

Improvements in the Name-Your-Price Dynamic Pricing Model

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Abstract

The “Name Your Price” model is based on the idea of negotiation which is held via electronic means and has as its main goal equal satisfaction among all parties, namely customer, service provider and supplier. One or more customers using a web platform, which implements this model, can register their orders for a specific product and offer the price they are willing to pay in order to purchase a specific quantity of this product. The advantage of this model is found in the notion of negotiation the service provider has, as it results in low prices due to large wholesale quantities being sold and bought.

Using the idea of online negotiation we developed a platform that implements the “Name Your Price” model and at the same time expands the scope of this model proposing a new variant. The new model we propose and the system allows more than one suppliers to cover part of the same order of a specific product. This usually occurs either when the system is not able to find suppliers who could provide the whole ordered quantity, or when none of the suppliers could make a bid that brings significant profit to the service provider. However, this new system is still able to assign an order to only one supplier who will make a profitable bid.

1. Introduction

During the latest years due to the global financial crisis, businesses struggle to find innovative solutions in order to ensure their survival. In their effort to save resources, companies resort to implementing new technological solutions in all levels of their business activity. The internet is the most common medium which companies use to stand for the needs of modern business era. Nowadays, the number of companies which choose internet for their transactions is constantly increasing and e-shops have turned into serious business tools that help in the grown of e-commerce [4]. Considering the benefits of e-commerce, we studied and then we developed a web-based platform for online negotiations which is based on “Name Your Price” [6, 7] business model.

2. The “Name Your Price” model

The “Name Your Price” (NYP) model is based on the idea of negotiation and its main goal is the equal satisfaction of all members. This kind of negotiation is held through electronic means and the members that take part in it are at least 3: the customer, the service provider (also known as intermediate) and the supplier. Specifically, one or more customers (buyers), using the web platform which implements this model, can register their orders for a specific product offering the price which they are willing to pay in order to purchase a specific quantity of this product. The intermediate (service provider) is there to ensure that the negotiation

platform functions normally. The advantage of this model is found in the negotiation benefit that acquires the service provider which results in low prices of selling products from the suppliers. The negotiation advantage of the intermediate derives from the great amount of products which represents the aggregation of all requested, by the customers, amounts. What is interesting in this model is the fact that customers can offer significantly lower prices for the purchase. Despite some extreme cases, if the weighted mean offered price (from all customers) is bigger than the bulk product price, then the purchase is being held and the buyers can pay the exact price of their offer. Namely, even if the intermediate loses an amount from specific customers, the purchase proceeds when then total revenue is bigger than the total cost of the procurement. The supplier, on the other hand tries to cover the whole of the requested amount of products. Using this business model, the negotiation platform offers advantages to all members of the transaction. Customers manage to save money from the purchase of the products of their need and actually buy the products in the exact price they suggested. The intermediate gains the profit from the sales and suppliers manage to broaden their sales network in order to sale a big amount of products. This platform, which implements the "Name Your Price" business model, exploits the advantages of the internet, leads to the absolute targeting, together with the achievement of sales and the guaranteed of profit.

3. Other approaches of the "Name Your Price" model

Most of the references found about the "Name Your Price" model, emphasizes more on the theoretical approach than the practical. Most cases assess users' attitude during the use of such a system. Attributes such as users' ability to choose an appropriate price which will satisfy the desire for profitable and will be advantageous for those who will take part in the negotiation are investigated. Furthermore users' experience in using such systems is another important subject which is being studied. A more practical approach of the "Name Your Price" model which has already been introduced is the possibility for constant biddings from the customers with a different proposed price, if necessary in order to succeed an agreement [3]. This solution would definitely increase the systems rate of success; however, this success depends to a great extent on users' ability and knowledge of market prices for the products requested.

4. Our proposal

Our proposal is to expand the scope of the "Name Your Price" model and take the idea of online negotiation a step further. We implemented a platform that allows more than one supplier to cover part of the same order of a specific product. This situation occurs either when the system was not able to find one supplier's offer which would cover the whole requested quantity, or when none of bids can offer the intermediate a significant profit. The system nevertheless is able to assign an order to only one supplier who will propose an advantageous offer.

The developed system supports three types of registered users: customer, supplier and the intermediate. We have already mentioned what the customers' role in the system is. The suppliers, after a specific deadline, can view the new orders which have been added to the system and bid for them, having only available the total requested quantity. The intermediate is the one who will add the products to the system database and will specify the deadlines for putting orders (by customers) and

offers / bids (by suppliers). Moreover the intermediate is responsible for defining the percentage of the desirable profit over the sales. Based on this percentage the system will choose the best offer (or the best combination of offers) which will cover the whole order. The procedure of choosing suppliers has three stages. The first stage is the stage where customers register their product requests. Buyers suggest the price they are willing to pay so as to be able to purchase the desirable products. In the second stage suppliers can view the current orders and bid for them in order to undertake the whole or a part of the required quantity. The last stage is the stage where the system automatically chooses the offer / bid which can cover the whole of the order and at the same time give the intermediate the biggest profit. The system can choose as well, offers which combined with each other can satisfy equally the buyers and the intermediate. It is important to mention that the intermediate can not interfere in the procedure of choosing suppliers and the procedure is fully automated.

During the procedure of choosing suppliers, the system evaluates the offers and chooses those which can give to the intermediate the greatest profit. The system can also choose combinations of offers with small (smaller than the required) quantities, as long as those combinations of offers are profitable for the intermediate. In case the system can not find a good offer, it suggests to suppliers a new offer with different product quantity and / or different price. Such alternative offers can be send to more than one suppliers. The supplier who will accept first the alternative offer will be the one who will cover the order or part of it.

5. Benefits from the use of the Model/System

Using such a system the ordinary user has access to a multitude of products and thus the need for looking at different online stores no longer exists. The time consuming procedure to find among the many online stores the one that will offer the product at the lowest price, would be replaced with just the time for order entry in the suggested "Dynamic Pricing" system. This way the customer takes only a few minutes to find and order many products at the lowest possible price, which has offered himself. Using the suggested platform, the customer has a great chance for positive result in the negotiation process, since the system enables more suppliers to accept the order of the customer (in between the orders of many consumers interested for the same product). Given that the prices of the selling products through a system of this kind are tailored to the wishes of customers, each customer has the feeling that, by buying products through this system, acquires power and guides the market in the direction he wants.

The electronic trading platform, that has been created, offers advantages to companies that wish to find an easy and economical solution to increase the customers' network [8]. Through the proposed system, the companies can sell large volumes of products without spending money on advertising and without having the personel to communicate and reach to agreements with customers. In their interaction with the platform, the firms will have the role of supplier and they will achieve the expansion of their target group, together with gaining customers' loyalty. A company could also use the suggested model having the role of the intermediary, so that any income from the negotiations to be left as profit in the firm.

The proposed electronic negotiating platform can offer high margins and can be used by anyone wanting to start a business activity. This person is the intermediary

in a deal with the profit gaining from the difference between the selling (customer) price and the purchase (supplier) price. This profit will continue to grow as users (suppliers and customers), gradually become familiar with the system. Thereby more and more negotiations will result in successful deals. The number of customers and suppliers will be increased when both parties find out that, through this platform, they achieve profitable sales and purchases. In any case, such a model is a competitive and pioneer idea, which as time goes by, has the power to give the intermediary great profit with almost zero cost of implementation and maintenance. Moreover, the automated process minimizes even more the cost in resources and human labor.

6. Promoting the model and the system

As already mentioned a system that implements the “Name Your Price Dynamic Pricing Model” is an innovative and a competitive concept for the promotion of electronic commerce. But for the standards of our country, such an idea is not well known. Therefore, the prospective users should be familiarized with the whole idea of the “Name Your Price” model. A first step, in this direction, would be to inform the public (customers, suppliers and candidate intermediaries) about the suggested model as well as about the system that implements this model. The briefing can be done by sending notification emails, for instance, to users of various networks, such as the social network facebook. Then it would be necessary to educate all the interested parties on how this system works, in order to identify themselves the simplicity in the use of the developed system. The next step involves the actual use of the system from the interested parties, in order to complete the phase of getting to know the idea of negotiating through a “Dynamic Pricing” system, where the customer is the one who sets the prices for the selling products. After the completion of the test phase of the system, each potential user is able to respond to questionnaires about the usability and necessity of such a system, which will lead to a possible configuration of the system, based on individual user needs and always in relation to the selling products and the target group.

7. Impact of the model to the users

The success and public response to the use of such a system depends largely on the familiarity of users with the negotiation process and in particular the process of bidding. According to surveys made on the use of such systems [1, 2], as users (customers / suppliers) learn and submit their proposals (orders / offers), they take into account the outcome of the previous transaction, while the psychological impact of the previous result contribute to the selection of the provided price. This finding shows that with the constant use of the system, users become more familiar with the process therefore their suggested prices are more rational in relation to the market price and as a consequence there is a greater possibility for a positive outcome. All users (customers / suppliers / intermediates), seeing their profit from the system to grow, acquire more and more positive emotions towards the system and become leading advocates of the method "Dynamic pricing".

An additional aspect for the success of the proposed system is also the knowledge of users about the prices of products offered for sale on the market. This knowledge guides the participants (customers and suppliers) to approach the market prices of

products and it has as a consequence a higher rate of positive outcomes of negotiations [5].

8. Model and System Evaluation

In a brief attempt for a basic evaluation of the suggested extension of the model (and also the created system), we formed short questions which we distributed to ten random users, who having the roles of supplier, customer and the intermediary, made an experimental use of the system. These questions concerned the usability, the attractiveness and the impact of the developed system to users. Respondents had to answer a series of five questions, indicating whether they agree with the view expressed in each of them. The range of responses are five (very little, little, so and so, very, very much), while each of the responses corresponding to a grade from 1 to 5 (very little = 1 point, little = 2 points, so and so = 3 points, very = 4 points, very much = 5 points). What follow, is the five questions (clauses) of the questionnaire:

1. The method the system uses is effective.
2. The purchase of products through such a system is beneficial.
3. The adjustment in the structure of the developed system is immediate.
4. The speed of the completion of the desired action is appropriate.
5. I would definitely choose this system for online shopping.

(Questions 1 and 2 refer to the dynamic pricing model used by the system; Questions 3 and 4 concern the level of satisfaction of users of the proposed system tested; Question 5 refers on the overall impact of a NYP platform.)

Figure 1 presents the answers the users gave for each question (clause) of the questionnaire. We note that all clauses received scores well above-average (25 points). The result shows that the developed system and the proposed model extension are in all areas more than adequate. We can add (based on the information presented in paragraph 7) that the continued use and familiarity of users with the concept of dynamic pricing model is expected to increase confidence and preference in the proposed model extension.

9. Future Research and Conclusions

As far as future research on the proposed model concerns, the idea of the extended model can be used in an already developed system, such as the Priceline system. Users will have the opportunity to experience the benefits of this model, without knowing that the system they use, has a new approach in selecting the best negotiation result. As a consequence, their evaluation will be more accurate for the the extended model, since it will be free from the personal choices which a user interface can install. Together with the testing in a real environment, users can answer a more extensive questionnaire which will give us, as developers, the opportunity to evolve the proposed model and make the interface more user friendly.

In conclusion, based on the evaluation made so far, the proposed extended model and the developed system can contribute in the acceptance and propagation of the "Name Your Price" e-commerce model and bring significant financial profit to all parties involved in such a negotiation procedure.

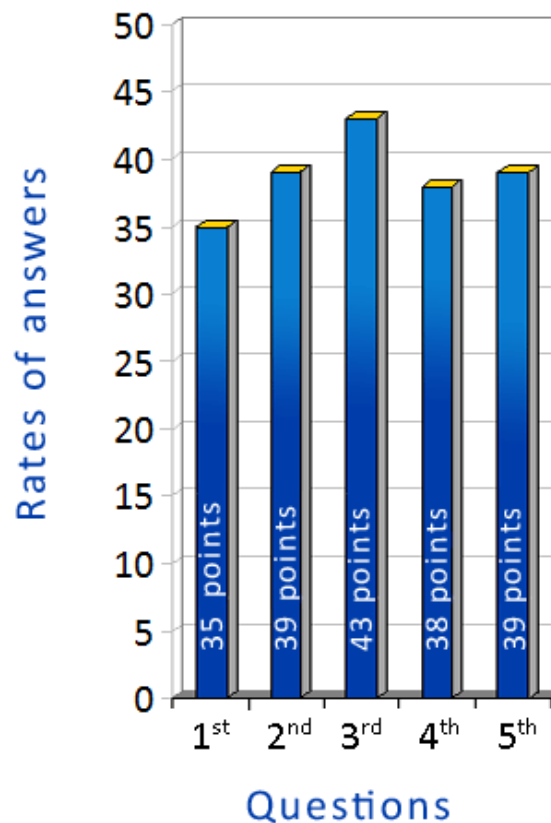


Figure 1: Scores of the questionnaires

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