Analysing strategic business decisions in us cereal industry

The purpose of this essay is to use game theory and barriers to entry to analyse strategic business decisions in the US ready-to-eat breakfast cereal industry.

An industry analysis was done using different published journals. An overview of the oligopoly industry was also done for a broader understanding of the ready-to-eat breakfast cereals industry.

Bertrand competition was used as the oligopoly model adopted by the industry. Game theory was used to analyse the strategy firms in the industry will adopt and a discussion on barriers to entry as it applies to the industry was done.

Introduction

This essay will discuss the US ready-to-eat breakfast cereals industry.

An overview of oligopoly, discussions on Game theory, Nash equilibrium, Bertrand Price Competition and Barriers to Entry will be used to analyse the industry and the strategic business decisions as they relate to the industry

Analysis of the Ready-to-eat Breakfast Cereals Industry

Connor (1999) described the ready-to-eat breakfast cereal industry as a capital intensive industry requiring huge capital investments in production plants. To a large extent, this has contributed to Barriers to Entry in the industry. This industry market structure though having quite a few number of suppliers, is dominated by four major companies which are Kellogg Company, General Mills, Quaker Oats and Kraft. According to Nevo (2000) these companies have consistently continued to post high profits in comparison with the other food industries.

A key characteristic feature of this industry is product differentiation.

Brand specific knowhow is apparently present since established firms are sometimes unable to duplicate each other’s brand. The existence of this however, does not prevent them from producing, promoting and distributing successful new brands. “ Existing brands differ in such potentially relevant dimensions as sweetness, protein content, shape, grain base, vitamin content, fibre content and crunchiness” (Schmalnesee, 1978)

Connor (1999) has argued that competition in this industry does not involve the use of price war and therefore not a competitive strategy. Different researches conducted on the industry have shown that there is a level of collusion amongst the top firms though not openly done. This assumption was made popular by a case of anticompetitive complaint by the U. S. Federal Trade Commission against the top three manufacturers Kellogg, general Mills & Post in the 1970s (Aviv Nevo, 2000) Because of the absence of price wars in the industry, the use of other non-price strategies to gain competitive advantage are employed by firms in this industry. The consistency of zero price wars over the years, however was broken when in the late nineties, a price reduction by Kraft led the other big three Kellogg Company, General Mills and Quaker oats to respond by also reducing their prices as suggested by (Nevo, 2000). This pricing strategy by Kraft significantly affected the overall industry price forcing its competitors to reduce their prices as well.

Innovation through the launch of new products and aggressive media advertising are strategies employed by firms in the ready-to-eat cereals industry to compete for market share. This is a major factor contributing to the consistent high profits in the industry. The result of Connor's (1999) research revealed that the rivalry in the breakfast cereals industry tends towards " the choreographed grunts of televised wrestling than a cutthroat dual to the death and that the ultimate weapon, steep price cuts, is rarely unsheathed".

According to Connor (1999), media advertising and new product introductions are intimately related. New product introductions are one of the principal mechanisms for effecting rapid price increases in the breakfast cereals industry. His research revealed that all the new cereals introduced by the big four companies between 1981 and 1987 in the first year of sales, were priced 12% above the company's existing brands' average prices.

Connor (1999) in his research further showed that " the extraordinary attachment of consumers to branded cereals (or at least to the boxes they come in) has made entry by private-label products extremely difficult". This high degree of brand loyalty in the industry has significantly posed a threat to any firm considering entry into the industry. Invariably, the more a firm's brand is recognised, the higher the sale of a newly introduced cereal will be.

The cereal industry has oligopolistic tendencies and characteristics and will be classified as one. An overview on oligopoly below highlights the characteristic nature of oligopoly.

Overview of Oligopoly

Lipsey + Chrystal (1999) defined oligopoly as the theory of imperfect competition among the few. The industry is characterised by a few firms selling differentiated products. Because there are only few firms, each firm realises that its competitor may respond to any move it makes and takes that into account because each firm’s decision affects the other firms in the industry.

Earl and Wakeley (2005) described firms in the Imperfect competition as having differentiated products which are close substitutes. These differentiated products are supported heavily by advertising. Advertising tends to persuade consumers to patronise a particular brand over other brands of the other competitors. Advertising is used as a crucial weapon to create brand loyalty in the industry as consumers are assumed to be highly mobile. The existence of strong brand loyalty makes entry difficult because consumers are likely to have strong preferences for the already existing brands.

This implies that the behaviour of oligopolists are strategic with each firm taking explicit account of the impact of their decisions on competitors and the expected reactions from them (Lipsey + Chrystal, 1999, page 176). Besanko et al (2004) also defined oligopoly as “ a market in which the actions of individual firms materially affect the industry price level”.

The strategic behaviour of oligopolists is attributed to the highly competitive nature of the industry. For these firms to make strategic decisions that can give them comparative advantage, they make use of oligopoly models and game theory (Besanko et al, 2004).

Game Theory and Bertrand Price Competition

Besanko et al (2004) defined Game theory as the branch of Economics that deals with the analysis of optimal decision making when all decision makers are presumed to be rational and each is attempting to anticipate the actions and reactions of its competitors (Besanko et al, 2004, page 36)

Game theory is a strategic business decision making tool in areas such as pricing and capacity expansion.

Bertrand Price competition Model

Besanko et al (2004) has described Bertrand competition as a model of competition in which each firm selects a price to maximize its profit given the price that it anticipates its competitor will select. Each firm views its competitor’s price as fixed and believes that its own pricing practices will not affect the pricing of the competitor. In an oligopolistic industry with differentiated products, price competition is usually mild. When products are differentiated, a firm will not lose all of its business to competitors that embark on a price cut. This is majorly attributed to competition being based on a variety of product parameters such as its quality, availability and advertising.

The US ready-to-eat- breakfast cereal industry like all oligopolistic industries is highly competitive. The strategy of each firm will be to maximize profits and outputs given its rivals strategy.

To use game theory to analyse what choice is best for a firm at any given point, two companies will be used; Kellogg Company and General Mills as they are one of the top four and are each other's competitors.

Game theory and Nash equilibrium will be used to analyse the best strategy for profit maximization given that each firm sets a price for its cereals.

A Nash Equilibrium is the strategy combination where each player is doing its best given the strategies of its competitor.

An assumption is made that each firm sets a price that maximises its profit and that a price cut by either of them to achieve a larger market share will impact their profits given the strong influence of brand loyalty. The consequences of each firm's actions are described in the game matrix below;

In the game above, the strategy (Co-operate, Co-operate) is both a Nash equilibrium and a dominant strategy because each firm maximises profit at this point. It is a Nash equilibrium because with the pay-off of ($120, $120) no firm will unilaterally want to deviate knowing that it will achieve a lower pay-off by doing so. Furthermore, co-operate strategy is a dominant strategy because no matter what the other firm chooses, to co-operate will always yield a higher pay-off.

Barriers to Entry

According to Earl and Wakeley (2005), " barriers to entry exist when potential competitors find there are obstacles which hinder their proposed entry into an otherwise attractive industry. Typical barriers to entry include: incumbents owning all sources of essential raw materials; incumbents' patents; economies of scale providing incumbents with a cost advantage; and incumbents past expenditure on advertising (which gives them a higher profile in the minds of buyers relative to newcomers). The important point to note about barriers to entry is that they protect all of the industry's incumbent firms from the threat posed by competition from outside of the industry"

As fierce as rivalries are and as highly competitive as the oligopolistic industry may be in nature, Lipsey + Chrystal (1999) stated that there are determining factors that make a few large firms dominate in the industry. According to Lipsey + Chrystal (1999), some of these factors are natural or structural, and some are firm-created or strategic. These same factors are deterrents to firms seeking entry into an oligopolistic industry.

The natural/structural barriers as it applies to the cereal industry include economies of scale, cost of introduction of new brands and economies of scope, and marketing advantages of incumbency, while firm-created/strategic barriers include capacity expansion.

Natural/Structural Barriers

Economies of Scale

According to Besanko et al (2004) production process for a specific product exhibits economies of scale over a range of output when the average cost drops over that range. Economies of scale exist when the unit cost of production declines as the quantity of output increases. When production becomes standardised and highly specialised, the concept of division of labour must be applied. Lipsey + Chrystal (1999) described division of labour as occurring when the production of a product is broken up into hundreds of simple, repetitive tasks. They further stated that “ the division of labour is, as Adam Smith observed long ago, dependent on the size of the market. If only a few units of products can be sold each day, there is no point in dividing its production into a number of specialised tasks”. Lipsey + Chrystal (1999) further stated that larger firms have advantage in industries that have potentials for economies based on the division of labour because the larger the scale of production, the lower their average costs of production. Economies of scale also lead to minimum efficient scale. According to Besanko et al (2004) and Earl and Wakeley (2005) minimum efficient scale is the smallest level of output at which economies of scale cannot be sustained further. Minimum efficient scale can only be achieved in the long run. Based on this, it will be difficult for a firm considering entry to achieve MES because of the costly nature. The cereal industry is capital intensive and is dominated by a large few with the long years of existence. As a strategy to deter entry, the incumbent firms may decide to increase the quantity of output to further drive down their costs and achieve a higher rate of economies of scale. Because economies of scale are present in the industry, the incumbents average cost of production will be lower than that of a new entrant who will have difficulties trying to attain MES which can only be achievable in the long-run. Doing so will entail acquiring excess capacity and increasing production output which will both be costly and unprofitable as brand loyalty is extremely high in this industry.

Costs of Introducing A New Product and Economies of Scope

The cereal industry is categorised by the introduction of new brands. It will be difficult for a firm attempting entry to recover such costs in a short period of time bearing in mind that it will need to break even before making profits. Economies of scope are associated with lower cost scales derived from having multiple production lines within a plant. According to Besanko et al (2004) “ The ready-to-eat breakfast cereal industry provides a good example. For several decades, the industry has been dominated by a few firms including Kellogg, General Mills, General Foods and Quaker Oats, and there has been virtually no new entry since World War II. There are economies of scope in producing and marketing cereals”. Besank0 et al (2004) further explained that for an entry to be successful in the ready-to-eat breakfast cereals industry, the newcomer will need to introduce 6 to 12 successful brands. This requires heavy capital and makes entry a risky proposition.

The introduction of new brands is associated with a high cost of advertising. An incumbent firm in the cereal industry can consistently employ the use of introduction of new cereals to deter further entry by new firms. It will not be as expensive for the incumbent firm to advertise its new cereal product as it will be for a new entrant because of the high brand loyalty in the industry and the economies of scope cost advantages.

C) Marketing advantages of incumbency

Umbrella branding has been described as a situation whereby a firm sells different products under the same brand name (Besanko et al, 2004). According to Besanko et al (2004), an incumbent firm can exploit the umbrella effect to offset uncertainty about the quality of a new product that is been introduced. The umbrella effect may also help the existing firm negotiate the vertical chain. Retailers are more likely to devote scarce warehousing and shelf spaces to the firm's new products more than it would for a new entrant. Likewise, suppliers and distributors may be more willing to transact businesses with the incumbent firms more than the new entrant in the areas of credit sales and relationship-specific investments (Besanko et al, 2004). Incumbent firms in the cereals industry can use umbrella branding as a strategy to deter new entry or force new entrants out of the industry. Umbrella branding also has an effect on consumers. The possibility of a newly introduced brands been widely accepted by consumers is higher for firms enjoying umbrella branding than for new entrants. Umbrella branding has the ability to reduce uncertainties associated with the introduction of a new cereal brand. Furthermore, the development of close relationships by an incumbent firm with its vertical chain is another strategy for barriers to entry.

Firm-Created/Strategic Barriers

Capacity Expansion

The incumbent firm may decide to embark on capacity expansion. A new entrant will find it difficult to match up its plant size with the plant size of existing firms and may incur losses at entry. With the expansion of capacity and increased sales, the incumbent will continue to enjoy economies of scale thereby forcing new entrants who are unable to achieve such low unit cost of production out of the industry as their average cost of production may consistently be higher than the market price of the cereal brands and the price.

Conclusion

The ready-to-eat breakfast cereal industry is an oligopolistic industry requiring the firms to employ non-pricing strategies to maximize profits and sustain competitive advantage.

Because the ready-to-eat breakfast cereal industry has natural barriers to entry, firms in this industry do not need to do much in the area of strategic barrier to entry to prevent of or force new entrants out of the market. However, the constant introduction of new cereals is crucial to earning higher profits.