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Leveraging the advantage of early entry: proprietary technologies versus cost leadership

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Abstract

This research develops the relationships between the "early mover advantage" and a firm's market share. It tests hypotheses relating a firm's strategic choices and order of entry to market share on a cross-sectional data set of 1042 French manufacturing companies. The results support the persistence of an advantage for early movers. Furthermore, the development of proprietary technologies, considered as a capability to protect in-house knowledge from competition, has a leverage effect on the advantage of early moving. Finally, if cost leadership is a relevant strategy to gain market share, it is mostly beneficial for late entrants.

Keywords: Early mover advantage; Proprietary technologies; Cost leadership; Market share

1. Introduction

A company's market share is positively influenced by both early entry (Lieberman and Montgomery, 1988; Utterback, 1994) and cost leadership strategy (Porter, 1980). These two strategic decisions, however, are generally considered separately and rarely studied jointly, as if they were disconnected topics (Tellis et al., 2001). In this paper, we study the interactions of early entry with (1) proprietary technology and (2) cost leadership strategy. We firstly argue, in line with the First Mover Advantage literature (Lieberman and Montgomery, 1988), that early entry favors market share. Secondly, we assume that developing core proprietary technologies impacts positively market share. We hypothesize that the combination of entering early into a market with a proprietary technology has a leverage effect on market share. Early entrants into a business earn the highest benefits in terms of market share when they manage to support their early mover advantage with proprietary technologies that competitors cannot imitate. Finally, we study the interaction of early entry with a cost leadership strategy. A cost leadership strategy has a positive impact on market share in general (Porter, 1980), but we find that late followers benefit more from cost leadership strategy than early entrants. Evidence is given on a sample of 1042 French manufacturing companies.

2. Theoretical background and hypotheses

2.1. Early entry and market share

Competitive models based on neo-classical microeconomics have shown that rivalry leads to the erosion of economic rents temporarily monopolized by first movers. High returns attract new entrants in growing industries, and rivals' pressure in perfect competition squeezes corporate profits until the whole industry falls to a zero-profit level (Besanko et al., 2000). This model has strongly influenced the description of business evolution. From the Strategy–Conduct–Performance paradigm (Bain, 1951) to the analytical Porterian framework (Porter, 1980), rivalry analysis implies a four-phase evolutionary pattern. 'First to market' companies initiate the business. Then, 'follow the leader' firms enter into the business to compete against the few incumbents. A third wave of new entrants appears that consists of 'application engineering companies'. They increase the competitive pressure and force the weakest competitors to exit the business. Finally, late entrants producing 'me too' products move into the market (Ansoff and Stewart, 1967; Robinson et al., 1992).

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The capability of pioneers to stay ahead of rivals in the business despite successive and competitive entries is an important issue (Tellis and Golder, 1996). According to Lieberman and Montgomery (1988, 1998), a first mover advantage helps protect pioneers from competition. According to their view, a pioneer is able to sustain its advantage over competition by erecting resource barriers (Wernerfelt, 1984) and accumulating economies of time (Dierickx and Cool, 1989). Resource barriers concern reputation, brand name, particular relationships with suppliers and experience. Each factor enables the first mover to build a resource barrier and prevents competitors from effectively imitating or substituting the pioneer's bundle of resources. Economies of time are the time savings provided by experience and expertise. Followers are deprived of these experience and expertise and must build them before evening first movers' efficiency (Makadok, 1998).

The idea of first mover advantage has been successfully investigated at several levels. Managers usually consider that pioneering leads to market share advantages (Song et al., 1999). Academic studies have also provided empirical evidence of a relationship between the order of entry and the market share: the market share of the ith entrant divided by the first mover's market share equals 1 divided by the square root of i (Kalyanaram et al., 1995). Thus, the fourth entrant's market share roughly equals 1 divided by the square root of 4, that is, half the pioneer's share. Therefore, according to previous studies, we suggest the first hypothesis linking early entry and market share.

Hypothesis 1: The earlier a firm enters a market, the greater a firm's market share.

2.2. Early entry and technological resources

Entry decision coincides with the possibility for a firm to protect its sources of rents (Teece, 1986; Mitchell, 1991). For a firm, maintaining high resource barriers and high economies of time derives from effective investments in exploration and accessible profits from exploitation of its technological assets (Levinthal and March, 1993; Roberts, 1999). Keeping an early mover's advantage depends on the firm's capability to develop and protect its technical resources (Barney, 1991). In industries with high risks of information leakage, a follower may succeed in appropriating the economic value of innovations. In general, the more proprietary the technology (i.e., the less diffused), the higher the appropriability of the benefits from the use of this technology (Teece, 1986; Mitchell, 1991).

Hypothesis 2: Owning proprietary technology has a positive effect on market share.

By definition, early movers, as innovators, create a business and provide the rules of the game in the new competitive field. As long as they keep undisclosed the sources of their innovation, they are protected from entries by imitators. In this way, keeping proprietary a technology is one of the means to build up a resource barrier. We thus assume that combining early entry with proprietary technology provides early movers with an additional market share benefit.

Hypothesis 3: The positive effect of early entry on market share is enhanced by owning proprietary technologies.

2.3. Early entry and cost leadership

From a strategy perspective, many research works, following Porter's (1985) arguments, have studied the impact of strategic orientations on market share (Buzzel and Gale, 1987). Concerning cost leadership strategy, the basic idea popularized in most handbooks is that a firm that manages to sustain a competitive advantage in cost structure can offer the lowest prices to customers. Such a firm is likely to benefit from a virtuous circle: Based on its cost advantage, the firm produces and sells higher volumes than competitors. Therefore, the firm achieves higher economies of scale than competitors—which increases its cost leadership (e.g., Grant, 1998; Hitt et al., 2001). We conclude that cost leadership impacts favorably market share.

Hypothesis 4: Cost leadership strategy has a positive impact on market share.

The cost leadership advantage is claimed to be rooted in both scale economies and the experience curve (Makadok, 1999). This cost leadership advantage might combine its effects with the pioneering advantage. Pioneers are likely to be the best positioned to achieve scale economies and to outperform future competitors. However, as suggested above, the balance resides between exploration and exploitation costs. Pioneers bear specific costs and risks associated with their innovative strategy. In case of quick and easy imitation, followers can benefit from the pioneers' incurred costs and enter more efficiently. Moreover, as they can learn from pioneers' possible mistakes in new markets without being committed to make comparable investments, followers are also likely to become rapidly cost efficient (Zahra and Covin, 1993; Tegarden et al., 1999). Thus, pioneers involved in a cost leadership strategy might allow followers to understand the key determinant factors of competition. Followers are more likely to catch up pioneers when competition is engaged on costs than they are if pioneers base their entry strategy on technological and marketing innovation (Porter, 1996; Durand and Coeurderoy, 2001). Consequently, we believe that early entry associated with a cost leadership strategy does not impact favorably market share because followers can benefit more from a cost strategy than early movers do.

Hypothesis 5: A cost leadership strategy is less advantageous for pioneers and early followers than for late entrants.