

A Study on Differences in Judgment Based on a Civil Case Using Fuzzy Multiperson Decision Making Model

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Abstract - We do come across cases where the lower court verdict is reversal or appealed by higher court. This paper studies the differences in judgment delivered at lower and higher court on a family divorce case. This case consists of three stages. First stage is in family court, Hyderabad by wife Deepa against her husband K. Srinivas Rao. Second case is of the wife D.A. Deepa challenged the family court judgement in the High court, Andhra Pradesh. And finally they approached Supreme Court for decree of divorce. The Criminal proceedings in family court and later appeal and further revision were pursued in higher forums which would warrant grant of divorce. The differences in judgment in different courts are studied using Fuzzy Multiperson Decision Making Model. Evidences and existing laws are the same but the interpretation differs. Hence the need for fuzzy approach to study the decision making process has become interpretation.

Keywords: Fuzzy preference ordering, Group decision making, reflexive, antisymmetric, and transitive, Decision making process.

I. INTRODUCTION

This paper deals with its three stages, decision at Family Court, High court, and Supreme Court. The criminal case is between Husband – K. Srinivas Rao Verses Wife – D.A. Deepa. The wife filed a petition under Section 9 of the Hindu Marriage Act 1955 before the Family Court, Secunderbad in 2001 that she was harassed, ill-treated for dowry, indecent allegation were made against her mother-in-law and her husband. Her husband filed a counter claim seeking dissolution of marriage under Section 13 of the Hindu Marriage Act 1955 on 2002. The family court made all efforts to settle the matrimonial disputes through mediation. The wife appealed High Court, Andhra Pradesh in 2003 against the said judgment in Family Court. The High Court order dated on 8-11-2006 stated that the wife caused mental cruelty to the husband under assumptions and presumption. Then the husband in filing revision in Supreme Court on 2007 seeking to decree of divorce and for his dismissal from his job. On February 2013, degree of divorce favored and also directed him to pay Rs. 15,00,000 to the wife as a permanent alimony. This study dealing with the judgments in different Court has been studied using determination of solution in Group Decision Making process.

II. A FUZZY GROUP DECISION MODEL (FGDM)

Decision making is most important scientific, social and economic endeavour. In classical crisp decision making theories, decisions are made under conditions of certainty where the outcome for each action can be determined and ordered precisely. But the problem in making decisions under uncertainty is that the bulk of information we have about the

possible outcome. In fuzzy decision theories rank ordering can be used to deal with the vagueness of Fuzziness inherent in subjective or imprecise determination of preferences. The process of group decision making is to arrive at consensus regarding a desired action or alternatives from among those considered in the decision process. By consensus we mean a unanimous agreement concerning the choice of all the members in the group. There may be many outcomes of decisions in groups in developing consensus about a universe X with n distinct possible alternatives, that is $X = \{x_1, x_2, x_3, \dots, x_n\}$

III. MULTIPERSON DECISION MAKING

Decision made by more than one person are modeled for logical reasoning. Two differences notified while taking decision are considered. The goals of the individual decision makers may differ by placing a different ordering on the alternatives; second, the individual decision makers may have access to different information upon which they base their decisions. Theories known are as n -person game theories deal with both of these considerations. Team theories of decision making deal only with the second and group-decision theories deal only with the first.

A fuzzy model group decision was proposed by Blin and Whinston in the year 1973. Each member of a group of n individual decision makers is assumed to have a reflexive, antisymmetric, and transitive preference ordering, $P_k, k \in N_n$, which totally or partially orders a set X of alternatives. A "social choice" function must then be found which, given the individual preferences orderings, produces the most acceptable overall group preference ordering. Basically, this model allows for the individual decision makers to possess different aims and values while still assuming that the overall purpose is to reach a common, acceptable decision. In order to deal with the multiplicity of opinion evidenced in the group, the social preference S may be defined as a fuzzy binary relation with membership grade function

$$S: X \times X \rightarrow [0, 1].$$

Which assigns the membership grade $S(x_i, x_j)$ indicating the degree of group preference of alternative x_i over x_j .

One simple method computes the relative popularity of alternatives x_i over x_j by dividing the number of persons preferring x_i to x_j , denoted by $N(x_i, x_j)$, by the total number of decision makers. This scheme corresponds to the simple majority vote.

$$S(x_i, x_j) = \frac{N(x_i, x_j)}{n}$$

A dictatorial situation can be modelled by the group preference relation S for which

$$S(x_i, x_j) = \{1 \text{ if } x_i \succ_k x_j, \text{ for some individual } k.$$

Where \succ_k represents the preference ordering of the one individual k who exercises complete control over the group decisions. Once the fuzzy relationship S has been defined, the final nonfuzzy group preference can be determined by converting S into its resolution from

$$S = \bigcup_{\alpha \in [0,1]} \alpha^\alpha S$$

Which is the union of the crisp relations α_S comprising the α -cuts of the fuzzy relation S, each scaled by α .

3.1 Description of the Problem

The K. Srinivas Rao husband is working as Assistant Registrar in Andhra Pradesh, High Court. The marriage between the husband and wife was solemnized on 25-4-1999 as per Hindu rites and customs. Unfortunately, on the very next day disputes arose between the elders. Both sides which resulted in their abusing each other and hurling chapels at each other. As a consequence of the quarrel between the elders, the newly wedded couple started living separately.

Stage 1: A complaint was filed by wife against husband and his family members under Section 9 of the Hindu Marriage Act 1955, wherein besides alleging ill-treatment and harassment for dowry, it was alleged that mother of appellant husband had asked respondent wife to sleep with her father-in-law. Also filing a complaint making unfounded, indecent and defamatory allegation against her mother-in-law. The K. Srinivas husband responded saying but the said complaint was found to have been falsely lodged out of frustration as he has refused to live with her. Also, husband filed a counterclaim seeking dissolution of marriage under Section 13 of the Hindu Marriage Act 1955. The Family Court dismissing the petition stating demand of dowry of Rs. 10,00,000 is false that by filing false complaint against the husband and his family was said to be an offence under Section 498-A of the penal code. And also directed the husband to repay Rs. 80,000 given by his father-in-law to him with interest of 8% per annum from date of marriage till payment. The family court made all efforts to settle the matrimonial disputes through mediation. During mediation, the parties can either decide to patch up and stay together. All mediation centers set to make efforts to settle matrimonial disputes.

Stage 2: The Deepa wife challenged the Family Court judgment in the High Court, Andhra Pradesh in the year 2003. She appealed to the High Court against the lower court. The High Court allowed the appeal it found the settlement to be equitable and genuine. She appealed to the High Court asking for the dismissal of husband's job for defamatory allegation made by her in law, imprisonment of his parents for defamatory allegation against the mother of the husband, imprisonment of his parents, for more dowries etc. The counsel members together submitted that the complaint lodged by the wife was false. She has caused extreme mental cruelty to the husband as she did not live with the husband for long period. She could not have caused mental cruelty to him as they got separated on the very next day of their wedding. Mr. Jayanth Muth Raj, learned counsel said that the marriage has broken down and therefore it is necessary to dissolve it by divorce.

The High Court after properly evaluating all the circumstances and has rightly set aside the degree of divorce. The High Court ordered the husband to pay Rs. 80,000 which was given wife's father. According to the High Court judgment and order dated on 8th Nov 2006, that the wife caused mental cruelty to the husband is all based on presumption and assumptions.

Stage 3: The husband being aggrieved by the judgment and order by the Andhra Pradesh High Court, went for appeal in Supreme Court in 2007 seeking enhancement from removal of his job. His wife's false complaints caused extreme cruelty. Also pleaded for divorce and safeguard his parents from imprisonment. The Deepa wife in her response said demanded additional cash of Rs. 10,00,000. Since his demand could not be met her family was humiliated and ill-treated. The wife's father made all effort to talk but ended in vain. Therefore, wife had no alternative so she lodged complaint against them.

The court listed out the points after listening to both sides.

1. Mental cruelty by his or her conduct
2. Vulgar and defamatory letters or notices.
3. Filing complaints containing indecent allegation
4. Number of many judicial proceedings which makes life miserable
5. More than ten years they stayed apart.
6. Unbridgeable distance between the husband and the wife.
7. Their marriage bond was beyond repair.
8. Irretrievable breakdown of marriage tie which is dead cannot be revived by the court's verdict.
9. The court also noticed that the divorce petition was pending for more than eight years the end was not in sight.
10. Even if the court refuses divorce, there is no chance of leading happy life.

Considering the all above circumstances Supreme Court on Feb 2013 granted decree of divorce also by considering the future of the wife and her dependence on parents and brother, the Court ordered to pay Rs. 15,00,000 as a permanent alimony in three installments on March, May and June of 2013 as a demand draft in favor of Deepa's wife.

3.2 Case Study

Let us consider a group of six decision makers each with a total preference ordering

$P_i = (i = 1, 2, 3, 4, 5, 6)$ on set of alternatives $X = \{a, b, c, d\}$ as follows

$$\begin{aligned} P_1 &= (a, b, c, d) \\ P_2 &= (d, b, c, a) = P_5 \\ P_3 &= (a, c, b, d) = P_6 \\ P_4 &= (d, b, a, c) \end{aligned}$$

A Set of Attributes (Alternatives)

P_1 (Preferences) = Relationship problems

a = Communication problem between them

b = Depression

c = Domestic violence

d = Ill-treatment

P_2 (Preferences) = Mental cruelty

a = Verbal/sexual abuse

b = Emotional abuse

c = Psychological abuse

d = Frustration

P₃(Preferences) = Matrimonial Disputes

- a = Disagreement
- b = Difference of opinion

- c = Procrastination
- d = Social stress

P₄(Preferences) = Physical aggression

- a = Irritating habits
- b = Vulgar and Defamatory letters
- c = Harassment for dowry
- d = Removal of job

P₅(Preferences) = Marital Discord

- a = Economic Deprivation
- b = Resentments
- c = Domineering
- d = Infidelity

P₆(Preferences) = Sexual problems

- a = Relationship satisfaction
- b = Conflicts
- c = Gender Complex
- d = Bad Behavior

Using the membership function $S(x_i, x_j) = \frac{N(x_i, x_j)}{n}$ for the fuzzy group preference ordering relation S (where n = 6), we arrive the following fuzzy social preference relation

$$\begin{aligned} \mu_s(a, a) &= \mu_s(b, b) = \mu_s(c, c) = \mu_s(d, d) = 0 \\ \mu_s(a, b) &= \frac{4}{6} = 0.667. \\ \mu_s(a, c) &= \frac{3}{6} = 0.5 \\ \mu_s(a, d) &= \frac{3}{6} = 0.5 \end{aligned}$$

Similarly all the preference are calculated and the matrix of the fuzzy preference relation is

$$S = \begin{bmatrix} & a & b & c & d \\ a & 0 & .667 & .5 & .5 \\ b & .5 & 0 & .667 & .5 \\ c & .334 & .334 & 0 & .5 \\ d & .5 & .5 & .5 & 0 \end{bmatrix}$$

The α -cuts of this fuzzy relation S are $S_1 = \emptyset$

$$S_{.5} = \left\{ (a, c), (a, d), (b, a), (b, d), (c, d), (d, a), (d, b), (d, c), (a, b), (b, c) \right\}$$

$$S_{.667} = \{(a, b), (b, c)\}$$

$$S_{.334} = \left\{ (c, a), (c, b), (a, b), (a, c), (a, d), (b, a), (b, d), (c, d), (d, a), (d, b), (d, c), (a, b), (b, c) \right\}$$

$$O_{.667} = \{(d, a, b, c), (a, b, c, d), (a, d, b, c), (a, b, d, c)\}$$

All total orderings on $X \times X$ are, of course, compatible with the empty set of S_1 . The total orderings $O_{.5}$ that are compatible with the pairs in the crisp relation $S_{.5}$ are

$$O_{.5} = \left\{ (d, a, b, c), (a, b, c, d), (a, d, b, c), (a, b, d, c), (d, b, a, c), (b, a, c, d), (b, d, a, c), (b, a, d, c) \right\}$$

Thus, $O_{.5} \cap O_1 = O_{.5}$

$$\text{And } O_1 \cap O_{.5} \cap O_{.667} = \{(d, b, c, a)\}$$

$$O_1 \cap O_{.5} \cap O_{.667} \cap O_{.334} = \{(d, b, c, a)\}$$

Thus, the value .667 represents the group level of agreement concerning the social choice denoted by the total ordering (d, b, c, a).

IV. OBSERVATIONS

Thus if we compare all the attributes and take the social choice from each domain or field of reference we find that group consensus in terms of decision based on this order (d, b, c, a). According to the social choice taken from each domain or field of reference it is observed that the value of .667 represents the attribute group level of argument concerning the identification of differences in opinion. It is seen that under each preference the following attributes gives the concrete and reasonable result that even the family court had made all efforts to settle the matrimonial disputes through mediation, counsellors submit a failure report, and the court had setting aside the decree of divorce granted in his favour.

The High Court's judgement, therefore, merits no interference. The relation between the two families got strained. The respondent wife appears to be very keen to go back to the matrimonial home and start life afresh, but the appellant husband is adamant, erroneous unable to agree with the High Court.

Many attributes are labelled as follows:

1. Mental cruelty
2. Disappointment
3. Frustration
4. Torture
5. Unjustifiable conduct
6. Affecting physical and mental health
7. Relationship has deteriorated
8. Long period of continuous separation

All these facts leads to the conclusion that matrimonial bond has been ruptured.

V. CONCLUSION

The Family Court dismissed the petition for restitution of conjugal rights and allowed the counterclaim for divorce filed by the appellant husband. The respondent wife challenged the Family Court judgment in the High Court. The High Court reversed the Family court's order and allowed the petition for restitution of conjugal rights. The appeal is filed by husband against the judgement. In the result, the judgement is quashed and set aside. Likewise all the attributes are true in the case of all the attributes have been quite true for the sample case. The marriage between appellant husband and the respondent wife is dissolved by a decree of divorce. The appellant husband shall pay the sum of Rs. 15, 00,000 in three instalments. Hence, the attributes d, b, c and a, indicate the decree of divorce.

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