

Marketing Strategies for Radical Innovation

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The ability to introduce successful new products is critical to the survival and long-term success of firms. Successful new products help firms grow and prosper. Studies show, all else equal, that the market value of innovative firms is higher than other firms. Radical innovation has attracted the interest of researchers because of its importance for firm long-term performance. This paper reviews several research studies about strategies employed by successful radical innovators. Lessons are drawn from the research findings for designing effective strategies for radical innovation.

Field of Research: Radical innovation, First-mover advantage, Complementary assets, Speed capability, Barriers to entry

1. Introduction

The ability to introduce successful new products is critical to the survival and long term success of firms (Dowell & Swaminathan 2006; McDermott & O'Connor 2002). Successful new products help firms grow and prosper (Cohen, Eliasberg & Ho 1997). Studies show, all else equal, that the market value of firms increases following the announcement of introduction of a new product (Sood & Tellis 2009). A study by Sorescu and Spanjol (2008) found that innovation has a persistent long term positive effect on a firm's stock market value and this effect is greater for radical rather than for incremental innovations.

The concept of successfully marketing a radical innovation is inextricably connected to the concept of order of market entry. The concept of order of market entry effects has received considerable interest in the marketing and economics literature in recent years (Shankar 1998; Szymanski, Troy & Bharadwaj 1995; Tellis & Golder 2002). One of the most enduring truisms in business is that first movers enjoy several long-term competitive advantages. First mover advantage has such an intuitive appeal that it is taken for granted by many managers. Although its truth has been questioned by research, many managers believe that being first into a new industry gives a firm an insuperable advantage (Tellis & Golder 1993). Although there are advantages associated with being a first mover, they are not automatic. A lot depends on the circumstances surrounding entry and subsequent company and competitor actions (Yannopoulos 2013). As a result, the available evidence on the order of entry effect on business performance is mixed and order of entry is not related to long-term survival rate (Kalyanaram, Robinson & Urban 1995). Consequently, it is critical to understand the contingencies that affect first mover advantage and the fate of a radical innovation.

Being first to a market is associated with advantages such as barriers to entry, customer loyalties and preempting the market (Lieberman & Montgomery 1988). But being a first mover is a risky strategy as customer preferences and the magnitude of

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the demand is not known with certainty at the time of product development, making the risk of new product failure high (Lieberman & Montgomery 1988). The future direction of technology is often unknown, as new technologies may be developed rendering current technologies obsolete.

Although the record of entry by pioneers is mixed, some researchers have looked at the strategies employed by successful market pioneers. These researchers have shed some light on what it takes to be a successful market pioneer. The findings in these articles are useful for future market pioneers to guide them in their efforts to ensure a successful entry and commercialization of radical innovations. Many market pioneers fail because they lack the knowledge to design effective strategies to successfully introduce and appropriate the value their products offer customers. There is no paper that addresses the need of market pioneers for guidelines as to what strategies they need to employ to maximize their chances for radical innovation for market success. The main objective of the paper is to close this gap by developing strategies on the basis of existing research on radical innovation

At any moment in time, inventors and small businesses around the world are involved in various new product development efforts. However, the rewards to new product development and introduction are often distributed unequally across firms, as companies with apparently similar new products earn different returns from them. Historical evidence suggests that only a few of them will be successfully marketed (Klepper 2002). The history of product innovation is replete with examples of market pioneers who were overtaken by later entrants. What actions can a pioneer of radical innovation adopt to successfully commercialize its innovation? In this paper, a comprehensive review of the literature on successful marketing strategies for radical innovation is conducted.

The literature review conducted in this paper involves various studies that examine the actions and strategies used by pioneer firms that have successfully introduced radical products in the marketplace. The significance of the literature review is that it helps us develop strategies that market pioneers can use to increase the chances of successful introduction of their innovations. As there are no published studies that address this issue, this is a significant contribution to the literature on market entry and it closes an important gap left by existing research. The next section reviews the relevant literature and distills several strategies for successfully introducing and commercializing radical innovation. The conclusions and implications of the study are stated followed by the limitations of the study and suggestions for future research.

2. An Overview of Related Literature

2.1 Build Complementary Assets

A basic question for innovative entrepreneurs is whether they can compete successfully with incumbent firms. Incumbents often have competitive advantages due to size and superior resources and capabilities. A company introducing a radical innovation should spend time building sufficient resources and capabilities or complementary assets in order to exploit and sustain its pioneer advantages and defend them against subsequent entries (Teece 1986). If the new entrant does not possess the required complementary assets, it should acquire them to help commercialize the radical innovation successfully. Important complementary assets

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include production, finance, marketing, advertising, promotion, distribution, servicing, and R&D capabilities. Complementary assets such as spending heavily on advertising and promotion generate awareness for the brand, enable the innovator to penetrate the market rapidly, and protect its market position from attacks by later entrants.

A necessary but not sufficient condition for a pioneer of radical innovation is having strong entrepreneurial, market development, and R&D skills for market success (Lieberman & Montgomery 1988). These skills are needed because pioneering a new market with a new product requires risk taking, dealing with the uncertainties of marketing a new product, educating customers, and the ability to produce innovative products. Also, in addition to the entrepreneurial insight, the first mover needs to have the necessary resources and capabilities, including complementary assets, to successfully commercialize a radical innovation (Teece 1986). Luck is also an important factor for first mover success (Lieberman & Montgomery 1988).

Large firms often possess complementary resources that are uniquely suited to the innovation process (King, Covin, & Hegarty 2003). Many small firms face resource shortcomings that limit their ability to appropriate rents from technological innovation. Many small firms form alliances with a larger firm because of lack of complementary assets needed to successfully develop and commercialize the new technology. As a result, startups and new ventures should seek partnerships with larger firms that possess the complementary assets they need.

Tripsas (1997) discusses the importance of complementary assets in her work in the typesetter industry, where she showed that while many incumbents fail in the face of radical technological change, others survive because they possess complementary assets which help them adapt to radical technological change. Tripsas (1997) found that despite investing significant amounts in the new technology, the technical performance of the products they built were significantly inferior to the performance of products introduced by new entrants. Tripsas (1997) found that organizational architectures, routines, and procedures, which were built in accordance with previous technologies, prevented incumbents from developing radically new technologies equivalent to the ones introduced by the new entrants. But in the majority of instances, new entrants who commercialized superior radical technologies failed to replace the incumbents because the latter possessed specialized complementary assets which were unavailable to the new entrants. Thus, the lack of complementary assets was an insurmountable barrier to the successful commercialization of radical technologies by new entrants, indicating the importance of complementary assets for radical innovation success.

2.2 Speed Capability

For incumbent firms, the decision when to enter a new market is a complex one. If the capital investment requirement is large such as chemicals, shipbuilding, semiconductors, telecommunications or aircraft manufacturing the building of new production facilities can take many years (Salomon & Martin 2008). In light of the time gap between entering the submarket and actually of entry, firms must consider how fast they can complete the entry process, when to enter, and the trade-off between early entry versus flexibility. An early entrant faces less competition but can commit costly mistakes due to lack of vital information and opportunities to learn. Late entrants, on the other hand, can benefit from such information and learning but may

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face preemption costs. One factor that can help resolve this dilemma is the speed of a firm's ability by which the firm can complete the entry process and build the production facilities. Thus, a firm's intrinsic speed capabilities, which is a firm's ability to execute investment projects faster than competition at the same cost, is an important factor in such a decision.

The Hawk, Pacheco-De-Almeida and Yeung (2013) study finds that the risk of preemption is lower for firms with greater intrinsic speed capabilities since they can complete the market entry process faster than rivals. Consequently, these firms can afford to wait longer to resolve uncertainties with the benefit of obtaining critical information and learning opportunities before entering new markets than firms with slower entry speed capabilities.

This relationship is more likely to happen if the investment is associated with greater magnitude of commitment which puts a premium on the value of delaying in order to obtain more information. This implies that firms with higher speed capabilities have greater expected entry performance. A firm that enters a new market must carry out several tasks such as choose a site, construct facilities, source inputs, hire workers, supply systems and obtain information about competitors and consumers. A business would prefer to enter a new market early to earn revenue and profits early. But the expected benefits of early entry are tempered by the uncertainty associated with a new market and competition from other entrants. The limited information and learning opportunities are powerful factors in favor of delaying entry despite the benefits of preemption associated with early entry (Hawk, Pacheco-De-Almeida & Yeung 2013).

The Hawk, Pacheco-De-Almeida and Yeung (2013) study shows that intrinsic speed capability is a source of competitive advantage in market entry decisions in which usage-specific investment is involved, as faster firms can wait for revelations of important information regarding details of the market, consumer and competitive conditions. Firms that adopt a successful fast second strategy need superior intrinsic speed capabilities. Firms with superior speed capabilities contemplating usage-specific investment can wait until more market information becomes available and make more accurate investment decisions. Their better speed capabilities allow them to catchup quickly and not fall behind if they enter later than pioneers.

2.3 Barriers to Entry Strategies

The first mover of radical innovation needs to be protected at least temporarily from imitation through high barriers to entry in the form of lower costs, switching costs, customer uncertainty, locking-in existing channels of distribution, large investment requirements, and proprietary technology or legal barriers like a strong patent protection (Kerin, Varadarajan & Peterson 1992).

Pioneers of radical innovations have the opportunity to capture greater economies of scale in production, advertising, management and other areas (Szymanski, Troy & Bharadwaj 1995). In addition, they have the opportunity to gain a cost advantage over later entrants by learning from head starts in production and this can lead to lower unit costs (Yannopoulos 2007). Experience cost advantages are more likely to occur in industries with technically sophisticated products, learning can be kept proprietary and later entrants find it difficult to leapfrog the pioneer with a more advanced technology.

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Cost advantages must be balanced by the costs incurred by pioneers that include educating consumers, technological development of the dominant design, and development of the infrastructure that includes raw materials suppliers and channels of distribution. Miller, Gartner & Wilson (1989) in a study of new corporate ventures found, using the PIMS database, that followers did not have a lower cost position relative to pioneers. This, they concluded, might be a significant disadvantage for followers as they are typically forced to compete on the basis of lower price without the necessary lower cost structure.

Parry and Bass (1990), using the PIMS database, found that the pioneers' ability to maximize the long-run share benefits from their entry advantages depend, partly, on how successful they are in building barriers to entry. In comparing consumer with industrial goods pioneers, they found that industrial goods pioneers tend to benefit more from entry barriers in the form of switching costs, technology franchises, and the formation of strategic alliances with customers. Consumer goods pioneers, on the other hand, appear to benefit more from high consumer uncertainty regarding quality and low marginal return to incremental information search.

Bunch and Smiley (1992) found that early movers protect themselves frequently with brand loyalty, extensive advertising and patents whereas they use limit pricing less often. In mature markets, incumbents enter multiple niches, advertise extensively and they avoid revealing the profitability of operations in order to make the attractiveness of entry less apparent (Bunch & Smiley 1992).

Lieberman and Montgomery (1988) suggest that pioneers should try to get patents and use designs that are deliberately difficult to reverse engineer. Pioneers could try to preempt resources such as retailing locations, distribution networks and raw materials. If switching costs are important in this product category, incumbents should try to maximize trial by potential customers in an attempt to lock these customers ahead of future rivals.

First movers have the opportunity to establish a reputation as the market leader, to create recognition, be identified with the industry and as the industry standard. Early entrants can establish a reputation for being an innovative and progressive firm. They also have the opportunity to establish a strong relationship as well as command the loyalty of the customers. Buyer-seller relationships can be a formidable barrier to entry and a powerful advantage for the pioneering brand. These relationships may require a high initial investment in terms of time and money, but once they are established, it is very difficult for new comers to overcome.

Although barriers to entry are an important source of protection for incumbent firms, they can be of help to pioneers only under certain conditions. Barriers to entry in the form of cost advantages, switching costs, experience curve, brand identification, brand loyalty, network externalities and industry standards are not important initially when the market is small but they become meaningful barriers to entry only after the market grows to a certain size. Barriers to entry, also, are often useless when the follower enters the market with much superior resources, a differentiated product, enters a different segment or uses a different channel of distribution.

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2.4 Distribution and Other Marketing Mix Strategies

Retailers, in general, tend to favor pioneering brands because of their ability to meet an unmet need and increase retailer volume without cannibalizing sales of other brands. When shelf space is scarce and there is a plethora of new product introductions, it should be expected that rational, profit-maximizing retailers prefer really new products to line extensions and imitations of existing products. In some cases, distributors are reluctant to carry later entrants especially when the product is technically complex or the distributor must carry large inventories of the product or must invest in specialized training and service (Walker, Boyd & Larreche 1999). In a study of Japanese retailer attitudes towards pioneer and follower brands, it was found that Japanese retailers have a significantly more favorable attitude toward pioneers than me-too followers (Alpert, Kamins, Graham, Sakano & Onzo 1996).

This creates a disadvantage for later entries that are imitations of the pioneering brand. Pioneers may take advantage of retailer preferences for new products and preempt the best channels of distribution available. First-movers have also the opportunity to specify the dominant distribution channels by having greater access to distribution channels and this may allow them to design a distribution system comprised with intermediaries most likely to provide the best service to the customer. Lack of distribution can exclude a later mover from certain segments. Followers will have no choice but to use what is available to them as there are only a limited number of intermediaries available or they will be forced to establish their own.

Research shows that the performance of new brands varies considerably. The Ataman et al (2008) study shed some light on the diffusion of non-durable goods and offers an integrated perspective across the entire marketing mix and insights into introduction strategies that increase the potential for a successful launch of a new product. Specifically, the Ataman et al (2008) study examined the impact of various marketing strategies, unlike previous studies that examined only the role of price and advertising, while placing much less emphasis on product line and distribution. Ataman et al (2008) found that distribution - measured in terms of breadth, depth, and line length - and product play a more important role than discounting, advertising, features/display in the sales performance of new brands. Also, Ataman, Mela, and van Heerde (2008) find that access to distribution has a greater effect in the new brand's success. It also finds that advertising plays a greater role in accelerating brand growth than increasing market potential.

2.5 Continuous Innovation and Quality Improvement

Pioneers should strive to improve product quality and enter additional segments to preempt them from future competitors. Szymanski, Troy and Bharadwaj (1995) found, using the PIMS database, support for the contingency perspective of order of entry effects proposed by Kerin, Varadarajan and Peterson (1992), that being first and offering high quality service enhances performance significantly. They also found that vertical integration and sharing facilities and customers tend to enhance the performance of the pioneer. Similarly, Green, Barclay and Ryans (1995) using a comprehensive entry strategy model found that order of entry is a determinant of performance. But they also found that higher relative quality and value tended to enhance the performance of pioneers.

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Successful pioneers practice continuous innovation, cost reduction and quality improvement in order to meet the changing technology and customer needs and counter attacks by innovative, high quality later entrants or lower price imitators (Lieberman & Montgomery 1988). Failure to move quickly on these fronts can render the pioneer vulnerable to aggressive later entrants who may challenge the pioneer and capitalize on its weaknesses. Many market leaders suffer from the incumbent inertia syndrome which is failing to respond to environmental and market trends (Lieberman & Montgomery 1988). Market leaders need to avoid the incumbent inertia syndrome as changing technology and market needs continuously generate new opportunities and threats.

Successful pioneers are often characterized by the offer of high quality products. High product quality protects the pioneer from attacks by quality products offered by late movers and strips them from one potential advantage. Product quality can be manifested in terms of a product that incorporates superior features and design, user-friendliness, no defects, high performance and durability. To achieve high quality, the pioneer needs an adequate quality control system, a customer focus, employee involvement and empowerment and continuous improvement methods (Day & Moorman 2010; Yannopoulos 2007). The high product quality is usually matched with high customer support service that is another factor that leads to pioneer success. This requires a strong customer orientation and commitment as well as sufficient resources to ensure that customer needs are properly met. Jones (1985) found that many later entrants performed poor financially, even though the product quality was at least equal to the incumbents, because of a drop off in overall industry demand. This phenomenon can most likely occur in industries with short product life cycles where the product reaches the decline stage in a short time.

2.6 Reaction to New Entry

Pioneers should retaliate strongly and swiftly to new entry by competitors. Also, pioneers who wish to discourage heavy spending by new entrants or in order to deter future entry by competitors to retaliate strongly to every new entry (Shankar 1988). Yet, contrary to what most experts recommend, Robinson (1988) and Bowman and Gatignon (1995) observe that the practice of delayed response to competitive entry in the form of price decreases is widespread. Instead of the usual explanations provided for a delayed response by incumbents that include lack of managerial competence in responding quickly and lack of perceived threat, Kalra, Rajiv and Srinivasan (1998) argued that a delayed reaction may be the optimal strategy for an incumbent firm when customers are uncertain about the entrant's quality. They pointed out that an immediate reaction in the form of a lower price by the incumbent may lead consumers to conclude that the entrant's product quality is high.

Therefore, an incumbent may be better off by delaying the price response until consumers learn the quality of the entrant's product over time through actual use and word-of-mouth. On the basis of this argument they concluded that "...well-established incumbent firms should be cautious in the implementation of their defensive responses to new product introductions of uncertain quality by competitors. Of particular concern are situations where the reactions are easily observable by consumers. A strong reaction may suggest that the incumbent takes the competitive threat seriously, leading consumers to believe in the quality of the competitor's product" (Kalra, Rajiv &

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Srinivasan 1998). Of course, this argument presupposes that consumers are able to observe competitive actions or reactions. Although some actions like trade promotions may be undiscoverable, consumers and competitors usually become aware of most actions.

2.7 Mass Marketing Strategies

Tellis and Colder (2002) argue that the top priority for a pioneer is to envision the mass market and to demonstrate relentless innovation, managerial persistence and commit resources to the pioneering brand. This can be best accomplished with a product champion who has the freedom and resources to pursue the commercialization of the new product and an organizational structure that enjoys enhanced autonomy. Without these requirements, a pioneer will be vulnerable to followers who are prepared and know how to use these ideas to work for them. Firms that enter later but sought to dominate the mass market with superior resources often overtake the pioneers.

Cracking the mass market can lead to economies of scale and experience cost reductions and gives a tremendous advantage to the firm that achieves it first. Pioneers who have failed to find a way to reach the mass market run the risk of being overtaken by early or late entrants who have the resources or insight to find a way of tapping the mass market.

Walker, Boyd and Larreche (1999) see the “mass market dominance strategy” as one of three alternative strategies available to pioneers. Such a strategy should be designed to capture a large share of the new market. This strategy assumes a large potential market with homogeneous customers and a short diffusion process. It also assumes a patentable or difficult to copy technology, limited sources of supply or a complex production process. Limited competitive intensity, strong engineering and market skills and sufficient financial and organizational resources to build capacity in advance of growth in demand are factors that can help such a strategy succeed.

Coyle (1986), in an extensive study of the PIMS database, found that large scale entry is a requirement for pioneer success. Large scale entry is needed as pioneers need sufficient capacity in order to expand quickly with a mass-market targeting strategy on a national rather than a regional basis. Some companies like McDonald's, for example, have used the franchise system in order to expand rapidly rather than relying on their resources.

3. Conclusions

In this paper several strategies that can be used by pioneers of radical innovation were discussed based on a survey of the literature on radical innovation and first mover advantage. These strategies could prove useful to firms looking for effective strategies to commercialize radical innovation. Research shows that market pioneers enjoy certain advantages as a result of being first into a new market. However, market pioneers do not enjoy innate advantages that allow them to maintain their market lead over late movers. Later entrants also enjoy advantages that can offset the advantages of the pioneer. Also, later entrants are often aided by what Lieberman and Montgomery (1988) called incumbent inertia which is the tendency by existing firms to be slow in responding to changes in consumer needs and technology. Incumbent inertia can

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result from mobility barriers such as specialized assets, complacency, arrogance, inattention to customer needs or misjudgment about the direction of technology or consumer needs.

Pioneering advantages are not automatically available to pioneers because of the technological, market and competitor uncertainties inherent in introducing new products to the marketplace and because firms differ in their ability to take advantage of their early entry. Pioneers have an opportunity to create sustainable competitive advantages. Many pioneers seize these opportunities by adopting certain strategies and remain market leaders for a very long time. Many others, however, fail to take advantage of these opportunities and succumb to later entrants.

Proponents of the order of entry effects usually assume that the pioneer has a high quality product, chooses the right positioning, has the necessary complementary assets and skills, and pursues the right business strategy. Yet, this assumption can be incorrect as pioneers often lack these attributes. Having the resources required as well as quality and value at the time of entry are important. Firms that lack the resources necessary to sustain a pioneering advantage should look to establish a strategic alliance or partnership with a larger company that has these complementary assets (Teece 1986).

Pioneers of radical new technologies should also watch for changes in technology or customer needs. One of the most enduring management maxims is that change is inevitable. Although pioneers are the ones who capitalize on a new opportunity, changes in technology and shifts in consumer tastes and preferences can render the pioneer's product obsolete providing late comers with an opportunity to leapfrog the competition. Pioneers are especially vulnerable in cases in which the product changes and standardization has not been established. In these cases, a later entrant may leapfrog the pioneer by developing superior products and backing them with heavy marketing and promotional support. Thus, it is important that pioneers engage in continuous innovation to maintain their advantages over late movers. Other marketing and business strategies have been proposed throughout this paper that can be used by utilized by radical innovators to help better commercialize their innovation.

4. Limitations and Suggestions for Future Research

This study has several limitations stemming from the fact that it is based on literature review of existing studies and not on empirical analysis. Since no data has been collected, we cannot generate results based on statistical analysis. As a result, conclusions should be seen as exploratory and subject to future empirical investigation. A suggestion for future research is to collect survey data from various businesses and test hypotheses based on the strategies proposed in this paper. These hypotheses would be formulated in such a way that would allow testing whether firms pioneering radical innovation and following the strategies proposed in this paper would be more successful than firms not following these strategies.

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