complementary products[1]

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Complementary products or services are utilized in combination with one another. Typically, a complementary good has limited significance when used alone but, when used with its complementary products, its overall utility increases. Examples of complements are cars and tiers, tablets and applications, printers and ink cartridges.

Complementary products have demand patterns that are similar to each other such that shifts in the demand of the first good will affect, positively, the demand for the other good. An increase in price for the first good would lower its demand and pull down the demand for the second good. Complementary products are those that have a negative cross-price elasticity of demand thus mirroring the negative own price elasticity of demand.

As with substitutes, there can be "strong" or "weak" complements. This has implications for pricing because as the price of good A is reduced, the demand for A increases and the demand for complement B also increases (hence positive elasticity), whereas the demand for substitute C falls (hence negative elasticity). Kodak exploited this with its low price of cameras to increase the sales of film. This is further helped if the price elasticity of the complement (film) is low. For instance, it would not work the other way round, that is, by having a low price for film hoping thereby to sell cameras. Other examples would include machinery and parts replacement costs (aircraft and jet engines or computers and replacement parts).

The strategic importance of complementarity is inferior to that of substitutability. Nevertheless, complements raise the question of a firm's scope of activities. A number of decisions have to be made by a firm engaged in the production of complementary goods, namely, with respect to control over complementary products and industries, pricing, and the combined sale of complementary goods (bundling). The most important complements are those that have a significant impact on each other's position (e.g., in terms of cost or differentiation), and those which are associated with each other by the buyer.

Brandenburger and Nalebuff (1996) show how complementors play an important role in analyzing the competitive environment and make insightful comments on how Porter had lumped together the role of substitutes and complements in his five forces and analysis. In their analysis of the video games console industry and Nintendo's ability to generate page profits, they use a game theory approach to model.

Implications for Involvement in the Industry of the Complementary Product

There are a number of advantages that can be gained by being active in and controlling complementary products, including economies of scale in marketing (as demand for one good also boosts demand for the other), and other shared activities such as logistics (*see* ECONOMIES OF SCALE; ECONOMIES OF SCOPE).

Controlling complements, however, may have its own problems. The two most important points are that the industry of the complement may not be as attractive as that of the base good. The organization concerned may not have the skills, abilities, or any relevant competitive advantage to compete effectively in that industry.

Some complements may change over time, so the firm's involvement in the industry of the complement may not have to be as committed. Moreover, full scale operations in the complement's industry are not always necessary. Just being active in that industry may allow the firm to influence it, so that other firms may feel obliged to follow its examples when it sets lower prices or provides a higher level of service. As a result, controlling a relatively small share of the complement's industry may well be sufficient to improve sales and profitability of the industry with which the main interest of a company lies.

Implications for Pricing

The profitability of complementary goods may well require pricing to be pitched at levels different from those that would have been appropriate if the two products were not complements, or were not produced by the same firm.

Wiley Encyclopedia of Management, edited by Professor Sir Cary L Cooper.

Implications for Capacity Planning

Finally, the relationship between complementary goods may be exploited to forecast demand for one of them, given the change in the demand for the other. Similarly, if the price of one good rises or falls the demand for the other would also be expected to be affected because they are required together and the price of the bundle is affected. These relationships can be used for capacity planning purposes, particularly where the firm only controls one of the complements.

Endnotes

[1] Original article by Stephanos Avgeropoulos. Updated by Tanya Sammut-Bonnici and John McGee.

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