E-Price Negotiator

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Abstract : Now a day's people are habituated to buy stuff on E-commerce website, but we all ken that we can't negotiate with cost. We have to buy stuff at that cost. Everyone relishes to get the best cost, but best cost cannot be provided to everyone. This paper proposes an algorithm to provide the best cost to the most prospective buyer. E-Negotiation will be predicated on buyer's transection pattern with more precise manner. Comparing subsisting scenario for ecommerce models for selling product application like Business to business, business to customer and customer to customer, where the intervention of buyer is present, this paper with an innovative conception proposes a system for e-negotiation by just observing the customer/buyer's transection pattern. Electronic negotiations are becoming an consequential explore subject in the Has higher utility prosperous experience of the human conventional arrangement is the profitable learning assets of programmed exchange electronic commerce. Decision analysis and especially multi attributive utility theory play an consequential role for the fortification of electronic negotiations. The predilections are conventionally represented as a utility function on the set of alternatives such that the utilizer prefers an alternative precisely when it has higher utility. Prosperous experience of the human customary exchange is the profitable learning assets of programmed arrangement. Mechanized arrangement model can gain from past involvement in exchange, reason, and give a conceivable separate of dealings on an early methodology.

IndexTerms **- E-negotiation; transection patterns, customer behavior**

I. INTRODUCTION

These days, the Internet has made an incredible unrest in the manner in which people shop. A regularly expanding number of people lean toward buying things online over the customary procedure for going into stores in light of the various points of interest and advantages like accessibility of numerous brands of items on one stage, no need of paper cash which is an essential factor in the present situation of demonetization, the adaptability to purchase at whatever point and wherever you need to. Requesting nourishment online is likewise a standard propensity now days. So obviously online business and mcommerce are what's to come. Despite the fact that most web based business destinations offer practically a wide range of administrations and items, one thing that is missing is dealing or exchange, which is the most pulling in appeal of the nearby or retail showcase. So on the off chance that we can have the office of bartering on the web it will be an achievement in web based business commercial center. As indicated by the conduct of purchaser, a champion among the most basic intentions to purchase online is the rebate given on the cost. So on the off chance that we give the remarkable component of online exchange, at that point it will in general proselyte the guests to purchasers for a site.

II. LITERATURE REVIEW

Ms. Snehal Kulkarni et al. worked on E-Negotiator based on Buyer's surfing pattern and by introducing N-Gram algorithm where the some important factors are taken into consideration like revisiting the site, comparative rates of same products, stickiness on website etc. and the rule based system will be formed and accordingly the negotiation will be done by the system[1]. One more additional benefit of N-Gram is flexibility and simplicity, it can deal with issues with loose and fragmented information and it can display nonlinear elements of self-assertive multifaceted nature [1,2].

Debajyoti Mukhopadhyay et al. chipped away at Predicting the specialist's conduct and utilizing those forecast outcomes to expand operator's very own advantages is one of the vital issues in the arrangement procedure. It is indispensable for an agent to engender offers predicated on his own criteria because an agent has inhibited computational power and incomplete erudition about opponents. Sundry approaches have been proposed for prognosticating the opponent's negotiation comportment. We can get steady visiting amount, client need not worry about support and update of framework as it is done on the server freely, sparing human and material assets, mechanized exchange framework can make utilization of the current fundamental offices given by online business stage i.e. security, authentication, transaction management etc. ,saving costs of development.

Faratin [9] proposed a respective arrangement show in which the two gatherings consult on an issue like value, conveyance time, quality and so on. The two gatherings embrace inverse jobs (purchaser and vender) and utilize one of the three groups of arrangement strategies specifically: Time dependent strategies, Resource dependent strategies and conduct dependent strategies. The offers traded between the specialists are spoken to as xta->b. This is the offer created by operator 'a' for specialist 'b' at time 't'. Every one of the offers are limited in the middle of mina and maxa which indicates the scope of every single imaginable idea of 'a'.

Every operator has a scoring capacity Va which allots a score to each offer created. An operator may react to the idea by any of the three different ways: pull back, acknowledge or offer.

Fuzzy logic begins with and expands on a lot of client provided human language rules. The fuzzy frameworks convert these principles to their numerical counterparts. This disentangles the activity of the framework creator and the PC, and results in significantly more exact portrayals of the manner in which frameworks carry on in reality[4]. Additional features of fuzzy logic incorporate its straightforwardness and its adaptability. Fuzzy logic can deal with issues with uncertain and inadequate information, and it can show nonlinear elements of discretionary intricacy. "In the event that you don't have a decent plant demonstrate, or on the off chance that the framework is changing, at that point Fuzzy will create a superior arrangement than ordinary control methods".

III. PROPOSED WORK

Proposed system works using Fuzzy logic algorithm for e-negotiation where the only transection is the important factor is considered and the rule based system will be formed and accordingly the negotiation will be done by the system. Fuzzy logic works on human developed rules. These rules will be then converted to mathematical equivalents. This will result in more accurate way as in real world.

One more supplemental benefit of fuzzy logic is flexibility and simplicity, it can handle quandaries with imprecise and incomplete data and it can model nonlinear functions of arbitrary involution. "If you don't have a good plant model, or if the system is transmuting, then fuzzy will engender a better solution than conventional control techniques," verbally expresses Bob Varley.

Fuzzy logic model consists of number of "if then" rules, these rules are based on the input and output parameters with their linguistic variables and as many rules as necessary can be framed to describe the system adequately. Fuzzy inference system is based on membership functions for calculating exact value between 0 and 1.Fuzzy system is very simple and efficient due to rule based system and flexible membership functions, so we can maintain the update the system efficiently and effectively.

Modules:

1. **User**
2. **Admin**
3. **Fuzzy module(Mamdani model)**

1. User module
    a. User create new account/current account.
    b. User can see his past transaction and account details.
    c. User can change his account security.
    d. User have multiple payment options.
    e. User can apply promocode.

2. Admin
    a. Admin can change prices .
    b. Admin can approve user services request.

3. Fuzzy module(Mamdani model)
    a. Mamdani fuzzy model is separate independent process written in Java.
    b. The job of this module is selection of transection , validation of transaction and offer validation based on product category .
    c. It will then check for set transaction then it will calculate and select the category to apply the sale for the particular user and give the user notification with promocode.
    d. Mamdani module will calculate percentage of profit, discounted price of individual user as well as purchase price.
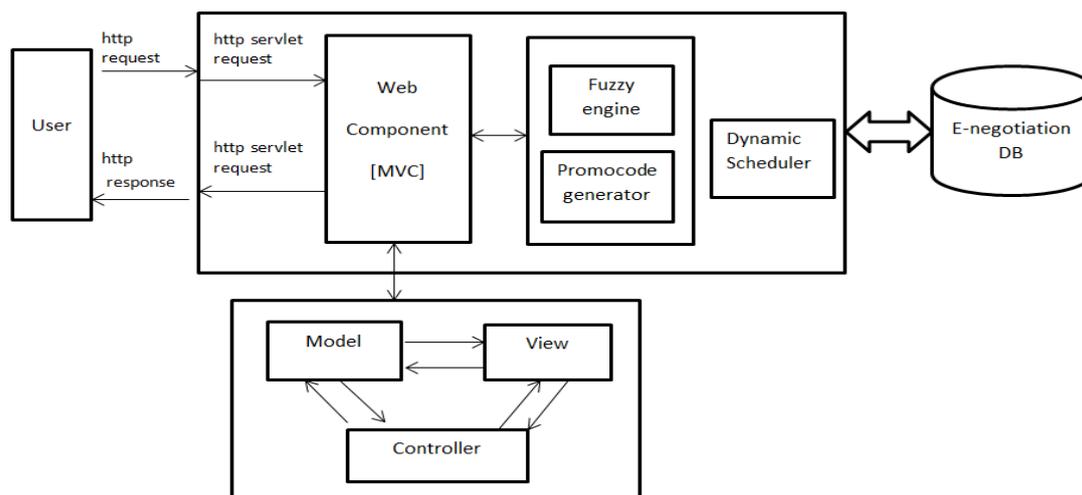
Fig 1: Block diagram

IV. IMPLEMENTATION

The percentage of negotiation or discount rate for particular product can be decided are based on pattern of buyers' transection where single transection may contain multiple product , but only maximum amount transection will be selected in first pattern.

Factors which will be considered:

1. Percentage of profit
2. New offered or discounted price (purchasePrice)
3. Product's actual price(sellingPrice)
4. Transection done by user(T)
5. Promo code (P)
6. Product
7. Category of product

Percentage of profit provided by the company to vendor is the only important factor, based on it actual discounted price will be given. (Discount will be provided on same category)

Algorithm:

1. Selection of recent transection done by user.
2. Select transection with maximum amount.
3. Check Promocode(P) is used or not on selected T

    if(P == used)

           Select remaining four for further calculation.

    else

           Goto step 4

4. Check Product purchased in selected T.
5. Select product with max percentage of profit.
6. Update new price to user

    Calculate:

    a. percentage of profit=(sellingPrice - purchasePrice) * 100/ purchasePrice
    b. Discounted price = profitprice - (profitPrice * percentage of profit)
    c. purchasePrice = sellingPrice – (discoumted price – oldpurchasePrice)

Output:

a. Product's actual price(sellingPrice)

Fig 2: before applying promocode

Fig 3: before applying promocode

b. New offered or discounted price (purchasePrice)

V. CONCLUSION

In this paper, we construct a negotiation model with user transection negotiation factors as well as one negotiation function. We then present some amount of discount to the buyer depending on revisiting of site, showing interest on website etc. Buyer gets more discount based on his/her transection. We conclude that our adaptive negotiation strategy is effective because both the best negotiation satisfaction degree and maximum negotiation utility can be achieved. Customers relish to feel special, and a customized discount rate will make them feel privileged. This Indian consumer demeanor can be visually perceived in local markets. When a special discount is given, the customer surely purchases the product. Thus the proposed system will be subsidiary to magnetize the customer and increment the purchase rate. In the future, we will extend our experiments to multi-buyer Agents and multi-seller Agents environment to validate the effectiveness of proposed negotiation strategy. Especially, we will consider the buyer Agents and seller Agents employing different strategies in negotiation progresses.

V. REFERENCES

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