Innovation, New Market and Governance Choices of Entry: The Internet Brokerage Market Case

Valérie Claude-Gaudillat

CERAM Sophia Antipolis
60 Rue Dostoïevski - BP 085
06902 Sophia Antipolis cedex – France
Tel: + 33.4.93.95.44.41/ fax: + 33. 4.93.95.44.29
valerie.claude-gaudillat@ceram.fr

Bertrand V. QUÉLIN

HEC School of Management, Paris
1, rue de la Libération
78351 Jouy-en-Josas cedex, France
Tel: +33.1.39.67.72.36 / Fax: +33.1.39.67.94.54
quelin@hec.fr

Résumé :

This paper investigates the case of market entry strategies following the introduction of a disruptive innovation. Recognizing that market entry strategies have been envisioned in the literature as a discrete phenomenon, we develop an empirical framework that portrays these strategies as a capability building process. Three organizational modes are integrated into our model: acquisition, alliance, and market transaction. We compare the first two with the third one and we test our model in the setting of the online brokerage industry by using a sample of 897 moves made by 98 firms over a seven-year period (1994 to 2000). We built this dataset by collecting secondary data. This research suggests that firms' modes of entry can be differentiated along factors specific to market timing as well the degree of specificity of targeted capabilities. This paper shows that acquisitions are chosen to access specific capabilities. We show that market transactions are used to access specific capabilities. It means that external sources can be used when firms face a make-or-buy decision in the aftermath of technological change. Alliances appear to play a limited role while market transactions are widely used. By suggesting that the entry into a new industry is not a discrete phenomenon, our research should lead the path to additional research on this topic.

Mots clés : Innovation, Market Entry, Capabilities, Firm's boundaries

Introduction

In a world of intense competition, innovative firms have an opportunity to redefine competitive rules to their own benefit. Internet-based businesses are a recent example. Market borders become blurred. The downside for non-innovative firms is that they can suffer from market displacement through mechanisms such as competence-destroying innovation (Tushman and Anderson, 1986).

An extensive body of literature has focused on characterizing innovation in order to explain the conditions under which established firms or new entrants are most likely to succeed or fail (Tushman and Anderson, 1986; Henderson and Clark, 1990; Christensen and Rosenbloom, 1995; Tripsas, 1997; Thomas, 1999). A general conclusion is that new actors tend to introduce radical or architectural innovations that endanger incumbents (Christensen, 1997). Researchers have also qualified the impact of an innovation on a firm's capabilities[1] to explain why established firms experience inertia (Teece, Pisano, and Shuen, 1997) and have, in general, difficulties to react and regain market leadership (Henderson and Clark, 1990; Henderson and Cockburn, 1994; King and Tucci, 2002; Afuah, 2003; Hill and Rothaermel, 2003). Indeed, a dramatic change in an industry can substantially reduce the value of a company's core competencies (Hamel and Prahalad, 1994; D'Aveni, 1999).

Facing innovation, firms confronted with the challenge of developing new competencies have to make strategic decisions. We select three of them: i) which competencies to access, ii) how to access them, iii) when to access them. These choices, that engage the resources of firms and impact their future, are difficult to make because of the high level of uncertainty characterizing the environment. Since the level of demand uncertainty of different products or services can vary significantly (Knight, 1965), firms have no guarantee that the market will develop according to their expectations. The extent to which a substitution effect will occur is rarely clear. Nevertheless, managers of firms in the established, threatened industry must decide how to respond to an innovation that has the potential to alter or destroy their companies' existing business (Cooper and Smith, 1992). Firms introducing the disruptive innovation also have to develop capabilities. New firms usually enter the industry with limited competencies. Strengthening their competencies is therefore necessary to increase their chances of success.

[1] Capabilities are defined as a firm's capacity to deploy resources, usually in combination, using organizational processes, to attain a desired end. They are information-based, tangible or intangible processes that are firm specific and are developed over time through complex interactions among the firm's resources (Amit and Schoemaker, 1993).

Entering into a new industry can be risky, as the Internet market has again proven, but it can also be dangerous to stay away from new business opportunities (e.g. IBM, Kodak). Because of the high level of uncertainty, firms have no guarantee that the new industry will develop according to their plan; in which case their investment could be lost.

Firms face opposite incentives to enter: they can wait until most of the uncertainty and risk have diminished or they can take a strong position, early (Folta and O'Brien, 2004). Firms can be tempted to favor flexibility over commitment (Ghemawat, 1991), and to postpone the investments required until much of the market uncertainty is resolved. But, in dynamic environments characterized by limited windows of opportunity (Abell, 1978), firms face the risk of not having the right capability at the right time. Even if the debate on the advantages and drawbacks of early-moving strategies is still far from being closed (Cho, Kim, and Rhee, 1998; Makadok, 1998), late-movers take the risk of being outpaced by competitors having entered the new market earlier. Moreover, delaying commitment to resources is not always the optimal response to the problem of investing (Ghemawat and del Sol, 1998).

A direct consequence for existing firms is a need to react to the creative destruction initiated by new actors (Schumpeter, 1934). Dominant firms have to develop new strategies and new capabilities (Rosenberg, 1976; Nelson and Winter, 1982; Rosenbloom, 2000). In a dynamic environment characterized by limited windows of opportunity (Abell, 1978), firms would then face the risk of losing their competitive advantage (Barney, 1999).

The strategic management literature defines three generic modes of governance available to access new competencies: a) developing new competencies internally; b) building partnerships with other firms; c) accessing new competencies through market transactions.

Responding to such changes has direct implications for the boundaries of the firm. Specifically, the mode of governance chosen depends on the timing of entry, availability of competencies and partners. The future market position of firms is affected by governance choices (Conner and Prahalad, 1996).

Despite the amount of recent work dedicated to innovation and new industries, little effort has been done to understand the interactions between the need for new competencies under conditions of disruptive or competence-destroying innovation and the modes of governance adopted by firms to access these new competencies (Claude-Gaudillat and Quélin, 2003).

The objective of this paper is therefore to develop a framework aimed at understanding how firms face the advent of a new competitive industry and access the new competencies

necessary to be competitive in an environment characterized by a high–level of uncertainty. Two dimensions are specifically highlighted in our framework: the timing of entry and the characteristics of capabilities that firms need in order to compete into the new market.

Our aim is to compare three modes of entry, understood as governance choices, in order to access capabilities required for being competitive in a new industry. We show that the later the timing of entry the more a firm relies on acquisitions and alliances. Acquisition is chosen for accessing specific capabilities, but the market transaction mode is preferred to alliances.

The paper proceeds as follows. Section I briefly reviews the literature on order of entry and modes for accessing new capabilities. Section II presents and discusses an empirical framework for better understanding market entry strategies in the context of innovation. Section III outlines the main features of the empirical study. Finally, new perspectives for strategic management are discussed in section IV.

Literature review and Theoretical background

Much of the literature on market entry has focused on the order of entry and its link to firm performance. The debate was mostly centered on whether the order of entry can result in a first - or late – mover advantage. Despite theoretical contributions (Gal-Or 1985; Lieberman and Montgomery 1988; Dutta, Lach and Rustichini 1995; Maggi, 1996) and empirical evidence (Urban, Carter, Gaskin and Mucha, 1986; Cho, Kim and Rhee, 1998; Shamsie, Phelps and Kuperman, 2004) that first movers do not always earn advantages, academic research predominantly advocates early market entry (Narasimhan and Zhang, 2000: 314).

Another body of research has focused on the mode of entry with a diversification perspective (Lamont and Anderson, 1985; Busija, Neill, and Zeithaml, 1997). In this literature, the mode of entry is viewed as a stand-alone decision. One exception is Lamont and Anderson (1985) who adopted a mixed view of corporate diversification by studying the combination between internal development and acquisition. Since then, there was no further research along this line and the literature continues to envision market entry as a stand-alone and finite decision. But anecdotal evidence shows that entry into a new market can hardly be reduced to, for instance, one acquisition or one alliance. Firms enter a new market by developing capabilities over time and market entry strategies imply the recourse to several modes.

We will therefore review the literature on three organizational choices (alliance, acquisition, and market transaction) as market entry tools, with direct consequences on firm boundaries.

Acquisition of Firms for Controlling Competencies

Acquisitions serve as substitute for innovations (Hitt et al., 1990) and allow firms to undertake substantial expansions of resources that might be difficult to develop internally (Karim and Mitchell, 2000). They can also allow a quick entry into a market (Biggadike, 1978; Hennart and Park, 1993).

But firms that make acquisitions have to integrate acquired capabilities within the firm, which also takes time and can be hazardous (Capron, 1999). Using acquisitions to access capabilities can be costly, for reasons ranging from legal constraints to the necessity of leveraging acquired capabilities (Hennart, 1988; Kogut, 1988, 1991; Quélin, 1997; Barney, 1999). In rapidly evolving industries, this cost can be particularly high and acquisitions constrain a firm's options in a costly-to-reverse way (Barney, 1999).

Acquisitions are not exempt of moral hazard issues since the acquirer can find it difficult to assess the value of the acquired resources and may encounter a performance downturn of the acquired personnel (Chi, 1994).

Another disadvantage of the acquisition mode is that it involves a high level of commitment from the acquiring firm (Roberts and Berry, 1985).

Overall, there is no empirical consensus on the expected returns from acquisition (Quélin, 1997; Karim and Mitchell, 2000). Nevertheless, one can argue that reselling an acquired firm whose capabilities do not meet expectations can be a reasonable opt-out option.

Alliances: Accessing Capabilities and Combining Resources

An alliance is another way of accessing missing capabilities or combining resources in order to create new capabilities (Prahalad and Hamel, 1990; Hamel, 1991). They are often used to access resources possessed by other firms (Ring and Van den Ven, 1992; Hamel and Prahalad, 1994).

Alliances can strengthen the capability base of a firm (Kogut, 1988; Hamel, 1991). They have been proven to be a way to access capabilities more quickly than through in-house development, to share the risk, to diminish uncertainty, and to benefit from reversibility (Balakrishnan and Wernerfelt, 1986; Hagedoorn, 1993; Parkhe, 1993). Firms can also use alliances as a way to gain an early window on emerging opportunities they may decide to commit to more fully in the future (Mitchell and Singh, 1992).

Organizing transactions through hybrid forms alleviates some of the bureaucratic and shirking costs associated with a more hierarchical mode (Williamson, 1991a). On the other hand, this mode can be less useful because adaptations cannot be made unilaterally or by fiat

(Williamson, 1991a). Moreover, weak regimes of appropriability (Teece, 1986) increase the cost of hybrid contracting as compared to hierarchy (Williamson, 1991a).

Reversing an alliance that does not satisfy the partners' expectations or is not aligned with the evolution of the market is a reasonable option. But one downside of alliances is that the firm is not able to fully control jointly developed capabilities. The economic rent has to be shared between partners.

The success of an alliance is linked to the absorptive capacity developed over time (Cohen and Levinthal, 1990), which is itself a function of the knowledge possessed by the firm (Klavans and Deeds, 1997).

MARKET TRANSACTION: FACING SUPPLIERS AND SERVICE PROVIDERS

Market transactions have been thoroughly studied in contrast to the choice of hierarchy. Transaction cost economics assumes that the market solution is more costly than the hierarchy when exchanges are surrounded by a high level of uncertainty and specific assets are involved (Williamson, 1975).

Although market failure for knowledge-related transactions is widely documented, researchers have also highlighted that new skills can be accessed through the market (Pisano, 1990; Steensma and Fairbank, 1999; Van den Ende, 2003). Accessing external capabilities through a market transaction is quicker than through other modes. However, since knowledge remains outside the boundaries of the firm, using that mode does not allow the appropriation of new capabilities. One advantage of market transactions is the high degree of flexibility, but opportunism has been proven to be a downside of this mode (Williamson, 1975).

MODE AND *T*IMING OF *E*NTRY: DEFINING THE *G*OVERNANCE *C*HOICE

This section sets out the theoretical framework to predict the choices made between alliances, acquisitions, and market transactions. Facing an innovation, firms have to evaluate the efficiency of each mode. Here we consider more specifically the timing of entry and the type of capabilities needed. We compare the alliance and the acquisition modes with the market transaction mode. Our hypotheses therefore take that into account.

Timing of Entry

First entrants in a new industry possess unique capabilities. In our framework, we assume

that all actors need to access new capabilities. Because high-growth potential markets tend to encourage market entry (Aaker and Day, 1986; Day and Schoemaker, 2000), other entries are very likely. Anticipating that other actors will enter the market, first-movers try to develop first-mover advantages (Lieberman and Montgomery, 1988) by reinforcing the uniqueness of their offers. One advantage of developing capabilities internally is the higher appropriability of such capabilities. Accumulating imperfectly substitutable assets and hard to imitate competencies (Markides et Williamson, 1994) allows firms to strengthen their strategic advantage.

During the initial stage of a new industry, alliances are also a means to share the risk and to diminish the uncertainty (Barney, 1999). Many first-entrants are new actors lacking key complementary assets (Teece, 1986). A willingness to share the risk combined with a lack of capabilities should lead new entrants to engage in partnerships. In addition, partnerships help new actors increase their subsequent performance (Baum, Calabrese and Silverman, 2000).

The newness of an industry limits the availability of potential targets for acquisition (Robinson, Fornell and Sullivan, 1992), thus making acquisitions a limited option for first-movers. Moreover, there should be few suppliers possessing the relevant knowledge with whom to engage into market transactions.

Whatever the reasons leading to their late-move, firms in this category face specific challenges. Even if late-movers can manage to get a superior strategic advantage (Lieberman and Montgomery, 1988), they have to compete with existing offers. Indeed, an innovative offer has already been introduced onto the new market and first-movers have dedicated time and resources to building new capabilities. Consequently, the time necessary to access new capabilities within a reasonable timeframe represents a key challenge for late-movers. Because time-compression diseconomies, asset mass efficiencies, asset interconnectedness, and causal ambiguity tend to impede a rapid accumulation of assets (Dierickx and Cool, 1989), internal development is a lengthy option. Therefore, firms being late-movers should not make internal development their primary choice.

Alliances should be considered a viable option because they accelerate the time needed to access new capabilities and allow access to missing capabilities. Contrary to first-movers for whom acquisitions are not an option, late-movers can expect the number of potential targets for acquisition to have increased. Potential acquisition targets may be new entrants having participated in the introduction of new offers but lacking the capabilities and complementary assets to further develop their advantage (Teece, 1986).

This discussion suggests the following hypotheses:

> *Hypothesis 1a (H1a): In an emerging industry, the later the timing of the move the lesser the alliance mode is favored over the market transaction mode.*
>
> *Hypothesis 1b (H1b): In an emerging industry, the later the timing of the move the more the acquisition mode is favored over the market transaction mode.*

Specificity of capabilities

As discussed above, participating into an innovative market requires the acquisition of different capabilities. Not all capabilities are equal in terms of specificity. For instance, in the online brokerage market – the setting of our empirical study – the degree of specificity of the online brokerage technology is high whereas assets related to, for example, Customer Relationship Management (CRM) are much less specific. The degree of specificity of the capabilities can be envisioned as a continuum influencing the governance choice.

General predictions of scholars stipulate that the higher the degree of asset specificity the more a firm will favor the hierarchy whereas non specific assets will be managed through market transactions (Williamson, 1975, 1991a; Pisano, 1990; Brouthers and Brouthers, 2003).

Here we extend this notion of specific assets and we hypothesize that the more specific the capabilities to be acquired the more the acquisition mode or the alliance mode will be favored.

> *Hypothesis 2a: In an emerging industry, the higher the specificity of the required capabilities, the more a firm will favor an acquisition over a market transaction.*
>
> *Hypothesis 2b: In an emerging industry, the higher the specificity of the required capabilities, the more a firm will favor an alliance over a market transaction.*

The Empirical Study

THE ONLINE BROKERAGE INDUSTRY

The empirical setting is the U.S. online brokerage industry. This industry presents several characteristics that make it a good candidate to empirically analyze our research question: the introduction of innovative offers, a need for new competencies, a high-level of uncertainty – notably in terms of government regulation, and the anecdotal evidence that firms have made differentiated choices in terms of competencies and modes of governance. Another argument for choosing this industry, and not the least when studying competencies, is that the frontiers

of competencies are rather well delineated and well understood by industry players. Furthermore, the newness of the online brokerage allows tracing rather meticulously what has occurred within the emerging phase of the industry (Claude-Gaudillat and Quélin, 2004).

Traditionally characterized by robust growth, and generous profit margins, the brokerage industry has been revolutionized by the diffusion of the Internet. Until the online trading revolution, competition in this industry was divided between full-service brokers (e.g. Merrill Lynch, Morgan Stanley), and discount brokers (e.g.: Charles Schwab, Quick & Reilly). The emergence of pure online brokers (e.g.: E*Trade, WebStreet) has blurred the frontiers between full-service and discount offers. Online equity trading by individuals jumped to 27% in 2000. Full-service brokers have been laggard in their answer to the emergence of online offers. For instance, the online trading market shares of Charles Schwab, E*Trade, Ameritrade, and Datek amounted to 57,2 % during the second quarter of 2000 while the market share of Merrill Lynch was 3.3%. In 1990, leading full-service brokers controlled 84% of U.S. investment accounts. By the end of 1999, their market share had dropped to 55%.

Data collection and Dataset

First, we interviewed 10 managers of online brokers in San Francisco during the Spring of 2002. This first step allowed us to establish the profile of six capabilities needed to operate in that new industry and the degree of specificity of the required capabilities.

- - - - - - - - - - - - - - - - - - - -

Insert Table 1 about here

- - - - - - - - - - - - - - - - - - - -

The second step of our data collection process was centered on the construction of a database identifying the moves made by online brokers to access capabilities that took place between 1994 and 2000. Our starting point for identifying the actors having entered the industry was the list established by the Security and Exchange Commission (SEC) at the end of 1999.

Secondary data were collected by using companies' reports, companies' websites, newspapers, professional newsletters, online database and financial reports. ABI/Inform Global, Factiva, Forrester Research, Hoovers, Investext, Lexis-Nexis, MultexNet, NASDR, Reuters Business Insight and OneSource. In total, several thousand articles were analyzed. Our dataset includes 897 moves made by 98 firms.

Operationalization and Measures of Variables

Dependent variable

The dependent variable of our model is the *Mode of Access* to complementary competencies. It takes the value Acquisition, Alliance or Market transaction.

Independent variables

The variable *Year of move* is a numerical variable.

The variable *Degree of Specificity* is an ordinal variable taking the following values: 6 for Brokerage capability, 5 for Trading technology, 4 for Investment decision, 3 for Investment products, 2 for CRM /Facilitation, 1 for Marketing, 0 for Others.

Control variables

We control for several effects, the first of which is Market opportunity. Market opportunity is measured each year by the value of the NASDAQ market at the end of the previous year. Also, we assume that the ownership status of firms entering the new market may impact governance choices. Publicly traded firms, by contrast to private firms, should be more likely to engage into alliances and acquisitions. The Ownership Status dummy variable is used to identify this effect. The third control variable is the Age of the firm. Indeed, the older the firm the more embedded its organizational routines and hence, the lesser its flexibility vis-à-vis the new market.

Statistical method

For the statistical test, we use the multinomial logit (MNL) that is the most commonly used method for testing our category of dependent variable, i.e. an unordered and categorical dependent variable (Long and Freese, 2003).

Results

The means and standard deviation bi-variate correlations for key variables are shown in Table 2. Bi-variate correlations are reported in Table 3.

- -

Insert Table 2 and Table 3 about here

- -

Results of the multinomial logit are reported in Table 4.

- - - - - - - - - - - - - - - - - - - -

Insert Table 4 about here

- - - - - - - - - - - - - - - - - - - -

Our results indicates that the later the timing of the entry move, the more the firm will rely on acquisitions and alliances to access new competencies vis-à-vis the market transaction mode. The coefficient of the variable Year of Move is not significant for the Acquisition category. This result provides no support for hypothesis 1a. The hypothesis 1b is fully supported ($p<0.01$).

The coefficient of the variable Type of capability is positive and significant ($p<0.001$) for the Acquisition category. Hypothesis 2a, which predicted that the more specific the type of capability the more a firm will rely on an acquisition, is fully supported.

The coefficient of the variable Type of capability is negative and significant ($p<0.001$) for the Alliance category. This result is therefore contradictory to Hypothesis 2b, which predicted that the more specific the type of capability the more a firm will rely on an alliance vis-à-vis a market transaction.

Results for control variables are mixed. Being a publicly traded firm has a positive and significant impact ($p<0.1$) on the propensity towards making an Acquisition while the effect on the Alliance mode is negative but insignificant. The Age of the firm has a positive but non significant impact on the propensity towards making an Acquisition while the effect on the Alliance mode is negative and significant ($p<0.1$). The evolution of the Nasdaq index has a negative effect both on acquisitions and alliances but this effect is significant only for latter mode ($p<0.1$).

Discussion and Perspectives for Strategic Management

This paper has sought to develop a framework and an empirical study aimed at better understanding the strategies adopted by firms to enter a new market. In doing so, we want to enrich the existing knowledge on entry market strategies by adopting a less static and binary view than what has prevailed up to now.

We drew upon several bodies of knowledge, using market entry, resource-based view and transaction-cost arguments, to develop a model integrating three dimensions: the type of move, the timing of the move, and the degree of specificity of the capabilities to be accessed. We tested these hypotheses by using original data from the online brokerage market for the

time period 1994-2000. Our sample comprised 897 observations split between acquisitions, alliances, and market transactions.

The first insight from our research, which is supported by our data, is that firms make choices based on the timing of the move: the later the move made the more firms will favor non-market modes to access new competencies. Indeed, our empirical test indicated that firms will favor acquisitions and alliances to the detriment of market transactions. One explanation might be that, contrary to the general prediction, environmental uncertainty, which is one key characteristics of a new market, will lead firms to favor hierarchical or hybrid modes.

The second major insight, and certainly the most striking one, is that market transactions are used to access specific capabilities, which is counter-intuitive both for the resource-based and the transaction-cost economics paradigms. Among the modes available for accessing new competencies, market transaction is still the most flexible one. By adopting market transactions, firms might therefore be leaning more towards flexibility than towards commitment. This explanation is in line with Pisano (1990) who showed that external sources can be used when firms face a make-or-buy decision in the aftermath of technological change.

A complementary explanation would be that suppliers or service providers with a good control of some capabilities and competencies can enjoy a competitive position (Afuah, 2003) that make signing market transactions with them an efficient solution for firms entering the new market.

To explain the limited recourse to alliances, another argument could be the diminishing interest to sign an alliance over time because of the decreasing number of partners available.

An alternative view might be that some firms entering the new online brokerage market did not possess enough internal resources to engage into alliances or acquisitions (or even internal development). Market transactions, even if considered as less attractive from an efficiency standpoint, might therefore have been chosen as a per default mode.

This research suffers from several limitations. Firstly, we caution against over-generalizing the results of this research. Three governance choices for entry were observed, the small number of alliances observed limits our ability to discriminate with statistical power. Moreover, the Internet brokerage industry studied is not representative of all service industries.

Secondly, only three governance choices were studied and, as explained earlier, the internal

development mode was not examined. Our data collection process –secondary data – did not allow us to directly observe the role of the internal development mode in market entry strategies even if we acknowledge the established role of internal growth for developing competencies, skills and capabilities to cope with innovation.

A third limitation is that the statistical method used constrained our analysis towards having a category of reference, i.e. the market transaction mode. The research employed simple tests to see whether contrasts between selected dimensions and choices of governance occur in the anticipated direction. Empirical support for our hypotheses indicates that the governance choice model for entry helps explain some non-obvious predictions. However, an adequate test of our model might require more complex modeling.

Moreover, in this study, we did not undertake a separate analysis for different sizes and categories of companies. Small and large firms, incumbent, startups or new entrants might very well adopt different strategies for entering a new market.

Finally, we want to conclude by identifying additional directions for future research that might prove fruitful. Indeed, there is clearly much left to do to build our knowledge of market entry strategies. Until now, market entry has mostly been envisioned as a static and finite process. Through this research, we advocate for a more dynamic view of market entry over a continuum that better takes into account the tendency of new innovations to be complex and disruptive.

We do not account for firm-specific characteristics that Mitchell (1989) and Schoenecker and Cooper (1998) found to be determinants of entry timing for incumbents moving into new subfields. In keeping with the resource-based view of the firm, future empirical research could use proxies such as entrepreneur's capabilities, past entry experience to explore determinants of entry timing for both incumbents and new entrants (Nelson and Winter, 1982; Teece et al., 1997: 520-521).

Another area of research is related to service innovation. Technological innovation has received most of the attention of researchers but there is a deficit of studies on service innovation (Pennings and Harianto, 1992; Brouthers and Brouthers, 2003).

Finally, incumbents are less likely to enter earlier than startups, for example, if the underpinning knowledge is very different from existing incumbent knowledge base. It would therefore be interesting to go deeper into the details of capabilities and co-specialized assets both for incumbents and de novo firms.

Bibliography

Aaker, D. 1986: The Perils of High-growth Markets, *Strategic Management Journal,* 7(5): 409-421.

Abell, D. 1978: Strategic Windows, *Journal of Marketing*, July, 21-26.

Afuah, A. 2003: Redefining firm boundaries in the face of the Internet: are firms really shrinking? *Academy of Management Review,* 28(1): 34–53.

Balakrishnan, S. and Wernerfelt, B. 1986: Technical change, competition, and vertical integration, *Strategic Management Journal*, 7(4): 347-359.

Barney, J. 1986: Strategic factor markets, expectations, luck, and business strategy, *Management Science,* 32(10): 1231–1241.

Barney, J. 1991: Firm resources and sustained competitive advantage, *Journal of Management*, 17(1): 99–120.

Baum J., Calabrese T., and Silverman B. 2000: Don't go it alone: Alliance network composition and startup's performance in Canadian biotechnology, *Strategic Management Journal*, 21(3): 267-294

Biggadike, R. 1979: *Entry, Strategy, and Performance.* Boston, MA: Harvard University Press.

Brouthers, K., Brouthers, L., and Werner, S. 2003: Transaction cost-enhanced entry mode choices and firm performance, *Strategic Management Journal*, 24 (12): 1239-1248.

Busija, E., O'Neill, H., and Zeithaml, M. 1997: Diversification strategy, entry mode, and performance: Evidence of choice and constraints, *Strategic Management Journal*, 18(4): 321-327.

Capron, L., 1999: The long-term performance of horizontal acquisitions, *Strategic Management Journal,* 20 (11): 987-1018

Cho, D., Kim, D., and Rhee, D. 1998: Latecomer strategies: Evidence from the semiconductor industry in Japan and Korea, *Organization Science*, 9(4): 489–505.

Christensen, C. 1997: *The Innovator's Dilemma*, Boston: Harvard Business Press.

Christensen, C. and Rosenbloom R. 1995: Explaining the attacker's advantage: technological paradigms, organizational dynamics, and the value network, *Research Policy*, 24(2): 233-257.

Claude-Gaudillat V. and Quélin, B. 2004: Nouvelles compétences et modes d'accès : l'exemple du courtage en ligne, *Revue Française de Gestion*, 149: 133-151.

Claude-Gaudillat V. and Quélin, B. 2003: Dynamic competition and development of new competencies: the case of the internet consulting industry, In A. F. Buono (Ed.), *Research in Management Consulting Series,* 137-166.

Cohen, W. and Levinthal, D. 1990: Absorptive capacity: a new perspective on learning and innovation, *Administrative Science Quarterly*, 35(1): 569-596

Conner, K. and Prahalad, C. 1996: A Resource-based View of the Firm: Knowledge vs. Opportunism, *Organization Science*, 7: 477-501.

Cooper, A. and Smith, S., 1992: How established firms respond to threatening technologies, *Academy of Management Executive*, 6(2): 55-70.

D'Aveni, R. 1999: Strategic supremacy through disruption and dominance, *Sloan Management Review*, 40(3): 127-135.

Day, G. and Schoemaker, P. 2000: Avoiding the pitfalls of emerging technologies, *California Management Review*, 42(2): 8-33.

Dierickx, I. and Cool, C. 1989: Assets and stock accumulation and sustainability of competitive advantage, *Management Science*, 35(12): 1504-1511.

Dutta, P. K., Lach, S. and Rustichini, A. 1995: Better late than early: Vertical differentiation in the

adoption of a new technology, *Journal of Economics and Management Strategy*, 4(4): 563–589.

Folta, T. B. and O'Brien, J. P. 2004: Entry in the presence of dueling options, *Strategic Management Journal*, 25(2): 121–138.

Gal-Or, E. 1985: First mover and second mover advantages, *International Economic Review*, 26(3): 649–653.

Ghemawat, P. 1991: *Commitment*, New York: Free Press.

Ghemawat, P. and del Sol, P. 1998: Commitment versus flexibility?, *California Management Review,* 40(4): 26–42.

Hagedoorn, J. 1993. Understanding the rationale of strategic technology partnering, *Strategic Management Journal*, 14(5): 371-385.

Hamel, G. 1991: Competition for competence and interpartner learning within international strategic alliances, *Strategic Management Journal*, 12(1): 83-103.

Hamel, G. and Prahalad, C., 1994: *Competing for the Future.* Boston, MA: HBS Press.

Henderson, R. and Clark, K. 1990: The reconfiguration of existing product and the failure of established firms, *Administrative Science Quarterly*, 35(1): 9-30.

Henderson, R. and Cockburn, I. 1994: Measuring competence? Exploring firm effects in pharmaceutical research, *Strategic Management Journal*, 15(8): 63-84

Hennart, J.F. 1988: A transaction costs theory of equity joint ventures, *Strategic Management Journal,* 9(4): 361-374.

Hennart, J-F. and Park, Y. 1993: Greenfield vs. acquisition: The strategy of Japanese investors in the United States, *Management Science*, 39(9): 1054-1070.

Hill, C. and Rothaermel, F. 2003: The performance of incumbent firms in the face of radical technological innovation, *Academy of Management Review,* 28(2): 257-274.

Karim, S. and Mitchell, W. 2000: Path-dependent and path-breaking change: reconfiguring business resources following acquisitions in the U.S. medical sector, 1978-1995, *Strategic Management Journal*, 21(10-11): 1061-1081.

King A. and Tucci, C. 2002: Incumbent Entry into New Market Niches: The Role of Experience and Managerial Choice in the Creation of Dynamic Capabilities, *Management Science*, 48(2): 171–186.

Klavans, R. and Deeds, D. 1997: Competence building in biotechnology start-ups: The role of scientific discovery, technical development and absorptive capacity, in R. Sanchez and H. Heene, editors, *Strategic Learning and Knowledge Management*, London: John Wiley & Sons Ltd.

Knight, F. 1965 [1921] : *Risk, Uncertainty, and Profit,* New York: Harper & Row

Kogut, B. 1988: Joint ventures: Theoretical and empirical perspectives, *Strategic Management Journal*, 9(4): 319-332.

Kogut, B. 1991: Joint ventures and the option to expand and acquire, *Management Science*, 37(1): 19–33.

Lamont, B. and Anderson, C. 1985: Mode of Corporate Diversification and Economic Performance, *Academy of Management Journal*, 28(4): 926-934.

Lieberman, M. and Montgomery, D. 1988: First-mover advantages, *Strategic Management Journal* 9: 41–58.

Lieberman, M. and Montgomery, D. 1998: First-mover (dis)advantages: Retrospective and link with the resource-based view, *Strategic Management Journal,* 19(12): 1111–11125.

Maggi, G. 1996: Endogenous leadership in a new market, *RAND Journal of Economics*, 27(4): 641-659.

Makadok, R. 1998: Can first-mover and early-mover advantages be sustained in an industry with low barriers to entry?, *Strategic Management Journal*, 19(7): 683–696.

Markides, C. 1999: *All the Right Moves: A Guide to Crafting Breakthrough Strategy*. Boston, MA, Harvard Business School Press

Markides, C. and Williamson, P. 1994: Related diversification: Core competencies and corporate performance, *Strategic Management Journal*, 15(2): 149-165.

Mitchell, W. 1989: Whether and when? Probability and timing of incumbents' entry into emerging subfields, *Administrative Science Quarterly,* 34(2): 208–230.

Mitchell, W. and Singh, K., 1993: Death of the lethargic: Effects of expansion into new technical subfields on performance of a firm's base business, *Organization Science*, 4(2): 152-179.

Narasimhan, C. and Zhang, Z. 2000: Market entry strategy under firm heterogeneity and asymmetric payoffs, *Marketing Science* 19(4): 313–327.

Nelson, R. and Winter, S.G. 1982: *An Evolutionary Theory of Economic Change.* Cambridge, MA: Harvard University Press.

Pennings, J. and Harianto, F. 1992: The diffusion of technological innovation in the commercial banking industry, *Strategic Management Journal*, 13(1): 29-46.

Pisano, G.P. 1990: The R&D boundaries of the firm: Empirical analysis, *Administrative Science Quarterly*, 35(1): 153-176.

Prahalad, C. and Hamel, G. 1990: The core competence of the corporation, *Harvard Business Review*, 68: 79-93.

Quélin, B. 1997: Appropriability and creation of new capabilities through strategic alliances, in R. Sanchez and H. Heene (ed.), *Strategic Learning and Knowledge Management*, London: John Wiley and Sons Ltd.

Ring, P. and Van Den Ven, A. 1992: Structuring cooperative relationships between organizations, *Strategic Management Journal*, 13(7): 483-498.

Roberts, E. and Berry, C. 1985: Entering New Businesses: Selecting Strategies for Success, *Sloan Management Review,* 26(3): 3-17

Robinson, W., Fornell, C. and Sullivan, M. 1992: Are market pioneers intrinsically stronger than later entrants?, *Strategic Management Journal*, 13(8): 609–624.

Rosenberg, N. 1976: *Perspectives on Technology.* Cambridge, MA: Cambridge University Press

Rosenbloom, R., 2000: Leadership, capabilities, and technological change: The transformation of NCR in the electronic era, *Strategic Management Journal*, 21 (10-11): 1083-1103.

Schoenecker, T. and Cooper, A. 1998: The role of firm resources and organizational attributes in determining entry timing, *Strategic Management Journal*, 19 (12): 1127-1143.

Schumpeter, J., 1934: *The Theory of Economic Development*.Cambridge, MA: Harvard University Press

Shamsie, J., Phelps, C., and Kuperman, J. 2004: Better late than never: A study of late entrants in household electrical equipment, *Strategic Management Journal*, 25(1): 69–84.

Steensma, H. and Fairbank, J. 1999. Internalizing external technology: A model of governance mode choice and an empirical assessment, *Journal of High Technology Management Research*, 10(1): 1-35

Teece D., Pisano, G., and Shuen, A. 1997: Dynamic capabilities and strategic management, Strategic Management Journal, 18(7): 509-533

Thomas, L. 1999: Adoption order of new technologies in evolving markets, *Journal of Economic Behavior and Organization*, 38(4): 453-482

Tripsas, M. 1997: Unraveling the process of creative destruction: Complementary assets and incumbent survival in the typesetter industry, *Strategic Management Journal,* 18(6): 119–142.

Tushman M. and Anderson P. 1986: Technological discontinuities and organizational environment, *Administrative Science Quarterly*, 31(3): 439-456.

Urban, G., Carter, T., Gaskin, S. and Mucha, S. 1986: Market share rewards to pioneering brands: an empirical analysis and strategic implications, *Management Science*, 32(6): 645–659.

Van den Ende, J., 2003: Modes of governance of new service development for mobile networks: A life cycle perspective, *Research Policy*, 32(8): 1501-1518.

Williamson, O. 1975: *Markets and hierarchies: Analysis and antitrust implications.* New York, NY: Free Press.

Williamson, O. 1991a: Strategizing, economizing, and economic organization, *Strategic Management Journal*, 12(1): 75-94.

Table 1: Online Brokerage: Businesses and Capabilities

Brokerage capability	*Trading technology capability*	*Investment decision capability*	*Investment products capability*	*CRM /Facilitation capability*	*Marketing capability*

Table 2: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min.	Max.
MODE ACC	917	3.562704	.6248533	2	4
TIMING	917	1998.646	1.239724	1994	2000
DEGREE SPEC	917	2.909487	1.83414	0	6
NASDAQ	917	2373.157	168.986	752	4069
OWNERSHIP	915	.6229508	.530181	0	7
AGE	899	15.46607	12.96345	0	182

Table 3: Bi-variate correlations

	MODE ACC	TIMING	DEGREE SPEC	NASDAQ	OWNERSHIP	AGE
MODE ACC	1.0000					
TIMING	-0.0312	1.0000				
DEGREE SPEC	0.0588	-0.0828	1.0000			
NASDAQ	0.0133	0.7990	-0.0751	1.0000		
OWNERSHIP	-0.0754	-0.0242	-0.1393	-0.0234	1.0000	
AGE	-0.0645	-0.0754	0.0338	-0.0616	0.1204	1.0000

Table 4: Results of the multinomial logit

	Acquisition // Market transaction	**Alliance // Market transaction**
Independent var.		
Timing	.17 (.17)	.19* (.11)
Degree of Specificity	.42*** (.09)	-.38*** (.047)
Control variables		
Age of the firm	.01 (.01)	-.013* (.008)
Ownership	-.03* (.17)	-.03 (.16)
Nasdaq index	-.001 (.001)	-.0002* (.001)
Constant	-349.08 (350.37)	-378.97* (218.91)
Pseudo R2 Log. likelihood Nb. observations	0.0873 -686.70534 897	

Value in parentheses are standard errors * p > 0.9 ** p > 0.95 *** p >0.99