
20 First-mover/pioneer strategies

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The issue of first-mover/pioneer advantages and disadvantages is more complex and nuanced than often portrayed in journalistic popular press writings, commentaries by consultants and even academic articles. This literature sometimes gives the impression that first-mover advantages are essentially automatic, a birthright in effect.

This chapter explores many of the ambiguities, misperceptions and some myths concerning the advantages of being a first mover or pioneer, hereafter termed FMAs. This discussion is followed by a brief review of the antecedents of performance and how these relate to FMAs. The third section presents the fundamental mechanisms that may create or inhibit FMAs. (It is our contention that suspicion should be aroused whenever FMAs are cited in a discussion without identifying plausible mechanisms that might underlie such effects in the specific case at hand.) The fourth section provides an overview of the empirical evidence relating to FMAs. The fifth section outlines strategy considerations that might be used by potential first movers and fast followers. Fundamentally, the first-mover/pioneer should determine if a first-mover strategy is likely to be optimal for its firm; if so, it should seek to develop its resources to support advantages and seek to eliminate and/or counter its disadvantages. How this applies to fast followers will also be considered. Finally, the chapter is summarized and suggestions are made for further research.

1. AMBIGUITIES, MISCONCEPTIONS AND MYTHS

First-mover advantage: What is it?

“First-mover advantage” (FMA) is the benefit enjoyed by a firm as the consequence of its early entry into a new market. This benefit can arise along several dimensions of corporate performance, including profit, market share and business survival. Although economic profit represents the ultimate and perhaps most meaningful reward for market pioneering, most empirical studies focus on market share because this dimension is easiest to measure.

Ambiguities

The research landscape as well as popular press discussions are littered with confusion (usually not recognized) over inconsistent use of definitions of the “who, what, when and where” of FMAs. (See Box 20.1.) The popular press often naively discusses FMAs as though they are inevitable outcomes of first movership *per se*. FMAs are by no means inevitable. They are generated by a combination of mechanisms that interact with the first mover’s actions and reactions, competitor actions and reactions and dynamics of the external environment. This combination of forces will impact performance on whatever dimension of advantage is in question.

BOX 20.1 AMBIGUITIES

What?	First in what? Technology? Product introduction? Market development? Fundamentally new product? New product generation? New geographic market?
When?	Short term or long term? Latency or speed of competitive response?
Who?	First-mover? Pioneer? Early or fast follower? Late follower? Laggard?
Where?	Market definition? How broad or narrow?

To resolve the ambiguities in FMAs, one must initially ask: first mover in what? First to generate the appropriate technology? First to actually introduce a new type of product? Or first to actively develop the market? Surely one might expect different results depending upon the answer to these questions. Although order of entry can be defined in many contexts, the standard definition is based on the timing of product introduction, where “first mover” refers to the initial firm(s) to enter a new market with a commercial product.

This raises a related issue: what type of new market is being considered? Is it a new product or service that is being introduced to the world for the first time? Or is the market a new geographic location for a product previously sold elsewhere (e.g. introduction of a product into a new national market, such as China)? Furthermore, technological progress often takes the form where new products in are introduced in discrete “generations” of improvement over the existing technology. This pattern can be observed, for example, in successive generations of computer hard disk drives, game consoles and semiconductor memory (DRAM). In such cases, the “what” may be a specific new generation of product, rather than the first appearance of the product category *per se*.

Another “what” issue relates to the type of advantage being considered. Advantage in market share? Profits? Survival? Market pioneers may value these objectives in dissimilar ways. For example, some market pioneers value long-term survival, whereas others aim to sell their business to larger firms that enter as followers.

There are also at least two issues of potential ambiguity with respect to the when or time frame one has in mind when referring to FMAs. Are short-term results only being considered? Long-term? What is the definition of short and long term? Sometimes the when is even taken as the time since some major event, such as the opening of China for foreign direct investment in January 1979 (Luo and Peng, 1998). Boulding and Christen (2003) demonstrated in the Profit Impact of Market Strategy (PIMS) sample that pioneers are more profitable for the first 12 to 14 years, but thereafter followers tend to be more profitable, on average. This implies that the answer one achieves for FMAs related to profits may depend upon the time frame used. Time also relates to how quickly competitors respond to the introduction of the pioneer. The evidence discussed in Section 4

indicates that competitor reaction both in terms of imitation and substitution seems to be coming more quickly than in an earlier era.

Studies of pioneering advantage also differ in the way they define the term “first mover”, the who in Box 20.1. Strictly speaking, a market has only one “first mover,” but in practice, multiple firms are often identified as “first movers” or “pioneers.” Such classification is not unreasonable, given that firms may enter the market more or less simultaneously and in many cases the exact date of entry is not precisely defined. Firms that enter later in the evolution of the market are characterized as “followers” and may be further distinguished as “fast followers,” “late followers” and so on, although these labels are often somewhat arbitrary.

The where issue encompasses the appropriate definition of market breadth, the location of the market in geographic or customer space and whether the FMAs are empirically true or simply exist in the manager’s mind. Disagreements over market breadth may lead one observer to classify a given firm as the first mover, whereas another may view that same firm as a follower within a more broadly defined, existing market – or alternatively, as a pioneering firm in a separate, precursor market whose characteristics arguably differ from the new market under consideration. For example, the authors contend that the Golder and Tellis (1993) definition of Xerox as a follower in the copier business instead of as the pioneer in the plain paper copier business is inappropriate. (We disagree with their definition of market breadth.) Customer segments can also give rise to ambiguity in market definition. In geographic or regional or country markets, a firm might well be a laggard in one such market and yet a pioneer in another. Some research deals with the beliefs of managers in different industries such as manufacturing versus service, or managers from different countries or regions (Song et al. 1999).

A further complication (relating also to the “what” issue described above) is that multiple categories of new markets can arise, including fundamentally new products, new “generations” of existing products and new geographic markets for products previously introduced elsewhere. Some of these markets emerge through radical innovation, whereas others emerge incrementally in a more predictable way. Moreover, sampling biases can lead to the omission of important firms. For example, available data sources may go back only as far as the initial firm that achieved market success, omitting the true pioneer(s) that failed to survive.

Common Misperceptions and Myths

Reflection on how the idea of first-mover advantages was naively applied during the dot.com era reveals the need for a more holistic, complex and nuanced view of first-mover (dis)advantages. As Internet-related markets began to develop in the 1990s, companies and venture capitalists raced ahead to be first without giving careful thought to what mechanism(s) would support FMAs in a given instance and how durable such FMAs might be, given the likely competitive and environmental situation. In retrospect, the excesses of the era are apparent.

One common managerial misperception is the belief that first-mover advantages are ubiquitous, virtually inevitable and should normally be pursued. Although the term “first-mover advantage” seems to suggest that early entry is desirable, market pioneering is a high-risk strategy. The advantages of pioneering a new market are often offset by

disadvantages. The question of whether on balance a “first-mover advantage” exists in any specific context depends on characteristics of the emerging market and the entering firm as well as potential and current competitors and the overall environment. As we argue below, first-mover advantage must be thought of as a contingent property, rather than one that exists in any absolute, inevitable sense.

A related misconception arises from failure to recognize interdependence of cause and effect (commonly referred to in the economics literature as “endogeneity”). A pioneering firm may prove successful not because it chose to pursue a first-mover strategy, but rather because of underlying skills that enabled the firm to implement such a strategy effectively. Indeed, it may be difficult to separate the benefits of a firm’s distinctive capabilities from those attributable to the timing of entry.

To the myth of inevitable FMAs must be added the notion that the advantages will persist forever (or at least for a very long time). Ultimately, all advantages erode. To maintain advantage, the first mover/pioneer must continue to be active and vigilant and adjust appropriately to changing conditions, both competitive and environmental. And for pioneers fortunate to enjoy an initial advantage in market share and/or profitability, there may come a point where the optimal strategy is sell out or otherwise beat a graceful retreat.

2. FIRM PERFORMANCE AND ENTRY ORDER

Before exploring the specific mechanisms that give support to FMAs, it is well to be reminded of the spectrum of determinants that impact a firm’s performance (be the firm a pioneer, an early entrant, a late entrant or a laggard). Any empirical result on entry order (see Section 4) reflects the convergence of multiple influences. Firm performance is the consequence of a firm’s actions and inactions, potential and actual competitor actions and inactions and the environment (including governments, markets and the economy, customers, technology evolution and even luck, which may be embedded in all of the foregoing factors). In any given case these multiple forces converge in creating the end result: failure or degree of success on any given performance attribute. A potential pioneer should carefully consider all of these forces in deciding whether and when to enter a market.

It has been suggested by Lieberman and Montgomery (1998) and others that the conceptual framework of the resource-based view of the firm (RBV) may fruitfully be paired with the more empirical perspective of FMA. The RBV suggests that a firm’s performance flows to a substantial degree from its resources and capabilities. The FMA perspective shows how the order and timing of entry can define the firm’s potential to realize competitive advantages. This potential, within a context of competitor actions and environmental shifts, shapes the manner and extent to which the firm can apply its existing stock of resources and capabilities and accumulate additional resources over time. Conversely, the firm’s evolving resource stock is likely to influence the duration of any FMAs. The specific mechanisms for generating advantage from pioneering and the concomitant risks, are discussed in Section 3.

A case can also be made that order of entry, especially for pioneers, may be endogenously determined. That is, firms having specific preconditions of resources and

capabilities may be more likely or willing to pioneer. Further, if FMAs exist, they may contribute further to the pioneering firm's resources and capabilities over time. This, in turn, may support early entry by the firm into new product generations or new geographic markets. For example, Samsung built up a set of strong technical capabilities that enabled it to enter as the pioneer in successive generations of DRAMs. While the initial development of these capabilities required a large allocation of outside resources, Samsung was ultimately able to sustain its leadership across generations by reinvesting the high profits earned at the start of each product generation, when it enjoyed a dominant market share and limited price competition (Shin and Jang 2005). Consequently, the conditions exist for potential bidirectional causality between firm performance and the timing of market entry.

It has also been suggested that FMAs may be impacted by a number of contingent effects that may enhance or detract from the magnitude of the first-mover effect. This implies variations in FMAs depending upon the nature and magnitude of these contingent effects. These can be identified in an empirical context by testing models that include an interaction of the order of entry variable with the identified contingent variable(s). Potentially, the impact might differ across the performance variables such as market share, profits, survival and so on.

One contingent situation that has been considered is the instance of service versus manufacturing industries. Service industries are sometimes thought of as having low entry barriers, thus making services easier to imitate. This would make it difficult for a pioneering firm to maintain its FMAs for very long. However, capabilities embedded in know-how and networks in service industries may be sustainable and many successful pioneers, such as FedEx, Amazon and eBay, are service providers.

Geographical markets may also offer contingent benefits or costs that will impact FMAs. A firm that is a laggard in one geographic market may become a pioneer in another and reap FMAs. In the premium gin market Beefeaters was the first to establish a premium segment in the US market, whereas Gordon's occupied the pioneer position in the UK, the original home of gin. The conditions supporting FMA in a new international market may be quite different from those that prevail in the original market. An international market may offer reduced uncertainty about some aspects of market and technology, yet contain hidden dangers with respect to lack of knowledge of culture and customs as well as governmental and political uncertainties that may well offset the FMAs.

Dynamic technology and markets raise the further spectrum of competitive substitution rather than imitation being a danger to the original pioneer. Superior products introduced by competitors may render the original basis (or mechanism) for FMA of lesser or no value. With respect to technology, this is reflected in the evolution over time of multiple generations of technologies and products. Each new technology generation poses a threat to leaders in the previous generation. For example, Digital Equipment Corporation (DEC) was a highly successful pioneer when the minicomputer segment emerged in the computer industry, but the firm failed dramatically when the market for minicomputers was "disrupted" by the new generation of personal computers.

In general, these contingent factors relate to features of the new market or characteristics of the entering firm. We consider the nature of these contingencies in greater detail

in Sections 3 and 4 below and in Section 5 we discuss how they shape the firm's optimal strategy.

Counterbalancing these potential opportunities are potential disadvantages of early entry. Competitors may imitate, perhaps doing better than the pioneer's with respect to customer preferences. Pioneers may become complacent, slow to perceive and act upon new conditions and thereby lose FMAs to later entrants. Technology and market changes may nullify the pioneer's original advantages and require adaptation by the original pioneer for continued success. Thus order of entry advantages are not inevitably positive (or negative). It depends.

3. MECHANISMS BY WHICH FMAS MAY BE CREATED AND SUSTAINED

First-mover advantages, when they exist, are the result of specific mechanisms. These mechanisms are typically shaped by a wide range of factors: market characteristics, potential resource advantages of the first mover (including those that existed prior to entry and others developed by design or luck after entry), strategic actions pursued by the first mover/pioneer, strategies of potential and actual competitors and factors in the broader market environment (customer response and actions, governments, technology and market evolution). In our early paper on FMA (Lieberman and Montgomery 1988) we argued based on theory and empirical observation that FMAs depend upon one of three generic sources: (1) leadership in product or process technology; (2) preemption of scarce assets; and/or (3) buyer switching costs. Subsequently, we recognized that network effects should be considered a fourth generic mechanism for first-mover advantages (Lieberman and Montgomery 1998). Note that our position is that FMAs result from some specific mechanism(s) which offers a potential but by no means guaranteed advantage to the first mover/pioneer.

Market and Firm Characteristics and the Sustainability of First-mover Advantage

Although "luck" plays an important role in determining whether a first mover will ultimately be successful, an astute entrant must consider characteristics of the market and the firm itself in deciding the optimal timing of entry. Informed notions of competitor actions and reactions are also vital. What specific mechanisms are likely to support a strategy of market pioneering? Moreover, can the benefits be sustained over time?

An FMA will not exist or be sustainable unless some of the following market characteristics are present: (1) appropriable technology; (2) preemptible resources; (3) customer switching costs; (4) network effects. To be successful, a first mover must exploit these characteristics to defend against competition from follower firms.

Appropriable technology

A market pioneer that develops unique technology must find a way to keep that technology proprietary. Patents are a common mechanism, but their effectiveness varies greatly across industries. Secrecy and aggressive movement down a "learning curve" can allow a firm to maintain technological leadership. Even so, such an advantage is difficult

to maintain in industries where technological progress is rapid, as rivals have greater opportunity to leapfrog the pioneer's technology. Levin et al. (1984) found substantial differences between industries in appropriability mechanisms, with learning-curve and lead-time advantages being relatively important in many industries and with patents being important in relatively fewer.

Preemptible resources

In some markets, superior resources can be acquired preemptively by the initial entrant. These include raw material inputs, geographic locations and, potentially most important, positions in consumers' perceptual spaces. As markets globalize there are increasing opportunities for companies to become pioneers in customers' perceptual spaces in emerging and transitional markets, even if those companies may have been followers in more advanced markets.

Customer switching costs

The initial entrant in the market may have the ability to develop buyer switching costs or "lock in." Once these mechanisms are in place, later entrants must invest greater resources to attract customers away from the pioneer. Switching costs include initial time and financial investments made by the buyer in adapting to the seller's product (e.g. employee training costs, costs of ancillary products such as software, supplier qualification etc.), product-specific learning by the buyer over time and contractual switching costs intentionally created by the seller (as with the airlines' frequent flyer programs).

Network effects

In situations where customers seek a common standard or the ability to interact with other users, the pioneering firm has the first opportunity to develop "network effects." In this case the value of the product or service increases with the number of users. Thus advantage goes to the company with the largest user base. Such effects, which are most common in the information technology sector, create a preference among buyers for the product that has emerged as the standard. In addition, network effects may attract valuable alliance partners to the leading firm.

First-mover Disadvantages

In addition to the mechanisms described above that offer potential benefits to the first-mover, other mechanisms favor market followers. Often, these benefits to followers are relatively more potent. Hence it is true in many situations that market pioneering is, on balance, an unattractive strategy.

Spillover and free-rider effects

Followers typically benefit from investments made by early entrants and from the resolution of uncertainty. (Such benefits to followers are, in effect, "first-mover disadvantages.") More specifically, early entrants often must invest in buyer education and infrastructure in order to develop the new market. To some extent, followers can "free-ride" on these investments and on the R&D of pioneering firms, which may resolve key uncertainties about the best technological approaches and salient customer needs. There

is evidence of such effects in Mansfield's (1981) early studies, which found that imitators could duplicate patented innovations for about 65 percent of the pioneer's costs. Mansfield also found that this often occurs quite rapidly as 60 percent of patented innovations were successfully duplicated within four years of introduction.

The "free-rider" disadvantage of pioneers depends upon leakage of information and know-how underlying the original pioneering advantage. Many mechanisms exist for the possible spillover of proprietary knowledge: workforce mobility, research publications, informal technical communications (perhaps by customers), reverse engineering, plant tours and so on. Process technology tends to leak more slowly, but Mansfield (1985) found that both product and process technology tended to leak in detail within a year of original product introduction. Lieberman (1989) found that diffusion of process technology allowed late entry by followers in 39 chemical processing industries, despite strong industry learning-curve effects.

In many industries, resolution of the best technical approach occurs through convergence on a "dominant design" or product format that meets the needs of the majority of customers in a relatively low-cost way. If an astute follower is able to time its entry to coincide with the emergence of the dominant design, it can avoid the costly experimentation and potential mistakes committed by early entrants prior to this stage.

Technology and/or market shifts

The previous discussion has essentially focused upon disadvantage to the pioneer due to competitor imitation. But competitor substitution may also lead to pioneer disadvantage. Schumpeter (1961) viewed technological progress as a process of "creative destruction." Thus new technologies may come to eclipse earlier dominant technologies. Often, the new technology is developed even while the original technology is still experiencing substantial growth. This can render it difficult for the first mover/pioneer to perceive the threat. Witness American Viscose's failure to recognize the potential of polyester to replace rayon and Transitron's inattention to the substitution of silicon for the much more rare germanium in semiconductor fabrication (Foster 1986). Market shifts, such as an emerging need for electronic funds, transfer substituted computer systems for the original automatic teller machines of Docutel, which was reduced to a bystander in the market. This inattention of a pioneer to substitution danger is related to incumbent inertia, which is discussed next.

Incumbent inertia

Incumbent pioneers may not just be inattentive; they may also suffer from what may be termed incumbent inertia. Incumbent pioneers may be locked in to fixed assets, which make it very difficult for them to adapt, they may be reluctant to launch improved products or processes for fear of cannibalization of current products or production technologies (a reluctance not shared by eager new entrants) and/or they may suffer from organizational inflexibility. Similarly, they may not understand the potential of a "disruptive technology" that is initially viewed as inferior (Christensen 1997). All of these sources of inertia may contribute to an incumbent pioneer being slow to respond to either radical or even more gradual improvement offered by later entrants (who might themselves be the pioneers of the new product or service generation).

Generalizations relating to industry/market characteristics

A number of authors have generalized about how industry characteristics affect the possibility for first-mover advantages versus disadvantages. One set of generalizations relates to horizontal versus vertical product differentiation and the speed of technical change (Bohlman et al. 2002; Suarez and Lanzolla 2007). The threat of substitution is particularly salient when technological change is rapid or abrupt and when product differentiation is primarily vertical (consumers have similar rank ordering of quality) rather than horizontal (consumer preferences differ, leading to the existence of comparatively stable segments and niches). With rapid product improvement and fairly homogeneous customer tastes, a pioneering firm can be easily leapfrogged over time by entrants offering newer, superior products.

4. EMPIRICAL EVIDENCE: AN OVERVIEW FOR FIRST-MOVER ADVANTAGES

The purpose of this section is to summarize empirical issues related to the subject of first-mover/pioneer advantages. This discussion will cover most of the important issues, including the contexts where FMAs may arise, contextual effects or contingencies that determine the importance of FMAs and the dynamics of FMAs over time. These will be summarized as statements of what is known, often being illustrated by examples and studies that illuminate the summary statements. (For more summary information on empirical issues in FMA see Lieberman and Montgomery 1998, especially Table 1.)

Empirical issue 1: first-mover/pioneer advantages exist empirically in a wide variety of contexts and for various performance criteria

FMAs have been identified for various types of markets. These include fundamentally new products being introduced to the world for the first time, as well as new generations of existing products and new geographic markets for products previously introduced elsewhere. Although FMAs are often considered to be a general phenomenon, the specific drivers of FMA in any given situation depend on the exact market context and other contingencies that we consider in the next subsection. We start, however, with a broad perspective on the empirical evidence.

FMAs have been found empirically for market share, profit and survivorship, although results for market share are far more common. In their study of empirical generalizations relating to order of entry and performance, Kalyanaram et al. (1995) focus on market share results, having found substantially more evidence relating to market share advantages. Their first generalization, based upon a wide variety of empirical research, was that “For mature consumer and industrial goods, there is a negative relationship between order of market entry and market share.” That is, they find that, on average, first movers/pioneers have an advantage in market share, at least for some period of time. Even for markets with very low barriers to entry/imitation – e.g. money market mutual funds – moderately sustainable market share advantages have been found for first movers/pioneers (Makadok 1998). In the case of money market funds, average

market share was found to be 29.2 percent for first movers, dropping to 19.2 percent for second movers, 5.7 percent for third movers and continuing monotonically down thereafter. More recently, a study of 379 subsidiaries of multinational advertising agencies in 43 developing markets found market share performance related inversely to entry order lag, thereby reinforcing the evidence of market share advantage on average to pioneers in service markets as well as in manufacturing contexts (Magnusson et al. 2009). It also supports the notion that first-mover share advantages exist in emerging markets as well as in the more advanced ones, thus greatly broadening the scope of empirical support for FMAs in market share. The international applicability of FMAs is further reinforced by Cui and Lui's (2005) study of foreign investors in China, which also found small but significant FMAs in market share.

First-mover advantage is also found for profit, but evidence for this is less extensive and more mixed. Cui and Liu (2005) in their study of foreign investment in China found little evidence for FMA in profit, in contrast to their results for market share. In a study using the PIMS data and accounting for potential endogeneity, Boulding and Christen (2003) found that first to market yields an initial profit advantage which lasts for about 12 to 14 years. Luo and Peng (1998) found that return on sales and return on equity were both substantially inversely related to entry timing for foreign invested manufacturing firms in China. However, in a separate test they found that during the first three years of operations early entrants had a bit over half the ROI of late entrants.

Findings for survival in the context of FMA depend heavily on the market context and definitions applied. Golder and Tellis (1993) performed a historical analysis of 36 product categories in which they found that market pioneers suffered a 47 percent failure rate, in contrast to early market leaders, which experienced only 8 percent. (Recall, however, the question raised earlier about market definitions; Golder and Tellis categorized Xerox as a later entrant in the copier market instead of the pioneer in plain paper copying.) In contrast, Luo and Peng (1998) found an advantage to early China investors in terms of reducing operational risk. Wang et al. (2010) found both pioneering and network effects provided survival advantage in markets with network effects. In their presentation of empirical generalizations relating to order of market entry effects, Kalyanaram et al. (1995, p. G218) stated that based upon their analysis, "Order of market entry is not related to long-term survival rates." So the literature is very mixed when it comes to survival and order of entry, from the large disadvantage suggested by Golder and Tellis to the no-effects conclusion of Kalyanaram et al. to the positive effects found in China studies. Such variation seems consistent with the fact that survival is not always a primary objective of market pioneers, who may aim to be acquired at an attractive price as the market develops over time. For example, acquisition is often the goal of technology startups, but not of multinational corporations attempting to extend their businesses to emerging markets such as China.

In summary, first-mover advantages are fairly common, particularly in terms of market share. But the empirical results represent what has played out in the marketplace as a result of the multiple factors impacting performance, as noted in Section 2. A final message, developed further below, is that first movers/pioneers often achieve advantage, but such results typically must be earned by vigilance and continuous attention. They are by no means guaranteed.

Table 20.1 China contingent factors: hypotheses and support

Hypothesis	Support for market share?	Support for profit?
Pioneers in high-growth industries achieve better performance	Supported	Not supported
Pioneers in less competitive industries achieve better performance	Significant sign reversal, i.e. competition had a positive effect	Not supported
Larger pioneers achieve better performance	Supported	Supported
Pioneers entering with joint ventures achieve better performance than those entering with wholly owned subsidiaries	Supported	Supported
Pioneers making large resource commitments perform better	Supported	Supported
Followers making large resource commitments perform better	Not supported	Supported
Pioneers adopting high marketing intensity achieve better performance	Not supported	Supported
Followers adopting high marketing intensity achieve better performance	Supported	Supported

Source: Based on Cui and Lui (2005).

Empirical issue 2: FMAs are best considered including contextual or contingency factors

A broad theme of this chapter is that FMAs are not automatic; they depend upon characteristics of both the market and the firm, as well as implementation of a first-mover strategy in a competitive context. Thus one would expect that empirical studies that consider such contingencies would provide greater explanatory power and insight than studies that simply examine whether dimensions of performance are correlated with entry order (Kerin et al. 1992).

Using PIMS data, Szymanski et al. (1995) demonstrated that a contingency perspective, implemented by including interaction terms in the empirical model, not only provides further evidence of the market share benefit of first-mover/pioneer entry, but fits the data better and adds insights relating to the interaction of entry order with the contingent variables. Positive contingent effects indicating that pioneer market share would be enhanced by the contingent factor were found to be significant for order of entry and the firm variables of service quality, vertical integration, R&D expenditures, shared facilities and shared customers. Positive interactions were also found for the marketplace factors of market growth rate and immediate customer purchase frequency. A negative impact on market share was found for pioneers using shared marketing programs.

Further insight into contingent effects and FMAs were found for both market share and profit in Cui and Lui's (2005) study of contingent resources and strategies for 4480 Chinese firms in some 80 industries at the four-digit level of the International Industry Standards of Industry Classification. The results are summarized in Table 20.1 As in the Szymanski et al. (1995) study, the contingent model provided a better fit to the data. Much like the Szymanski et al. (1995) results discussed above, Cui and Lui found that

pioneers in high-growth industries achieved a better market share (but not higher profit). The competitiveness of the marketplace had an unexpected significant positive impact on pioneer market share, but again had no significant effect on profits. Positive impact on both market share and profit were found for larger pioneers, those choosing to enter with joint ventures as opposed to wholly owned subsidiaries and when the pioneer opted to make a large resource commitment. The first two of these contingent results were echoed in a study of over 220 Sino-Japanese joint ventures in China (Isobe et al. 2000). Pioneers adopting high marketing intensity benefited from a boost in profit, but not in market share. The study also found that followers adopting high marketing intensity benefited in both market share and profit performance; large resource commitments enhanced profits, but not market share for a follower. Again this study demonstrates FMAs in the transition economy of China as well as the importance and usefulness of contingent factors.

The Luo and Peng (1998) study of 96 foreign invested enterprises in China found profitability (measured as ROS and ROE) significantly positively impacted by industry growth rate and R&D intensity (measured as R&D expenditures divided by sales). Neither firm size nor equity percentage owned by the foreign firm were found to impact either profit measure. This contrasts to the Cui and Lui result discussed above, where size positively impacted profits. This serves to remind us that the results of FMA studies exhibit variance, which suggests that further work continues to be worthwhile, perhaps especially in an international context.

Empirical issue 3: network externalities impact pioneer survival

Our 1988 paper argued that FMAs are contingent on the first three market mechanisms described in Section 3 above. Moreover, we showed that the empirical evidence is consistent with this prediction. Over the decades since our 1988 publication, considerable research attention has been devoted to understanding the fourth mechanism, network effects, which have become increasingly important as the information economy has expanded dramatically.

Network externalities reflect the condition where the value of a product or service to a customer increases with the number of users, often reflected in the installed base. In a study of 45 office products and consumer durables, Srinivasan et al. (2004) found that network externalities exhibited a negative main effect on the survival duration of pioneers. However, there were circumstances in which network effects actually contributed to longer pioneer survival, notably for more technologically intense and more radical products. Another contingent finding was that the larger the pioneer, the more network effects would enhance the pioneer's survival duration. If a pioneer was an incumbent, in the sense that it marketed a previous generation product which satisfied the same customer need, its survival duration was found to be reduced relative to what would be achieved by a pioneer that was not an incumbent in the previous generation.

The impact of network effects on pioneer survival has been found to be contingent upon product compatibility both between and within product generations (Wang et al. 2010). Wang et al. found that the impact of network effects on survival of pioneers relative to followers could be positive or negative depending on these two compatibility issues. "Between-product compatibility" reflects compatibility between product generations. An example of incompatibility would be the original CBS color TV system that

was incompatible with the original black and white systems in that the CBS color system could not receive the ongoing black and white programming and the original black and white TV sets could not receive the CBS color broadcasts. CBS's system failed due in large measure to this incompatibility. Color TV took off only after the introduction of the RCA compatible color television. Within-generation product incompatibility is illustrated by the fact that HP and Canon copier and printer cartridges cannot be interchanged. Under the condition that products are compatible across generations but incompatible within generation, empirical support was found that pioneer survival advantage increases with the strength of the network effects, is negative in markets with extremely weak network effects and is positive in markets with strong network effects. When products are cross-generation incompatible but within-generation compatible, pioneers' survival advantage was found to decrease with the strength of network effects in the market. Thus network effects and product compatibility interact empirically in pioneer survival advantage.

Related to the issue of network effects is the idea that new products may require support by an ecosystem of complementary products and services. If these complements remain underdeveloped, a market pioneer may be at a disadvantage and ultimately fail. In a study of multiple product generations in the semiconductor photolithography industry, Adner and Kapoor (2010) found that the success of an early entry strategy by makers of lithographic tools depended upon the availability of technological complements. Firms that pioneered into a new product generation were unsuccessful when the necessary complements for their product (mask and resist), developed and sold by external parties, were still facing technical challenges at the time of the firm's entry.

Empirical issue 4: customer perceptual space may evolve in a manner that favors a pioneer

First movers/pioneers may benefit from the formation and evolution of customer perceptual spaces in their favor. Attitudes, brand retrieval, preferences and purchase intentions may evolve in a manner that favors a pioneer. Carpenter and Nakamoto (1989) demonstrated this in a controlled experimental context and additional studies have rendered this a very plausible source of first-mover/pioneer advantage. For example, Kardes et al. (1993), also in an experimental context, found that brand retrieval and consideration processes contribute to pioneering advantage. Using survey methods, Alpert and Kamins (1995) found that pioneers generate positive attitudes and purchase intentions, as well as pioneer advantage in retrieval and recall, although the latter two were not as favorable to the pioneers. A study of food distribution in China (Gao and Knight 2007) found that the Chinese have strong preferences for the pioneer product, which they view as the "authentic" product, perceived to be of better quality and higher status. This seems likely to be due to the long-term Chinese cultural orientation that respects tradition and history. The prevalence of counterfeit products in the experience of Chinese consumers seems likely to augment this pioneer preference by generating mistrust of non-authentic products. That these customer perceptual space advantages are actually due to perceptions by customers and not due to objective performance-based characteristics of first movers/pioneers was established in a field study of the discount retail grocery industry in Trondheim, Norway (Denstadli et al. 2005). The study found persistent first-mover/pioneer advantages even when store attributes were documented to be essentially similar across chains. It would seem that advantages driven by

position in customer perceptual space would be particularly difficult for later entrants to dislodge.

Empirical issue 5: competitor response has speeded up over time

Historically, the duration of the time period between the commercial introduction of a new product and the time of competitor entry has substantially contracted. A study of 46 major product innovation introductions found that the average time lapse before competitive entry was nearly 33 years at the turn of the twentieth century but had shrunk to an average of 3.4 years for innovations in the 1967–86 time frame (Agarwal and Gort 2001). This trend appears to continue, as Vakratsas et al. (2003) in their study of followers' response to pioneers found that followers enter more rapidly in more recent product categories. However, they found that this more rapid response did not totally overcome the pioneer's advantage. In general, evidence indicates that a longer lead time for competitive entry increases a pioneer's FMA in terms of market share (Huff and Robinson 1994). The trend toward speeded-up follower response via either imitation or substitution, of course, places a premium on competitor analysis, competitor anticipation and competitor surveillance in today's world.

Empirical issue 6: first-mover/pioneer advantages typically decay over time

The duration of first-mover advantages is not perpetual, as argued in Section 1. This earlier assertion is supported by empirical evidence. For first-mover/pioneer market share advantages, Brown and Lattin (1994) and Huff and Robinson (1994) found that the advantage dissipates over time, particularly with competition. These results were at the brand level. Similarly, declines were found at the business unit level using the PIMS data as reported in Robinson and Fornell (1985) and Robinson (1988). In their study of empirical generalizations relating to market share advantages and order of entry into markets, Kalyanaram et al. (1995, p. G-214) offer as their third empirical generalization that "In mature consumer and industrial goods markets, market pioneer share advantages slowly decline over time." First-mover/pioneer advantages in profits have also been found to dissipate or decay over time. Boulding and Christen (2003) found using the PIMS data that although first movers/pioneers enjoyed a profit advantage over about 12 to 14 years, in the longer term they suffered a profit disadvantage. Evidently, the market share advantage persisted, but the pioneer's initial profit advantage was dissipated by long-term cost disadvantages. (See the Boulding and Christen paper for details).

Empirical issue 7: FMAs are generally weaker in relation to marketing mix effects on performance

Entry order or first-mover effects are generally weaker than marketing mix effects relating to price and advertising in their impact on performance (Lieberman and Montgomery 1998). This, of course, offers later entrants, perhaps with deeper pockets, the potential opportunity to overcome FMAs and to catch up with and surpass first movers. This raises a variety of strategic issues for first movers and fast followers, which we discuss in the next section.

Summary of Empirical Evidence

In summary, empirical studies show that FMAs are fairly common when assessed in terms of market share. The evidence in terms of profit and survival is mixed. While the pattern for market share might appear to reflect a general phenomenon with a simple explanation, studies show that the exact reasons for FMA are often complicated and they vary by context. Various contingencies have been shown to affect the existence and duration of FMA, including the mechanisms discussed in Section 3 and the entry strategy and resources of the pioneer. FMAs have been shown to decay over time. There is some evidence that the rate of decay has been increasing, reflecting global trends toward greater competitive intensity and speed of change in technology.

5. FIRST-MOVER/PIONEER STRATEGIES

If a firm has the opportunity to be an early mover in an emerging market, its managers face two main strategic questions. The first is whether to attempt market entry at all. If entry in general is judged to offer a sufficient chance of success, the second question relates to the optimal timing of entry – should the firm attempt to pioneer, or should it delay entry until later in the evolution of the market, after some of the initial uncertainties have been resolved?

In deciding whether to enter the new market at all, managers need to assess their firm's resources and capabilities against those of other likely entrants. Does the firm possess the full repertoire of skills needed to enter and compete effectively? If the firm is lacking in key areas, can these deficiencies be overcome within a reasonable period of time by developing or acquiring the necessary capabilities? These assessments should be made as objectively as possible. Managers must be wary of overconfidence and other cognitive biases that often distort the judgment of market entrants (Horn et al. 2005). Entrepreneurs in particular tend to vastly overestimate their odds of success. Indeed, numerous studies have shown that the majority of market entrants ultimately fail (Dunne et al. 1988; Audretsch 1995).

Entry Timing Strategies

If entry into the market can be justified, the second strategic question relates to the optimal timing of entry. Among the entry timing strategies often considered are the following:

- first mover/pioneer
- fast follower
- late follower into primary market
- late follower into niche market (potential first mover into niche).

The discussion below focuses primarily on choice between the first two of these strategies: first mover/pioneer versus fast follower. A fast follower (sometimes called “fast second”) enters once the pioneer has demonstrated the viability of the market, but before

the pioneer has had an opportunity to scale up and consolidate its position. These are the two strategies most commonly recommended for market entrants. Nevertheless, a late-follower strategy can sometimes prove optimal. For example, Google entered the Internet search space several years after the market pioneers and early followers, but has grown to dominate that market. As in Google's case, a late entrant may introduce a superior technology that displaces earlier entrants. Often in new industries, many years elapse before uncertainties are resolved through the introduction of a "dominant design" (Abernathy and Utterback 1986); by embracing that design, late entrants may be able to avoid the early period of market ferment and introduce a viable product (Christensen et al. 1998). Moreover, once the direction of the technology and market become clear, stable market niches may emerge, which provide opportunities for late entry. Chapter 21 of this handbook (Shankar and Carpenter) discusses strategies for late entry.

The primary trade-off in comparing pioneer versus follower strategies is between breadth of opportunity and degree of risk. Uncertainties relating to technology and customer preferences normally diminish as the new market evolves, reducing elements of entry risk. Nevertheless, early entrants may be able to establish strong market positions that are difficult for later entrants to overcome. Although pioneering is a risky strategy, an early entrant that is both capable and lucky can establish "mechanisms" that defend against attack, as described in Section 3. If a pioneer fails to establish a dominant position, fast followers have an opportunity to do so at lower risk and potentially lower cost. The several mechanisms relating to first-mover/pioneer disadvantages need to also be borne in mind by managers in assessing the optimal entry strategy for their firm. This trade-off between risk and opportunity implies that early entry is likely to be optimal for some firms, but not for others. Unfortunately, there are no simple strategic prescriptions. The optimal strategy for a given firm depends on characteristics specific to the market and technology (particularly the pace of change in both) as well as the firm's characteristics, the characteristics of competitors and customers and the general environment.

Choice between First Mover versus Follower Strategy Depends on Characteristics of the Market and Technology

Not all markets offer the potential for first-mover advantage. As argued in Section 3, acting as a first mover is likely to be optimal only in markets characterized by at least one of the four "mechanisms" that provide defenses against imitation. The early mover must be able to: protect a proprietary technology; preempt key resources (including customer based phenomena, such as top of mind awareness, recall etc.); develop customer switching costs and/or establish a significant network effect. New markets that lack all of these mechanisms are unlikely to offer any potential advantage to a pioneering firm.

Moreover, even if one or more of these mechanisms is present, the pace of technological change affects the desirability of early entry. In markets where technology improves very rapidly or customer needs shift abruptly, it is unlikely that an early entrant can maintain an initial lead (Suarez and Lanzolla 2005). In such environments, the main threat to the firm is not imitation; it is substitution. Managers need to think very carefully about whether and how the firm can defend against superior products introduced by rivals over time. While the four mechanisms provide some degree of defense, the firm will fail if it cannot keep up with changes in product features or best-practice technology.

Table 20.2 Pace of market and technology evolution

		<i>Pace of market evolution</i>	
		Slow	Fast
<i>Pace of technology evolution</i>	Slow	CALM WATERS Scotch tape Need: one or more mechanisms for FMA	MARKET LEADS Sewing machines Need: strong marketing & distribution, production capacity
	Fast	TECHNOLOGY LEADS Digital cameras Need: strong R&D and NPD and deep pockets	ROUGH WATERS Personal computers Need: strong marketing, distribution, production and deep pockets

Source: Based on Suarez and Lanzolla (2005).

Indeed, as a market evolves over time, the pace of technological change often diminishes and its direction becomes more predictable, making competitive advantages relatively more sustainable for later entrants. Thus, if the new market is judged to have an “excessively” rapid or discontinuous rate of change or to lack mechanisms to defend a pioneering firm from imitation, early entry is unlikely to prove a superior strategy.

Typically, markets in which technological change is very rapid or abrupt are for products that are fundamentally new. By comparison, the pace and direction of technical change are likely to be more predictable for new generations of existing products or new geographic/international locations. These types of new markets are often characterized by much lower levels of uncertainty than markets for fundamentally new products or services. Hence the risk associated with early entry tends to be lower, particularly for established firms that participate in a previous generation or market location. In this type of new market context, established firms are often the early movers (whereas they tend to be followers in markets where change is more radical).

Suarez and Lanzolla (2005, 2007) have suggested a framework relating to the potential to realize an FMA and the combined pace of market and technology evolution. Their framework is outlined in Table 20.2 along with exemplars and key resource requirements. To be sure, slow and fast evolution are loosely defined, yet conceptually useful. The Calm Waters quadrant reflects slow evolution in both the market and the technology. Durable FMAs are envisioned here, provided, of course that they exist (as a result of one or more of the mechanisms discussed in Section 4). In the Market Leads quadrant, the market is evolving fast, but the pace of technology evolution is slow. This gives a first mover/pioneer an excellent opportunity to reap FMAs on a durable basis, provided, of course, that the pioneer has the resources and the foresight to address all important market segments that emerge. The key resources are strength in marketing and distribution as well as production capacity. At the opposite extreme, when technology changes rapidly (or discontinuously) and markets evolve more slowly, first-movers/pioneers are unlikely to achieve advantage in either the short- or the longer term, as rapid technology change offers late entrants ample opportunity to compete away any short- or long-term gains. Resource requirements relate to strong R&D and product development as well as deep pockets in order to sustain the necessary R&D investments. Finally, the Rough

Waters quadrant holds little promise of long-term FMAs, although there may be value in a quick in and out strategy when the opportunity presents itself. The resource requirements of this quadrant are awesome, as strong marketing and distribution, R&D and product development, production capacity (and flexibility) and very deep pockets are all simultaneous requirements. This framework, although very qualitative, should be a helpful guide to managers in developing self-assessment questions before pursuing a first-mover/pioneer opportunity in any given instance.

We now consider how firm-specific characteristics must be considered along with market characteristics to define the optimal entry timing strategy.

Choice between First-Mover/Follower Strategy Depends on Characteristics of the Firm

Even when the new market contains features that may allow a first mover to defend against competition, a follower strategy is often superior for many firms. Most new markets have two broad categories of entrants: *de novo* startups that are born to embrace the new market opportunity and existing firms that hold established positions in other markets (potentially including participation in prior generations or geographic locations for the focal product). We now consider how strategic prescriptions regarding the timing of market entry are likely to differ between these two major categories of firms.

Strategy for established firms

For established firms, a “fast follower” strategy is often advocated as being superior to pioneering (e.g. Markides and Geroski 2005). Established firms are likely to have complementary assets and skills in marketing, distribution and manufacturing that allow production be scaled up quickly and efficiently to serve a mass market. Rather than commit these assets early in a highly uncertain environment and risk significant loss, it may be optimal for an established firm to track the initial evolution of the market and prepare to enter just prior to the start of the rapid growth phase. Moreover, established firms often lack the perspectives and skills needed for radical innovation and hence may be relatively ineffective in the initial phase of the industry.

One major risk facing a firm that attempts a fast follower strategy is that it misses the entry window. By the time the firm introduces its product to the market, the pioneer may be entrenched or the market may be crowded with other strong challengers. To be an effective fast follower, a firm must invest in “absorptive capacity,” that is, the “ability to recognize the value of new information, assimilate it and apply it to commercial ends” (Cohen and Levinthal 1990). This requires early investment in R&D, close tracking of market evolution and the development of organizational capabilities for the new product well in advance of its planned introduction.

The generalization that established firms should aim to be “fast followers” applies to markets for products that are fundamentally new. When markets emerge more incrementally, in the form of new product generations or geographic/international locations, uncertainty is lower and the firm may have resources from the existing market that can be effectively leveraged into the new one. Hence the risk that the firm will damage its complementary assets through early entry is often comparatively modest, while the value of these assets may be high in providing a strong beachhead for the firm in the new market.

Thus, for established firms that participate in a previous product generation or market location, early entry into the new market is likely to be a superior strategy. One such example is Samsung: once it built strong capabilities in DRAMs and became the market leader, Samsung chose to enter before its rivals into each new product generation. Limited competition at the start of each generation ensured that Samsung enjoyed high prices during the early period, making this first-mover strategy highly successful for Samsung (Shin and Jang 2005).

Nevertheless, there are some important exceptions to this rule that incumbents from a previous generation or location should enter early. Adner and Kapoor's (2010) study of multiple product generations in the semiconductor photolithography industry shows that the success of an early entry strategy depends on the availability of technological complements. Their findings imply that if these complements are not yet ready, the firm should delay its entry even if this means giving up the position of first mover. (Note that this argument also applies outside of the new product generation context.)

Another exception is when the firm lacks strong technological capabilities for the new generation. (For example, the firm's competitive strength may be in marketing or distribution rather than technology.) In a study of product generations in the disk drive industry, Franco et al. (2009) found that FMAs were contingent on the pioneer having strong technological capabilities. Hence firms that are active in the prior generation, but whose strengths lie outside of technology *per se*, may find it preferable to act as followers.

Strategy for startup firms

New companies typically lack the resources of established firms and hence a superior strategy for many startups is to attempt entry as a market pioneer. For startups, pioneering is a high-risk strategy that offers the possibility of high returns.

Prior to any attempt at pioneering, startup companies must determine if the market offers a potential for FMA. Pioneering can be justified only if managers see a clear path to exploit at least one of the four sustainability mechanisms described in Section 3. Moreover, managers must recognize that rapid technological change reduces the firm's likelihood of long-term viability, even though it may offer a richer set of channels for entry. Only if the startup meets with initial success and is also able to defend against the twin threats of imitation and substitution can it thrive as a first mover.

A pioneering strategy can sometimes be justified on a more limited basis. A fundamental question for startup managers and founders is their long-term objectives: are they building their firm for survival or to sell out? Startups that achieve competitive advantage in the early stage of a market often lack the resources and capabilities to sustain their advantage over the long term. At the same time, follower firms often bring such capabilities to the market and may find it advantageous to link these with the complementary skills of (initially) successful pioneers. Acquisitions, therefore, may serve the interests of both parties.

A pioneering startup that meets with initial success and whose managers aim for long-term survival, must build capabilities to sustain their competitive advantages over time. Consider, as an example, Amazon, the successful pioneer of Internet retailing. Since its founding in 1994, Amazon has invested heavily in technology, infrastructure, internal organization and external partnerships. These have broadened and deepened Amazon's

competitive advantages and have enabled the company to extend its dominance from the initial market of books into many other retail categories where the firm was not the Internet pioneer.

Although this chapter focuses on strategies for market pioneering, it should be recognized that many successful startups enter comparatively late in the process of market evolution, when stable niches become more evident. Such niche strategies are often viable and well suited for startup companies. A more general discussion of late entry strategies is provided in Chapter 21 of this volume (Shankar and Carpenter).

Smart Movers/Dumb Movers

In the aftermath of the turn of the century dot.com fiasco, Hamel (2001) made the provocative observation that most Internet companies failed due to being dumb movers rather than due to being pioneers. By dumb movers he meant those whose business model was defective from the start (due to misreading customers or unsound economics) and entrants that got the timing wrong. In the latter case he suggests that once a company overdrives an opportunity, it is more likely to underdrive a later opportunity, thereby compounding the firm's longer-term strategic problems. Overdriving opportunities can lead to expensive failures.

In relation to the timing issue, he uses the analogy of a sprint versus a marathon. If a company sprints when it actually faces a marathon situation, it may exhaust itself prematurely. He suggests several questions that a potential entrant considering being a pioneer should ask itself: "Are there difficult technical hurdles? Does market takeoff depend on the development of complementary products or services? Will a new infrastructure be required? Will customers need to learn new skills or adopt new behaviors? Are there high switching costs for customers? Will competing standards confuse customers? Are there powerful competitors that will seek to delay or derail us?" He suggests that if the answer to any of these questions is "yes," the potential pioneer must be careful not to pour in resources too soon, as the race is likely to be a long one.

But this doesn't mean that companies should generally set out to be followers. They should be careful not to miss the strategic window of opportunity. If a firm believes that the anticipated first mover will be a slow learner, that market penetration will remain in single digits for some time (thus giving a follower an opportunity to acquire customers later on), that rapid technological change will yield opportunities to supplant the pioneer and that the pioneer will be unable to acquire the most valuable partners, then being a fast follower or even a late mover may prove to be a viable, perhaps optimal, strategy.

Hamel notes that smart movers, be they pioneers, fast followers or later followers, continuously reevaluate and update their assumptions and business model, watch out for narrow market definitions that grant late movers entry opportunity, move quickly to collaborate with partners even if they are competitors and outsource to maintain flexibility in responding to evolving market and competitive conditions. All these caveats are useful, but are easier to foresee with hindsight than *ex ante*. That is why some entrepreneurs and managers make the big bucks.

6 CONCLUSION AND FUTURE RESEARCH

First movership/pioneering is a risky, yet often rewarded strategy, but it is by no means a universally dominant strategy. It works best when a large number of mechanisms (or perhaps a few particularly potent ones) yield barriers to imitation that followers find difficult to supplant. The overall magnitude of advantage that these barriers contribute to a first mover/pioneer is dependent upon the market context as well as the firm's managerial capabilities and resourcefulness. Some contexts, such as those with strong intellectual property protection, customer switching costs or network effects, may present a first mover/pioneer with a rich array of supporting mechanisms, whereas other contexts may offer far less potential for FMAs. The nature of competitors and their actions and reactions also affects the availability of FMAs and their magnitude. Deep pocketed, fast reacting, capable competitors can substantially diminish first-mover opportunities for advantage. These contextual attributes also determine the potential duration of FMAs.

Wise firms will carefully assess the likely existence and potential duration of any mechanisms that might support FMA. As well, they should be especially mindful of mechanisms such as incumbent inertia that might create problems. In deciding to enter a new business or market, the firm must be clear about its objectives: is it seeking short- or long-term profits? Market share or position? Is the entry actually a cross-parry designed to keep tabs on a competitor or limit its access to resources and position?

Thus, is being a first mover/pioneer a good strategy? It depends. It depends upon characteristics of the emerging market. It depends upon the resources and capabilities of the potential first mover/pioneer and those of its competitors. It depends upon the broader environment – what will be the response of customers, the state of the economy, short- and long-term government issues and so on? It is a strategy that can be richly rewarded, at least for a time, but that requires the utmost of due diligence and realism on the part of the managers making the entry decision. Would it be well to wait? What are the risks of waiting? And when should the firm get out, perhaps by selling out to more deep pocketed rivals once the technology and the market itself have matured?

Future Research

There remains much room for further research in this area despite the volume of papers that have been spawned in the past few decades. While a good start has been made, as discussed in Section 4, more empirical knowledge relating to services, retailers and emerging markets would still seem worthwhile (Kalyanaram et al. 1985). Magnusson et al. (2009) make the interesting observation that the first-mover/order of entry strategy studies have rarely taken a resource-seeking perspective such as global sourcing. Might there be opportunity to extend the first-mover ideas to this new dimension and how it relates to global supply chain management? They also suggest that additional contingencies such as firm innovativeness and culture and global strategic posture, might impact the performance consequences of entry order. Some support for the impact of innovativeness is found in Shankar et al. (1998), who found for two prescription drugs markets that innovative followers were able to grow faster than the pioneers slowed the growth of the pioneers and reduced the effectiveness of marketing by the pioneers (for further details on late-mover strategies, see Shankar and Carpenter, Chapter 21 in this volume).

Efforts to link first movership/pioneering to stock market returns would also seem worthwhile. Early movers have been found to receive better stock market reactions to new product announcements, but later imitative announcement have the expected negative stock market impact on the early movers (Lee et al. 2000). Further, do established behavioral notions such as consumer risk aversion, consideration set advantages and prototypicality benefit the pioneer in industrial, service and emerging markets? Finally, Ketchen et al. (2004) suggest the potential for building bridges between FMA research and the research streams of strategic groups and regional clusters.

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