

Nash Feature Package of an Integrated Finance Lease-Sales System for Cautious Customers

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ABSTRACT

Higher inflation rate and subsequently, higher prices make customers consider other options except purchasing products to meet their requirements. Therefore, demand for leasing is rising meaningfully in such conditions. Companies producing costly products are considering leasing as a new approach for getting higher profit. In this study, the authors assume the case of sale and leasing departments as two different parts in a company. There are strategies assumed for both sections of a company, which make multiple feature packages. The objective is to define the best strategy for both departments in a competitive game theory model considering customers' behavior towards different offered packages. A heavy equipment company with sale and leasing department as a case study has been studied, and the Nash equilibrium is selected based on game theory.

Keywords: Customer Behavior, Demand Function, Game Theory, Leasing, Nash Equilibrium

1. INTRODUCTION

1.1. Motivation and Significance

At the current competitive market, all the marketers are trying to promote their sales by means of many ways such as assigning suitable prices, increasing their products quality, and

publicizing. Manufacturers also try to reduce their costs and increase their income aimed at maximizing their profit. Researchers have done different endeavors to promote revenue management methods and assorted pricing models, which are different in retailer and customer's view. Having these characteristics taken into account, literature survey of this

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paper shows that there is a need to dedicate research works to the development of models and approaches to provide methods with the intention of achieving the defined goal(s) for a company (i. e., promoting sales by means of revenue optimization methods)

1.2. Operating Lease

One way to promote sales is using rebate. Widespread mail-in rebate programs or in other words, delayed incentives have been very popular among manufacturers in recent years. Several studies have examined consumer discernment as well as response to delayed incentives (Soman, 1998; Folkes and Wheat, 1995; Tat et al., 1988; Jolson et al., 1987). Another recent study on the significant role of offering rebates in pricing and inventory policy, which leads to a great increase in profit, is the paper by Khouja (2006) who formulated and solved two models for jointly determination of the optimal price, rebate face value, and order quantity for retailers. The analysis demonstrates that rebate plans can result in remarkable increases in profit, depending on two factors: rebate effectiveness and reference price. With the aim of increasing profit and using another advantages, we observed a major change in manufacturer's sale policy from selling products to offering some other consumer services like leasing products especially the durable products like an airline, a ship, etc. in recent years.

Leasing is a sort of giving the right to customer for using durable products with the intention of receiving predetermined monthly payments. There are two major kinds of lease: finance lease and operating lease. Under a finance lease, the finance company owns the asset throughout and the agreement covers a set of periods considering the full economic life of the asset. There is often an option to continue leasing at a reduced rate at the end of the contract period. An operating lease is a lease whose term is short compared to the useful life of the asset or piece of equipment being leased (i.e., an airliner, a ship, etc.).

An operating lease is commonly used to acquire equipment on a relatively short-term basis.

In this approach, the lessor leases the product to the lessee for a fixed monthly amount and assumes the residual value risk of the product. This provides a way to lease a product where the cost of the product is known in advance. Nevertheless, operating leases can be an expensive option since there is a risk premium, priced into the monthly payments. Operating lease has also spread to industrial equipment. The lessor leases the equipment to the lessee, who periodically pays a rent. Operating lease is the smartest way for the outsourcing of industrial equipment, which allows the company not to utilize its equity in an investment that produces no direct added value (AV). However, its aim is to dedicate AV to its core business and valuation. Unlike a Financial Lease, at the end of the operating lease the title to the asset does not pass to the lessee; but it remains with the lessor. Accordingly, at the end of an operating lease, the lessee has several possibilities: Pursuit of the lease, Return of the equipment, Renewal of equipment, Restoration of equipment, Purchase of equipment at their market value. The main advantages of operating lease are: No incidence of the rents on the balance sheet: they are operating expenses deductible from profits, Improvement of cash-flow, Economy of corporate taxes. Assume the case of selling and leasing: In high-inflation situations, many middle-class customers will not be able to purchase their required products directly. Providing them an option of leasing, which divides the main price into durable monthly payments, is more attractive since they received the product, but the payments are to be paid in smaller amounts for further periods. This issue leads to a competition between purchasing and leasing demand.

In this paper, we will employ the above-mentioned facts for discussing the behavior of purchasing and leasing demands. With this regards, a model is designed for case studies including companies with two departments of leasing and selling. In order to do this new dynamic (time-sensitive) demand functions are defined in terms of two important variables, namely price and inflation and other strategies in both sales and lease sections. To the best

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