

Option Pricing Theory Applied to the Service Sector

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Abstract : This paper develops an options pricing methodology to value strategic pricing strategies in the services sector. More specifically, this study provides a unifying taxonomy of current service sector pricing practices, frames these pricing decisions as strategic real options, demonstrates accepted option valuation techniques to assess service sector pricing decisions, and suggests future research areas where pricing decisions and real options overlap. Enhancing revenue in the service sector requires proactive decision making in a world of uncertainty. In an effort to strategically price service products, revenue enhancement necessitates a careful study of the service costs, customer base, competition, legalities, and shared economies with the market. Pricing decisions involve the quality of inputs, manpower, and best practices to maintain superior service. These decisions further hinge on identifying relevant pricing strategies and understanding how these strategies impact a firm's value. A relatively new area of research applies option pricing theory to investments in real assets and is commonly known as real options. The real options approach is based on the premise that many corporate decisions to invest or divest in assets are simply an option wherein the firm has the right to make an investment without any obligation to act. The decision maker, therefore, has more flexibility and the value of this operating flexibility should be taken into consideration. The real options framework has already been applied to numerous areas including manufacturing, inventory, natural resources, research and development, strategic decisions, technology, and stock valuation. Additionally, numerous surveys have identified a growing need for the real options decision framework within all areas of corporate decision-making. Despite the wide applicability of real options, no study has been carried out linking service sector pricing decisions and real options. This is surprising given the service sector comprises 80% of the US employment and Gross Domestic Product (GDP). Identifying real options as a practical tool to value different service sector pricing strategies is believed to have a significant impact on firm decisions. This paper identifies and discusses four distinct pricing strategies available to the service sector from an options' perspective: (1) Cost-based profit margin, (2) Increased customer base, (3) Platform pricing, and (4) Buffet pricing. Within each strategy lie several pricing tactics available to the service firm. These tactics can be viewed as options the decision maker has to best manage a strategic position in the market. To demonstrate the effectiveness of including flexibility in the pricing decision, a series of pricing strategies were developed and valued using a real options binomial lattice structure. The options pricing approach discussed in this study allows service firms to directly incorporate market-driven perspectives into the decision process and thus synchronizing service operations with organizational economic goals.

Keywords : option pricing theory, real options, service sector, valuation

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