ENTRY TIMING STRATEGIES: THE ROAD AHEAD*

Andrea Fosfuri
Bocconi University
Via Roentgen 1, 20136 Milano, Italy
andrea.fosfuri@unibocconi.it

Gianvito Lanzolla
Cass Business School, City University London
106 Bunhill Road, Room 4065
London EC1Y 8TZ, UK
g.lanzolla@city.ac.uk

Fernando F. Suarez
Boston University School of Management
595 Commonwealth Ave., Room 649-A
Boston, Massachusetts 02215, USA
suarezf@bu.edu

* Authors are listed in alphabetical order; they all contributed equally.

ENTRY TIMING STRATEGIES: TOWARDS AN INTEGRATIVE THEORY

The study of entry timing strategies, and the related streams that focus on first mover and follower advantages, already constitute an established body of literature in strategic management research. There has been a large volume of work published in the last couple of decades on these topics, and the idea of entry timing advantages seems to be as attractive – although still somewhat elusive – as always. What makes the topic attractive for management scholars is perhaps the direct theoretical link that can be found with innovation: first entrants into a market are likely to be innovators. Management scholars and economists today largely agree with the ideas of Joseph Schumpeter (1942) about the crucial role that first-to-market, innovative firms play in economic growth. The study of entry-timing advantages provides management scholars with a context to explore those fundamental ideas about innovation and market entry from the perspective of the organization that decides when to enter an emergent market space.

A similar fascination with innovation and innovators is perhaps what makes the topic of entry timing advantages very attractive for business practitioners as well. In a time when the practical relevance of management research is not always obvious for the practitioner audience that scholars are ultimately trying to influence, the topic of entry timing advantages emerges as one of those few where the interests of practitioners and scholars seem to be well aligned.

Management scholars can offer business practitioners some "answers" or research-based insights to guide firm decision-making on market entry timing. For instance, the cumulative work of many scholars has left us with elements for a theory of entry timing advantages and a few "empirical regularities" (Lieberman and Montgomery, 1998). However, the field so far has not been able to develop a comprehensive and integrative theory of entry timing advantages that

can be used with reasonable confidence in different situations. In part this is due to a series of empirical and methodological issues that still plague entry timing research, which range from selection biases and the way we define first movers, to how we measure the advantage of first movers and what we consider an industry for the purpose of the analysis (see Lieberman and Montgomery, 2013). While these shortcomings in existing literature indeed exist, we believe that new answers will come not only through gradual improvement in the type of research methods we use and the questions we ask, but also through taking some risks to try new approaches and further efforts to integrate what we have learned already.

Research on entry timing advantages is therefore in need of fresh winds, new ideas, and new approaches. This basic realization was our starting point for putting together a special issue on the topic. In this introductory article to the special issue, we provide a brief summary of the existing literature on entry timing advantages, and then discuss some of the most promising areas for further research – some of which begin to be addressed in the articles featured in this issue.

ENTRY TIMING ADVANTAGE LITERATURE: A BRIEF REVIEW

Entry timing literature has evolved from a focus on the very "first mover" into an industry, to a more precise and arguably more pragmatic focus on the timing/order of market entry and "lead time" as predictors of a firm's performance (e.g. Bohlmann et al., 2002; Agarwal et al., 2002; Lieberman and Montgomery, 1988). Over time, this body of literature has developed around three broad areas of investigation (Suarez and Lanzolla, 2007): (1) the identification of the 'isolating mechanisms' (Rumelt, 1987) which allow first movers to protect themselves from imitative competition; (2) the firm-level resources and capabilities that allow organizations to

exploit early-mover advantages; and, more recently, (3) the environmental-level conditions that act as enablers or disablers of early-mover advantage.

Mechanisms that may favor Early Movers

Several classifications of the early mover's 'isolating mechanisms' have been proposed. Golder and Tellis (1993) classified them as producer- or consumer-based; Day and Freeman (1990) identified them as resource pre-emption, proprietary experience effects, and leadership reputation; Kerin et al. (1992) grouped them into economic, pre-emption, technological and behavioral factors. Lieberman and Montgomery (1988), in what would become the most widely accepted classification, proposed three categories: technology leadership, pre-emption of scarce assets, and switching costs/buyer choice under uncertainty. Recent research has tested the effectiveness of some of these isolating mechanisms. For instance, Boulding and Christen (2008) empirically tested three different sources of long-term pioneering cost advantage – i.e. experience curve effects, pre-emption of input factors, and pre-emption of ideal market space - as well as three different sources of pioneering cost disadvantage – i.e. imitation, vintage effects, and demand orientation. They find support for five of the six sources of pioneering cost advantage or disadvantage in two different samples, one of consumer goods business units and the other of industrial goods business units. However, they find that the advantage due to preemption of ideal market space is limited to the consumer goods sample. Gomez & Maicas (2011), using data from the telecommunications industry in several European countries, provide empirical evidence that switching costs mediate the relationship between market entry order and performance.

The isolating mechanisms can also be found in the modeling efforts around entry timing advantage. For instance, Bohlmann et al. (2002) develop a game-theoretical model where early entrants derive benefits due to preemption in markets with heterogeneous demand. Farrell and Klemperer (2007) study the importance of switching costs as a mechanism to lock-in customers and exercise market power. Capone et al. (2013) find, in a more complex setting, that switching costs always favor early entrants when demand is homogenous. Instead, when demand is more fragmented switching costs only help first movers if there are plenty of opportunities for innovation.

Firm Resources, Capabilities and Entry Timing Advantages

Significant attention has been paid to the effect of firms' resources and capabilities on entry timing advantages. The basic idea in this literature stream is that a firm's resource endowment affects its ability to capture the potential benefits of early entry. A classical contribution here is that of Teece (1986), who argued that several "complementary assets" were required for early movers to benefit from their innovation and early entry into a market. Mitchell (1991) highlighted the importance of firm resources by proposing separate entry clocks for incumbents and newcomers, given that incumbents "are likely to possess strong sets of assets required for the commercialization of goods in a new technical subfield" (p. 85). Better-endowed firms may not only be well positioned to commercialize the products in an early industry, but may also be better prepared than their smaller newcomer counterparts to grow the business rapidly, which is often a necessary condition for success during the early phase of the industry (Agarwal et al, 2002).

Incumbent firms may possess general-purpose resources (such as large marketing or R&D budgets) or resources that may be transferable from a previous industry to the new one they are entering. For instance, Klepper and Simons (2000) studied the entry into the U.S. television industry, and found that entrants that had been active in the radio industry (incumbents) had a higher survival rate than new entrants. They found that, among all entrants to the TV industry, "the larger and more experienced ones… entered earlier than other firms and they dominated the industry throughout its history." More recent research has lent additional support to the idea that technological capabilities have to be considered in conjunction with entry timing advantages. Franco et al. (2009), using data on the hard-disk industry, find that early entry is only beneficial if pioneers are technologically strong. In their study, technologically weak pioneers have a lower survival rate than other types of firms, even if they entered late. Also, Lieberman (2007) reports that early movers in the Internet industry that had technological capability (proxied by patents) were more likely to survive. These empirical results are consistent with Klepper (2002) formal model that shows that early entrants display lower hazard of exit when they have greater pre-entry experience. The paper by Vidal and Mitchell (2013) in this Special Issue develops a framework in which the interplay between the core and complementary resources of first mover and those of later entrants helps explain under which conditions first entrants survive.

The Role of the Environment in Entry Timing Advantages

While the role of the environment on organizations has long been noted and studied by management scholars (e.g. Lawrence and Lorsch, 1967; Pfeffer and Salancik, 1978; Perrow, 1979– see Aragon-Correa and Sharma, 2003, for a review), it is fair to say that, compared to the previous two areas of investigation, the role of the environment in entry timing advantages, until

recently at least, had been less developed. Dess and Beard (1984) summarized a large body of literature that tried to characterize the environment, by proposing three basic environmental attributes: munificence, dynamism, and complexity; many researchers studying the impact of the environment on firm performance have since used these three dimensions (e.g. McArthur and Nystrom, 1987; Covin and Slevin, 1989).

Despite the importance of the environment in the strategy field, few of these studies have centered on the specific effects on entry timing advantages. One of the early exceptions is Porter (1985), who argues that advantages derived from entry timing are conditioned to industry characteristics and proposes a taxonomy of entry strategies that varies with the level of technological change in products and processes. Lambkin (1988) provides a set of predictions concerning the order of entry strategies most likely to be successful under three environmental dimensions: variability, grain of the variability, and uncertainty. Suarez and Lanzolla (2007) propose that two environmental dynamics – the pace of technology evolution and the pace of market evolution – act as enablers or disablers of early mover advantages. In particular, they argue that fast pace of technology evolution and a fast pace of market evolution tend to disable early entry advantages, while environments with smooth technology and market evolution tend to enable those advantages. Consistent with these predictions, Giarratana and Fosfuri (2007) report no evidence of first mover advantages in a turbulent industry like software security. Suarez and Lanzolla's ideas have been also used to justify the failure of early movers to fend off later entrants that use improved technology to succeed in the market with higher-quality products (Zhu and Iansiti, 2012; Franco et al., 2009).

By stylizing the conditions that firms face when deciding when to enter a market, the strategy-oriented literature in industrial organization has also contributed to our understanding of

the role of the environment on entry timing issues. For instance, some authors have proposed that first-mover advantages are affected by variables such as degree of competition (Gal Or, 1985; Jensen, 1982; Reinganum, 1981; Farrel and Saloner, 1985), market structure (Katz and Shapiro, 1986, 1992), the regime of appropriability (Teece, 1986), and network effects (Farrell and Klemperer, 2007). A recent stream of research in economics of innovation has focused on the importance of markets for technology (Arora et al., 2001; Gans and Stern, 2003) and their implications on the timing and the mode of entry in a given product market.

ENTRY TIMING LITERATURE: THE ROAD AHEAD

Despite the lack of an integrative, widely accepted theory and the lack of consistent empirical evidence, the field of study of entry timing advantages has come a long way in terms of identifying the key mechanisms and contingencies that can result in early mover advantages. Learning has occurred, and the latest research shows that new regularities are slowly emerging. For instance, several studies coincide in that rapid technological change in an industry makes it very hard for the early entrants to maintain any advantage, because later entrants can use the newer technology to produce products that are more advanced and therefore more appealing to the customer. Refinements of this idea can be found in Christensen (1997), Bohlmann et al. (2002), Suarez and Lanzolla (2007), Franco et al. (2009), and Zhu and Iansiti (2012). This points to some boundary conditions for the idea behind the isolating mechanism of "technology leadership" proposed in the early entry-timing literature, where a firm could get advantage by entering first and going down the technology learning curve before its later-entrant rivals. What the new studies show is that, when technology changes rapidly, early entrants can soon find

themselves tied to older technologies that put them at a disadvantage in the market. Similarly, several studies find that it is not only the level but also the type of resources a firm is endowed with at entry that can have a large effect on their post-entry success (Klepper and Simons, 2000; Franco et al. 2009).

There is little doubt that progress along existing areas of inquiry in entry timing research will continue and gradually produce additional regularities that will improve our understanding of the phenomenon. The careful attention given to empirical methods in much of the current research (e.g. use of panel data, attention to endogeneity issues, etc.) will surely translate into more reliable results that may help solve some of the empirical contradictions found in earlier literature. There is reason to believe, for instance, that the cumulative effect of rigorous research will help us better understand the conditions for the existence/inexistence of early mover advantages when advantage is measured through different variables (e.g. profit, market share, survival). Likewise, we are likely to learn more about the specific type of resources that are associated with early mover advantages in different situations.

However, we believe that in addition to continuous progress along the lines of research highlighted above, research on first mover advantages would benefit from fresh perspectives that could potentially contribute new elements to expand and improve the existing foundations of entry timing theory. In what follows, we discuss some of these possible new perspectives to entry timing research. Some of them can be considered interesting twists to research done previously, while some borrow from entirely separate bodies of literature in order to enrich entry timing concepts. Taken together, they represent a real possibility to begin patching, reinforcing and expanding our existing theoretical foundations in order to create down the road a stronger theory with significantly higher predictive power.

More explicit links to industry lifecycle theory

Several important articles in entry timing advantages contain references to industry life cycle. For instance, Teece's seminal 1986 article, in addition to stressing the importance of complementary assets, highlights the emergence of a "dominant design" (Abernathy and Utterback, 1978) as an important milestone in the industry that needs to be taken into account to determine the success of different types and cohorts of entrants. Similarly, Christensen et al. (1998) propose a three-year period right before the emergence of the dominant design as the "window of learning" (p. s213) in the industry; firms entering in this window of learning are shown to have higher survival rates in their sample.

Beyond these particular connections, we believe there is significant potential in establishing closer links between entry timing and industry lifecycle theories. For instance, from its outset, industry lifecycle theory has identified the specific characteristics of the organizations that tend to populate the industry and succeed at each stage (e.g. Utterback and Abernathy, 1975). A careful review of these firm characteristics could shed additional light on the type of firm resources and capabilities that new entrants need to succeed, at different points of entry in the industry. Similarly, researchers in the industry lifecycle tradition have explored how technology, markets and user needs co-evolve. A better understanding of this co-evolution could benefit entry-timing advantages research. For instance, Clark's (1985) notion of how "design hierarchies" (technology) and "market hierarchies" (user needs) evolve, and the path-dependency that comes with decisions along both of these hierarchies, can shed new light on the specific technology and market strategies that successful entrants may have, and the chances they have to

"mend course" if they happen to enter with a "wrong" strategy – e.g. choosing a technological design trajectory that will not prevail in the market.

Another way in which industry lifecycle theory can potentially contribute to expand our understanding of entry timing strategies is for researchers to place additional emphasis on industry evolution as a socio and political process, in addition to a technology and market process (Anderson and Tushman, 1990). This could again provide additional insights as to the type of resources early entrants need to secure to succeed in new markets.

Institutions and entry timing advantages

The notion that institutions have a role in economic performance is hardly a controversial one (Scott, 1994; North, 1990; DiMaggio and Powell, 1983). Several studies, in different research streams – e.g. political economy, institutional theory, and institutional economics - have focused on this relationship. However, to the best of our knowledge, the study of the relationship between institutions and order of market entry performance has been overlooked in the existing literature. For instance, we know little about which dimensions of the institutional environment are more likely to interact with the FMA isolating mechanisms or what is the relative contribution of different dimensions of the institutional context in market entry performance. Several of the isolating mechanisms for early mover advantage - e.g. preemption of resources and customer switching costs.- may, or may not, apply in different institutional contexts. For instance, when the institutional environment is supportive of efficient market transactions, pioneers may not easily create switching costs or be able to protect resource pre-emption advantages. On the one hand, strong market-supporting institutions may enable easier access to talent, capital and open and competitive markets where goods and resources can be traded, in spot markets or through

long-term contracts. On the other hand, strong market-supporting institutions may encourage coordination and compatibility and this is likely to reduce the possibility of first movers creating and maintaining switching costs, both financial and cognitive (Farrell and Klemperer, 2007). The effectiveness of technological leadership as an FMA mechanism can depend on the local appropriability regime (Teece 1986), or be influenced by bandwagons effects (Lanzolla and Suarez, 2012). The vast majority of the research done on entry timing advantages to date has also centered on Western economic and institutional environments, predominantly the United States and this may have, to some extent, made institutions appear less relevant because of the fact that they tend to be fairly homogenous across Western economies. New questions and hopefully new insights should emerge from studying the existence or inexistence of entry timing advantages in different institutional contexts, and contrasting those findings with those from existing studies in the US and Europe. The paper by Stevens and Dykes (2013) in this Special Issue makes some progress in this direction by showing that the decision of a firm to enter a country earlier or later than other firms is in part dependent on the host country's political environment; this finding suggests that entry timing advantages are indeed heterogeneous across international contexts.

Another potentially fruitful research stream could be developed by cross-pollinating the literature on institutional entrepreneurship with entry timing literature. Institutional entrepreneurship has been defined as the "activities of actors who have an interest in particular institutional arrangements and who leverage resources to create new institutions or to transform existing ones" (Maguire et al., 2004: 657). DiMaggio (1988: 14) argued that "new institutions arise when organized actors with sufficient resources see in them an opportunity to realize interests that they value highly". These actors – institutional entrepreneurs – "create a whole new system of meaning that ties the functioning of disparate sets of institutions together" (Garud et

al., 2002). Connecting this literature with that of entry timing could provide insights on what pioneers and pioneering firms do, or can potentially do, to create a more favorable institutional environment for their competitive activities (e.g. Greenwood and Suddaby, 2006; Frynas et al., 2006). Once again, the room for maneuver and influence that entrants may have over the existing institutional arrangement may vary across different institutional contexts.

Categorical dynamics and timing of entry

There are other prisms through which to look at the entry of firms into nascent markets. One such prism has been the socio-cognitive dynamics that surround the emergence of new markets. Clark (1985) provided one of the earliest writings about the importance of social factors in the dynamics of early industries, by focusing on the way consumers make choices when faced to novel products and how those choices tend to construct "hierarchies" that affect future choices. More recently, Kaplan and Tripsas (2008) studied how "technological frames" (Orligowski and Gash, 1994) affect the decision of firms regarding when and how to enter a nascent industry.

A particular line of research that has gained much theoretical traction in recent years is that of categories and the categorical dynamics in early industries. This is in part due to the advantages that categories have over other socio-cognitive constructs for empirical work, as categories used by different stakeholders can easily be tracked over time. Categories can be simply defined as socially constructed partitions in order to group similar objects (Bowker and Star, 2000). While existing research has placed much emphasis on technological uncertainty, research on categories has shown that another important dimension of uncertainty relates to the meaning of the new products and the meaning and boundaries of the market space that has emerged (Santos and

Eisenhardt, 2009). This early cognitive uncertainty is reflected in the use of many different categories to describe the new market, which in turn can add to the confusion and technological uncertainty of this stage. Categorical dynamics are important because they contribute to the definition of an industry and the drawing of its boundaries by allowing for shared understandings to emerge among industry stakeholders. Moreover, recent research has shown that a firm's performance may depend critically on the categories that a firm's products are associated with (Zuckerman, 1999; Pontikes, 2012; Kuilman and Wezel, 2013). This logic applies not only to product categories, but also to organizational categories (Hannan et al., 2007).

Recent research has begun to build upon the categorical dynamics findings to improve our understanding of entry timing advantages. For instance, Suarez et al. (2012), propose the concept of a "dominant category" -- defined as "the conceptual schema that most stakeholders adhere to when referring to products that address similar needs and compete for the same market space" (p. 4) -- and use this concept, together with the dominant design, in order to conceptually define a "window of opportunity" for entry into new markets. Their basic premise is that before a dominant category has emerged, firms that enter a new space have to contend with categorical uncertainty, in addition to technological and market uncertainty, which makes entry extremely risky. The window for entry, the period associated with highest firm performance other things being equal, is then seen as opening with the emergence of the dominant category and closing with the emergence of the dominant design. In the authors' words: "Just as the emergence of a dominant design closes the window by demarcating the resolution of technological uncertainty, the emergence of the dominant category opens the window of opportunity by demarcating the resolution of socio-cognitive uncertainty through categorical convergence" (p. 20). Further

research should help us test these ideas and expand our understanding of the relationship between cognitive aspects of industry evolution and firm entry timing strategies.

Early versus follower advantages

Recent research, departing from the traditional focus on early movers, has started to uncover the contingencies that make later entrants more likely to enjoy advantages over their earlier counterparts (Lieberman and Montgomery, 1988; Bohlman et al. 2002; Markides and Geroski, 2005; Suarez and Lanzolla, 2007). However, this area of research is still emerging and there is still much that needs to be investigated. New insights, for instance, may spur from research investigating how followers' capabilities interact with the isolating mechanisms and other contingencies to determine how late a given follower can enter a market and still be successful. We also need to sort out the relative importance of followers' "complementary assets" (Teece, 1986), such as commercialization and manufacturing capabilities, vis a vis followers' strategies; that is, the different ways in which the complementary assets can be used to gain advantage in the market. Lieberman and Asaba (2006) provide a theoretical framework to study imitation dynamics among firms and we believe that bringing such a framework into entry timing literature may help us to develop new theoretical insights on the conditions that make early movers/followers more successful. In this special issue, Vidal and Mitchell (2013) propose a theoretical framework where they compare core and complementary resources of both early movers and followers.

Another promising area of investigation relates to the different business models espoused by early and later entrants. In this special issue, Markides and Sosa (2013) argue that pioneer and later entrants' business models need to be considered if we are to develop a more nuanced

understanding of the existence, or inexistence, of FMAs. Anecdotal evidence seems to lend some support to this view. For instance, the success of Facebook, a late entrant in the social network space, has been traced in part to the distinct business model it chose to enter the market with. Instead of an open social network, Facebook started as a collection of closed within-university networks, and only opened up enrollment to the general public once they had gained enough critical mass and usage traction (Suarez and Kirtley, 2012). More generally, we believe that the FMA literature could also be enhanced by coupling it with market entry mode literature, which offers clear links for cross-pollination (see for instance Meyer, Estrin, Bhaumik and Peng 2009; Lee & Lieberman 2010). As an example, the work of Attewell (1992) and Cusumano et al. (2012), suggests that in nascent product industries characterized by high uncertainty, entrants that emphasize services together with product innovation tend to perform better than entrants that focus solely on product innovation.

Another fruitful research avenue could be the coupling of entry timing research with the literature on markets for technology (Arora et al., 2001; Gans and Stern, 2003). Trade in technology has been shown to be growing in several industries, for instance, semiconductors, chemicals, pharmaceuticals, and software (Arora and Gambardella, 2010; Fosfuri and Giarratana, 2010). As these markets flourish, firms recognize the opportunities that the markets offer, when designing their entry strategies. There are at least two potential directions that might generate interesting and novel insights. First, where the access of complementary resources is crucial for profiting from innovation (Teece, 1986), late innovators would find it difficult to succeed if early entrants managed to secure control of key complementary resources. However, when technology markets work properly, a late innovator has at least an additional option, that is, licensing out its technology to established firms. Future research could therefore explore how entry timing

decisions and the development of markets for technology interact in explaining firm performance. Second, markets for technological assets can reduce the importance of technology as a source of competitive advantage. Followers might simply license in some of the required technological competences and focus their efforts primarily on the development of those complementary resources that are needed to tailor their products or services to the idiosyncratic needs of their customers. An implication of this argument is that, in the presence of a well functioning market for technology, entry timing becomes less important to the success of a firm. What becomes crucial is whether a company is early or late in developing the capabilities and resources to adapt the tradable technology to specific uses.

CONCLUSION

Entry timing advantages literature has been developed over time by scholars in different disciplines. Strategy, marketing, economics, industry lifecycle, population ecology and more recently sociology are some of the different lenses through which researchers have tried to better understand the phenomenon. Such abundant attention is, on the one hand, a blessing because the different perspectives provide alternative ways to frame and explain a given early entry situation and its outcome. On the other hand, however, it has made all the more difficult the task of building an integrated yet parsimonious theory that is generalizable enough to provide guidance and offer predictive power in many situations.

It may well be the case that building such an integrative theory of entry timing advantages is not feasible given how broad and complex the early mover circumstances are. Good theories contain the right balance between comprehensiveness and parsimony, a balance that is exceptionally difficult to achieve and that could ultimately prove impossible in this case.

However, even if a comprehensive theory was not possible to build, we have already gained very important insights about the entry-timing phenomenon, some of which can now be considered "regularities" that can guide scholars and practitioners in the analysis of first-mover situations. Ongoing research is producing new insights and regularities, as highlighted earlier, and there is good reason to believe that, at the very least, this gradual improvement in our understanding will continue as fresh perspectives and more rigorous methods are applied to the study of this important topic.

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