCLUSION

VA, or the value approach, can support implementation of a new design model - a value improving alternative to the characteristic argumentation model for both avoiding and resolving construction disputes. Supported by FAST and deliberate creativity within the VA job plan, this design model shows the potential for generating a broader range of alternatives for satisfying the interests of the parties seeking to avoid or resolve conflict.

## IDEAS FOR THE FUTURE

- Creation of A New Area of Interest and Practice

SAVE's beginnings are in procurement and manufacturing - industrial and engineering applications. Somewhat later, design and construction interests flourished - new applications were found. Most recently, the non-manufacturing service sectors have become areas for beneficial and productive "soft" applications of the value approach.

Dispute avoidance and resolution seems to not only be a good candidate for the latter category but also seems to be associated with both manufacturing and construction as well.

Membership interest might be stimulated among the judicial system, dispute resolution professionals, attorneys, mediators, code writing and regulatory bodies, and in academic circles as well were there to exist within SAVE a special application interest group actively seeking to explore dispute applications.

- Dispute Avoidance and Resolution Values

If perception of different concepts of value is the basis of successful conflict resolution, more information is required from the parties potentially to be involved in such disputes as to their values - specifically those that might come into play in the design of a dispute management approach. Surely the primary parties are the diverse group of developers, owners, and operators (who generate both the ideas and financial support for projects), the design professionals, and constructors (general and sub-contractors). The same information should be gathered as well from those who play any role in the litigation and ADR fields - legislators, judges, attorneys, arbitrators, and mediators - to name a few.

- A Forum for Mock Value Based Dispute Avoidance Design and Dispute Resolution Work

Few new process ideas translate directly into practice without trial and error and the direct input and helpful critique of others on how to improve whatever is being attempted.

VA is interesting as theory - quite powerful and much more clearly understood in practice in real time. VA simply is not a spectator activity.

It might, for example, be useful to "re-run" a successfully (and/or perhaps one unsuccessfully as well) mediated case, using the same parties but applying the value driven design model approach advanced here. Would the matter be resolved? Would other new and more interesting alternatives be created? Would the dynamics differ from those of a mediation (i.e., a need for caucuses, a different role for the mediator or facilitator)?

- Applications Research

Though this paper has dealt briefly with a design model of dispute avoidance and resolution within the construction industry, there is no reason to limit the application to this one area. The general principles should apply to virtually any area of human endeavor where disputes are likely to occur.

The more important point however, is to advance the value approach through organized and creative research into new application areas. With the deliberate march of the U.S. economy toward an ever more services oriented basis, most of these new applications are likely to be in service, process, or management areas.

### REFERENCES

1. Edward de Bono: *The Mechanism of Mind*, Simon and Schuster, 1969  
*Lateral Thinking*, Harper & Row, 1980  
*Conflicts*, Pelican Books, 1986  
*I Am Right - You Are Wrong*, Viking, 1990  
*Sur/Petition*, Harper-Collins, 1992  
*Serious Creativity*, Harper-Collins, 1992
2. The Construction Industry Institute, The Dispute Avoidance and Resolution Task-force, The Associated General Contractors of America, and DPIC (a professional liability insurer), all offer excellent information on partnering. Interested readers should obtain copies of their literature and bibliographies. Sample contract language by both DRBs and partnering may be obtained from the American Arbitration Association.
3. Typically, we would consider these to be the owner, design professional (s) and constructor (s). However a recent publication defines stakeholders as:  
. . . the parties at risk financially and legally, or in an extended sense, those affected and potentially put at risk during the execution of a planning, design or construction contract. (emphasis added)

Ralph J. Stephenson, *Project Partnering for the Design and Construction Industries*, John Wiley & Sons, Inc. 127

This definition suggests a much more inclusive body of stakeholders than is contemplated by current practice. For

example, as a major contractors tenant in a high rise office building still under design (or in pre-construction phase for that matter), am I not a stakeholder under this definition? Should I not be included in partnering workshops? Still further, how about potential future occupants of public housing or users of virtually all other design and construction projects where the public will be invited? Are they not all potentially put at risk? How will their interests be represented? If excluded, how will actions unfavorable to their interest be viewed?

In general relation to this issue see: Julia E. S. Dale, "Third Party Value", *SAVE Proceedings, 1995 International Conference*, Northbrook, IL: SAVE Inc. 1995, pps 290 - 97.

4. de Bono, *Conflicts*. This book summarizes many of the author's views developed in other works - particularly his views of the mind as a "self organizing information

system" which explains, according to de Bono, why all new ideas must be seen, in retrospect, as logical - leading to the flawed belief that logic alone can be the creative generator for these ideas. The work contains a more detailed expansion of the design model and examples of additional creativity techniques.

5. Michael S. Adams, "The Value Managed Mediation of Construction Disputes", *SAVE Proceedings 1992, International Conference*, Northbrook, IL, SAVE, Inc, 1992, p 39-45.
6. For more information on how this approach differs from typical negotiation, see: Roger Fisher and William Ury, *Getting to Yes*, Houghton Mifflin, Boston, 1981.
7. Adapted from Carlos Fallon, *Value Analysis*, 2nd ed. Miles Value Foundation, Washington, D.C., 1986.
8. Adams, *op. cit.*