How Online Negotiation Support Systems Empower People to Engage in Mediation

The Provision of Important Trade-off Advice

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Abstract

Face-to-face negotiation is the preferred communication style for negotiation, as it is the richest form of communication (Daft & Lengel, 1986), allowing for words, gestures and body language to be clearly communicated. This form of communication also allows for instant feedback, essential in negotiation when it is imperative to check understanding of each other's views and priorities. Bodtker and Jameson (2001) argue that experiencing emotion is one way we recognize conflict. Invariably, dispute resolution involves emotion, which if allowed to flood the substantive issues, otherwise known as emotional flooding, may result in disputants incapable of acting rationally (Jones & Bodtker, 2001), which may lead to unfair solutions. For example, in high-stress negotiations of family disputes, it may be difficult to think rationally about both the disputants and children's future needs. This may lead to people having to live with a less-than-ideal financial situation that is not representative of their future needs. Online dispute resolution (ODR) systems involve the use of technology to aid (or in some instances to replace) human communication in the dispute resolution process. This means replacing a very rich form of communication with a lower form of media, with the lowest being text-based forms of communication. ODR using video-conferencing technology benefits disputants located in different areas, hence providing a good medium for those who geographically cannot meet in person. While also a fairly rich mode of communication, this type of technology is heavily dependent on infrastructure variables, such as Internet speed, application support and connectivity issues, which are not always available. In this article, we will introduce the concept of how ODR can support face-to-face negotiations by re-introducing our software AssetDivider as a method to support the face-to-face process in negotiation.

Keywords: ODR programs, empowerment, online negotiation support systems, technology.

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1. Types of ODR Programs

Many descriptions exist on what typifies an ODR tool, usually relating to the amount and type of support offered by technology to aid dispute resolution processes (Ebner & Zeleznikow, 2016). Some ODR tools offer complete platforms that support the dispute resolution process from intake to resolution. ODR tools differ in how the support is provided.

Commercial examples include Smartsettle (smartsettle.com), which provides users with the mechanisms to negotiate over options using text and in-program graphics. Users enter their highest and lowest ranges, reflecting acceptable options and solutions are presented by way of packages. Complicated mathematical formulae are engaged to seek and recommend the most optimal solution for all parties. Another example is Modria (modria.com), which is a platform providing a repository for documents, enables online negotiation between the parties through chat systems, provides templates for use by the parties and can have settlements vetted by professionals, among other features. The major difference between these two extremes is in the way solutions are formulated. Smartsettle uses technology to run optimization algorithms, while Modria uses chat systems to facilitate discussion leading to a resolution between disputants. Our work differs in that we focus on supporting the identification of disputant needs through the setting of priorities to assets in a dispute.

2. The AssetDivider Software

AssetDivider was first published in 2008 as a way for couples or mediators to resolve family law disputes involving assets (Bellucci, 2008). The work is based on that of the first author's PhD thesis, which details the development of mechanisms for trade-offs in family law negotiations. The software FamilyWinner was developed to demonstrate learnings from the PhD. FamilyWinner (Bellucci & Zeleznikow, 2006) was the predecessor of AssetDivider and shares some similarities, namely in the domain of operation (family law), using numerical ratings to reflect priorities, using trade-off strategies and providing an easy way to deliver solutions.

AssetDivider incorporated the monetary value of the item in dispute, which was important to ensure the software could be used practically. Mediators at Relationships Australia Queensland (RAQ) considered the way FamilyWinner set priorities was useful; nevertheless, they were concerned the system would not ensure fairness if the items were not given monetary value.

The current and enhanced version of AssetDivider introduces a new item to the dispute, a payout figure that represents the amount of money a party would need to compensate the other (or vice versa) to attain the 50/50 per cent split or other mutually agreed percentage split figure. Adding a payout item may help family law professionals advise their clients on the financial obligations of a possible resolution and to brainstorm alternative solutions.

Mediators and legal practitioners from RAQ told us they may use the program to move clients away from trying to attain a particular percentage of the value of the common pool. The program can allow disputants see what items make up the given percentage split. Applying alternate scenarios allows for a discussion based on the disputants' needs and interests, which may also expose the underlying reasons or interests behind priorities-based other motives such as revenge tactics. In addition, lawyers or family friends may have provided advice that does not suit their current and future needs, and some may be concerned with a 'loss of face' if they do not fight for a percentage they consider fair. Essentially, disputants may move away from their initial position if they see what items (including the associated payout) they are likely to receive.

In addition, most family law mediators have degrees in social work or law rather than business degrees. Their expertise mainly lies in mediating child-related issues such as primary care arrangements, visitation schedules, and other child-related issues. Mediators in particular may not be comfortable calculating financial burdens as a result of a proposed resolution. This limits the usefulness of reality testing their negotiation before entering the formal disputation phase of negotiation. This software is helpful for mediators and disputants alike to calculate financial payouts, ensuring disputants are prepared regarding financial obligations and burdens.

3. The New Asset Divider Software

Asset Divider is a computer program used to provide advice on how to divide assets in two-party disputes, such as family law property disputes. The system is most useful when the dispute consists of items that are to be allocated to a party. The value of the item is not only financial; it also holds an inherent value representing how much a disputant wants to be allocated the item. This additional value (also referred to here as a rating) is not necessarily directly related to the item's financial value.

The value of the program to users is in its quick allocation of items and in doing so can easily provide alternate scenarios by users tweaking ratings and percentage splits. Users can be better informed about the possible ways assets can be divided between the disputants. The additional and new element of a payout can help users understand the implications of the asset division on their financial situation through the identification of a payout (or debit) figure.

AssetDivider works on the premise of allocating items to a party based on their ratings; that is, whoever values the item more will be allocated the item. It employs trade-off strategies that make changes to the ratings of items still in dispute, given that the other items have been allocated to one of the parties. Allocations are initially made by looking to allocate the items in least dispute, that is, those whose ratings are furthest apart. Depending on the value of the rating and the numerical difference between the ratings, a change in the rest of the ratings will occur. This algorithm mimics how disputants feel after an allocation; that is,

depending on the item, the 'winner'[1] 1 may be willing to soften his or her stance on other items. These changes are minimal and hence only come into play when the differences between ratings for the one item are small. The program then allocates the rest of the items in order of decreasing numerical difference in ratings. For an in-depth investigation into how the trade-off strategy in AssetDivider operates, see Bellucci (2008).

When all the items have been allocated, parties are presented with a list of items, their financial value and a payout (or credit) figure. The payout or credit figure is based on how much money they would owe or expect to receive based on their allocation of items and the percentage split set earlier. Multiple allocation lists can be reviewed by tweaking the ratings and the percentage split, which allows for clients to review options on how their dispute may be resolved. In addition, users are presented with realistic financial obligations and hence can make informed decisions on asking for particular items based on their current and future financial positions.

3.1 Family Law Case Resolved through AssetDivider

We use a hypothetical, though typical, family law dispute where there are tangible items to be allocated, each with a financial value.

Table 1 is a summary of the items to be divided between Party H (Husband) and Party W (Wife). The total sum of financial value in the dispute (pool of items) is to be equally divided between the two parties (50% split). Each item has a financial value and two ratings, where each rating represents the value placed on being allocated the item by Party (H) or Party (W). For example, the Rental Apartment is valued at $900,000, and in this scenario, the wife has given a rating value considerably higher than Party H's rating because she really wants this asset. She is very likely to be given the apartment as her rating is much higher than that of Party H.

Tabel 1   Intake Details of the Case

Item in dispute	Party H allocation	Party W allocation	Financial value of item
Rental – City apartment	35	55	$900,000
Holiday house	6	1	$700,000
Family home	8	1	$1,200,000
Cash	8	1	$200,000
Toyota car	5	6	$20,000
Mazda car	18	17	$45,000
Paintings	15	15	$2,000
Jewellery	5	4	$1,500

1   1 Person allocated the item.

Emilia Bellucci & John Zeleznikow

Figure 1   First Screen Where Users Enter the Administrative Details of the Case Into AssetDivider

These details are entered into the first two screens of AssetDivider. Figure 1 shows the first screen, which records the administrative aspects of the case, that is, the parties' names, comments/descriptions and the percentage split. A case number is assigned so the details can be retrieved for future use through the search mechanism.

The next screen (Figure 2) is retrieved after users click on the 'Allocate' menu item at the top of the screen. This screen enables users to enter the items in dispute, their financial value (in dollars) and an items ratings by either typing in a number or by using the provided sliders. This screen displays the issues and ratings as given in Table 1. Once the details are entered, users press a 'Refresh' button located under the Allocation table to populate the table with the results of the allocation based on the ratings given by the users and the trade-off strategy employed by the system.

This screen indicates the modification of ratings (and hence the generation of alternative scenarios for resolution) a very quick and easy process. Users need only move the slider to reflect a change in a rating and then press the button 'Refresh' to see the results of their changed preferences (Figure 3).

The Allocation Table shows users the items allocated to each party and a payout or debit dollar figure, which is calculated based on the percentage split and financial value of the items set previously.

If users would like to keep a copy of their proposed settlements, they can press the 'Print' button, which will then bring up a summary screen, in which the allocations to each party including the payout are shown clearly. This screen (Figure 4) can be printed for future reference.

Figure 2   Second Screen in AssetDivider, in Which Ratings Are Set and Easily Modified

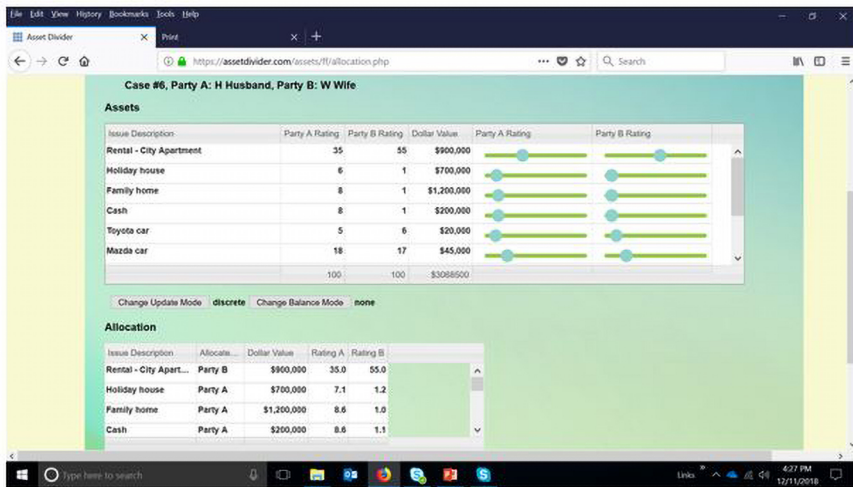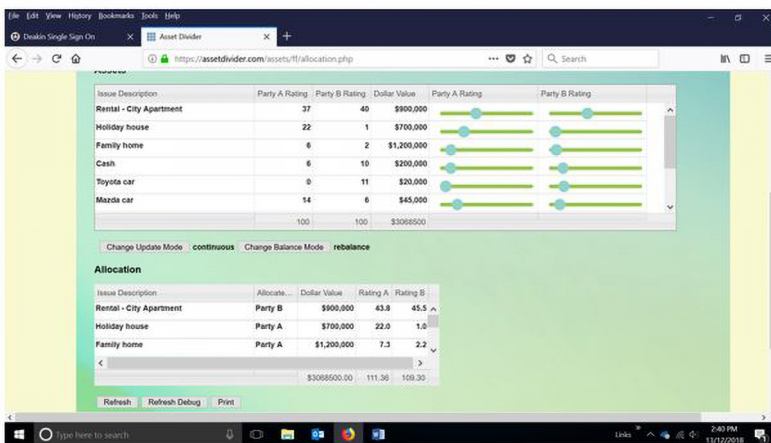*Figure 3   Location of 'Refresh' Button for Ppopulating the Allocation Table*

In the allocation suggested for the family law detailed above, both parties received the items they rated higher, which was expected and indicates the difference in ratings between the two ratings was not significant enough to force the trade-off strategies to change ratings significantly. The one issue that both rated equally, the paintings, was allocated to Party B (Wife) as the ratings for party B will have increased due to the number of allocations to Party A (Husband). It is in the situation of a stalemate, such as where both parties want the same item, that we see value in trade-off strategies enacted. The second important aspect to note

is the allocation of money to a payout item. This item refers to how much a person owes or should be given for the percentage split to be accurate. In this case the percentage split between the disputants is 50 per cent; therefore, of the total common pool of money ($3,068,500.00), each is deemed to receive $1,534,250.00. In calculating the payout, the monetary value of the items is taken into account, and any shortfall between the allocated 50 per cent of money and total value of assets allocated to the party is calculated as the payout.

In the above case, party A's list of allocated items accounted for 20 per cent more than party B. Hence, party B has given a payout of $612,250 and party A has a debt of the same amount.

Next, we consider the pros and cons to the software's use in practise.

3.3 Implications of AssetDivider in Practise

In this paper we have shown how AssetDivider can help disputants revise priorities in a family law dispute. The software may be applied to other disputes where disputants have difficulty in articulating their needs and interests before embarking on a formal negotiation. For example, the software has been applied to the Middle East dispute (Zeleznikow, 2004), which presented a novel approach to resolving this complicated dispute. The software may also help resolve ambiguity around the most important and substantive issues in dispute for a single disputant. One such example is its use in shuttle negotiations, where as part of the sharing of a disputant's experiences and feelings, one may also gain clarity over his or her needs and can move forward more confidently into the following phases of negotiation. We trialled the program with an industrial dispute where an employee was unfairly treated due primarily to a lack of communication. While the software was limited in its application as a finance tool, parties found value in discussing how they arrive at the ratings, as they found clarifying their priorities (and therefore what they need) very useful for future communications with the other party.

AssetDivider may be used to reality test solutions to a case, enabling disputants to objectively review their priorities before commencing the formal face-to-face negotiation process. AssetDivider allows for different combinations of ratings to be trialled using the software. The new addition of a payout item to this version can help disputants make more informed decisions regarding the priorities they place on being allocated certain issues. For example, in the case detailed in this paper, Party A may not be able to afford the payout he must give Party B, and therefore he will want to run the case again, where Party B is allocated an item he is comfortable not owning, and so on, until he is satisfied he can afford to commit to the solution.

AssetDivider does not constitute a complete solution to online negotiations and therefore must be used in conjunction with face-to-face negotiations or perhaps part of an advanced ODR solution. It also requires a relatively complete understanding of the issues and priorities in the negotiation from both parties.

Figure 4   Summary Screen Listing Allocations
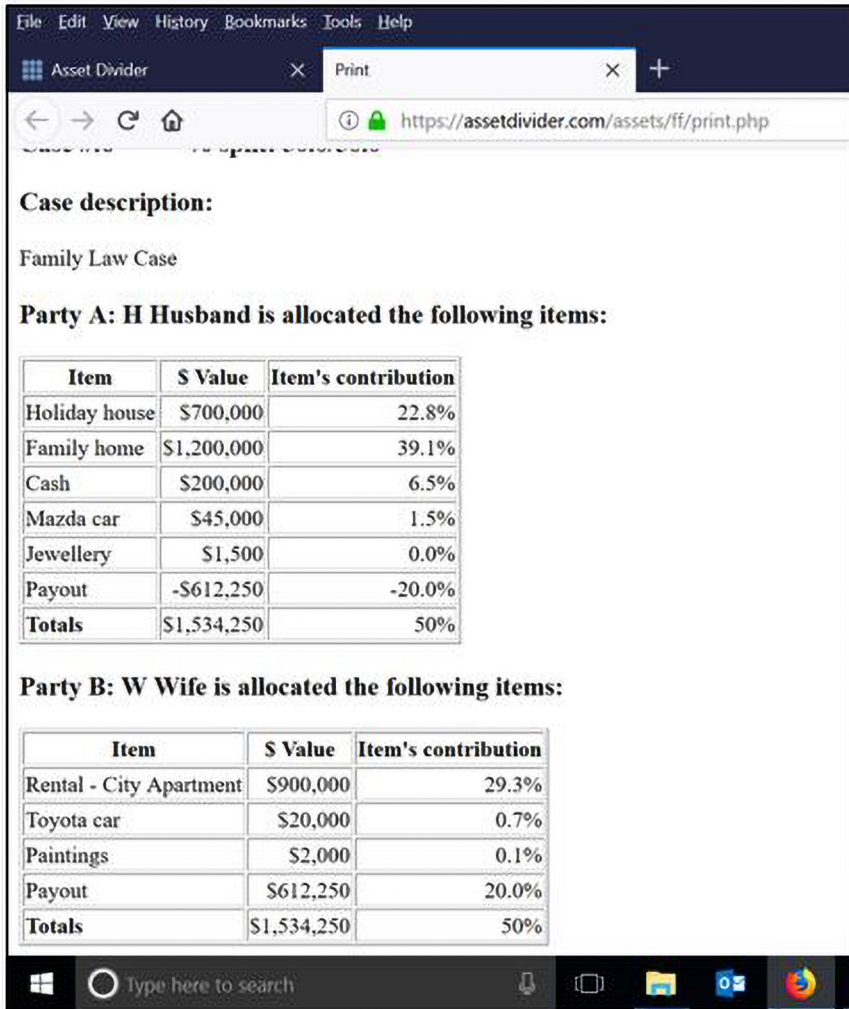
4.   Concluding Remarks

The aim of this paper is to acknowledge the importance of preparing disputants before entering into a negotiation or formal dispute resolution process. Our research aims to *support and not replace face-to-face negotiation* using electronic means. Empowering people with the facts before and during a negotiation could be a way to avoid emotions influencing responses to the substantive issues in dispute. Asset Divider allows parties to clearly identify the issues and priorities by reality testing various solutions until they are satisfied they can abide by the solutions proposed. This program can be useful in preparing for the negotiation by

allowing disputants to clearly articulate positions, understand what trade-offs one is willing to make and to ensure a safe financial security for the future.

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