

**Momentum, Imitation, and Learning:  
Evidence from and Effects on the U.S. Retail Industry**

**Jens L. Boyd**

Free University of Berlin, Department of Business Administration, Berlin, Germany  
Garystr. 21, 14195 Berlin, Germany

*and*

McKinsey & Company, Berlin, Germany  
Kurfuerstendamm 185, 10707 Berlin, Germany  
tel.: +49-177-487-2156, e-mail: Jens\_Boyd@mckinsey.com

**Rudi K. F. Bresser**

Free University of Berlin, Department of Business Administration, Berlin, Germany  
Garystr. 21, 14195 Berlin, Germany

tel.: +49-30-8385-4055, e-mail: bresser@wiwiss.fu-berlin.de

**24<sup>th</sup> Annual International Conference,  
Strategic Management Society, 2004, San Juan, PR  
Nominated for the SMS Best Conference Paper Prize**

## **Abstract**

We study the occurrence and performance effects of organizational learning in the U.S. retail industry. Six modes of choosing competitive actions are distinguished: momentum, blind imitation, learning from own success, learning from others' success, risk-related learning, and opportunity-related learning. We find that momentum, blind imitation, and risk- as well as opportunity-related learning are prevalent. Further, the results point to the importance of inter-organizational learning. Firms in this industry should have used the past actions of their competitors as a benchmark, but seem to have failed to realize this necessity.

## INTRODUCTION

Competition has steadily increased over the last decades with industry barriers diluting and value chains deconstructing (D'Aveni, 1994; Hitt et al., 1998; Bresser et al., 2000). Today, an unprecedented level of competitive activity can be observed around the world (Grimm & Smith, 1997). This increase in rivalry makes it important to understand how competitive actions evolve, and whether firms learn from their past activities or their competitors' actions.

Several propositions are available from different theoretical backgrounds about why and how companies change competitive actions over time. Assuming intentional strategic choice, the existing literature suggests at least three manners in which competitive action patterns can be transformed.

First, the *momentum proposition* suggests that management favors specific types of actions irrespective of what competitors do, and whether or not past actions proved successful (Miller & Friesen, 1984). One reason for such behavior could be superior insight into the business or market which allows companies to design a superior path of actions without reference to past or current actions in the marketplace. However, frequently momentum may be a sign of inertia and insensitivity to the environment. Thus, some scholars argue that momentum behavior does not enable a company to respond to competitive challenges effectively (Kelly & Amburgey, 1991).

Second, the *imitation proposition* describes companies that rely on their competitors to design their own actions over time, in that actions are copied from competitor moves. For instance, institutional theories interpret such behavior as a quest for legitimacy: Companies align their actions to an accepted reference pattern because they want to secure the support of key stakeholders (Suchman, 1995; Deephouse, 1999).

Third, the *learning proposition* suggests that companies choose those types of actions that have proven successful in the past (Greve, 2003; Levitt & March, 1988). There are different variants to the learning proposition with respect to whom to learn from. But in general, the learning approaches assume stable environmental conditions, and an ability to understand and replicate past successful actions. If these conditions hold - difficult as that may be - learning might be a superior way of choosing paths of actions, because the success of those actions has been proven.

This paper contrasts these alternative propositions for keeping or changing actions over time, and considers their relative success. A seven-year dataset of competitive actions from the U.S. retail industry is used to empirically validate different types of action pattern evolution, and to test for their impact on performance.

## LITERATURE REVIEW

### Momentum

The choice of actions is determined by many factors, including the top management's interpretation of the competitive setting and a company's capabilities (Chen et al., 2002). Considering these two factors, a company may stick to its actions over time for two reasons. On

the one hand, top management might perceive the competitive setting - rightly or wrongly - as stable and past actions as appropriate, which removes any need to change the way a company acts in the marketplace (Miller et al., 1996). In this instance, momentum represents an intentional choice. On the other hand, top management might perceive a need to change actions, but the company may lack the required capabilities to do so. In this case, momentum is imposed rather than intentional.

It is not possible to predict performance differences between intentional versus imposed momentum behavior. In particular, one cannot suggest that intentional momentum will yield higher returns than imposed momentum, because such a proposition would assume that top management perceptions and interpretations are generally correct. It has been shown that, at times, top managers construct their world in a way to support their past behavior, irrespective of whether their past behavior had actually been appropriate or successful (Abrahamson & Park, 1994).

### **Imitation**

Imitation provides an alternative way to managers to design the action patterns of their companies that is less prone to perceptual or interpretational difficulties. In fact, imitation provides an easy and accessible way for top managers to avoid the need of interpreting business environments. In principle, such avoidance is questionable because imitation is unlikely to generate superior and sustainable performance (Hayagreeva et al., 2001; Deephouse, 1999): The manager may be perceived as being too lazy to actively optimize the company's competitive position. However, if managers realize that a particular setting is too complex or too dynamic to be interpreted unambiguously, and that the risks involved in an unproven new strategy are too high, they may want to limit the downward risk of making the wrong choice by aligning themselves with the actions other companies undertook in their industry. Such an alignment will enable a company to keep pace with the mainstream development of the industry, and thus can be defended even if an industry's profitability decreases (Suchman, 1995).

This ability to explain behavioral choices by reference to several other competitors is a key argument in the institutional discussion, where principals or other resource providers want to be assured of a business' sustainability. In situations where risks are abundant and wrong choices might threaten the company's survival, these stakeholders might be unwilling to support untested strategies for fear of their investments.

### **Learning**

Another way to convince stakeholders of a chosen course of actions is by reference to the success that particular types of actions have had in the past. For example, a company might choose to focus on those actions that have proven successful in the past, while refraining from actions that have led to performance decreases. Assuming these experiences have provided valid signals, a higher performance should result because positive effects are maintained, while negative effects are being reduced (Levitt & March, 1988; Hayward, 2002).

The only problem with learning from one's own past actions is that, over time, repeated deletion of types of actions from a company's action pattern will lead to less and less variety of actions. Eventually, this reduction of behavioral options makes it impossible to face the competition effectively (Ashby, 1956). Also, new actions emerge that are highly successful, but

which will never be identified because they do not feature in past experiences. This phenomenon can be referred to as a form of myopia (Levinthal & March, 1993).

Therefore, learning should not just exploit the established, it should also explore the unknown (March, 1991). An obvious opportunity for exploration uses competitor experiences as a benchmark. Observing what competitors do and whether or not their actions proved successful can avoid the myopia implied in the above process (Haveman, 1993). However, learning from others might be difficult if a company lacks the required resources or capabilities to engage in new types of action.

Both intra-organizational and inter-organizational learning are mediated by the risk that managers are willing to assume. Risk-averse managers would choose to implement actions that have proven successful most of the time, while risk loving managers would select actions with less established performance effects to maximize the chances of selecting highly successful options.

## **HYPOTHESES**

We develop two sets of hypotheses with respect to the choice of action types and action patterns. The first set of hypotheses relates to the different categories of action type choices described above, namely momentum, imitation, and learning. Specifically, we distinguish six modes of how action types can be chosen: momentum, blind imitation, and four types of learning, because a firm's learning can focus on its own past behavior, observed competitor behavior, and additionally, different levels of risk. The second set of hypotheses refers to the consequences of these six modes of action pattern choice for a firm's future performance.

From our literature review we hypothesize that:

***H1a (Momentum):*** Companies repeat those actions that they have chosen in the past.

***H1b (Blind imitation):*** Companies choose actions that competitors chose in the past.

In the learning category, there are four options for learning: First, companies may learn from their own success or from the success of others by adopting those actions that, on average, had been the most successful. Such learning keeps the risk of making a mistake comparatively low. What follows is:

***H1c (Learning from own success):*** Companies repeat those actions that had the highest average performance in the past.

***H1d (Learning from others):*** Companies adopt those actions that had the highest average performance effects among their competitors in the past.

Second, companies may not refer to the average performance of past actions to guide their choice, because they assume that such learning allows for average performance only. For superior performance to obtain, these companies know that they have to assume risk. Therefore, we hypothesize that:

***H1e (Risk):*** Companies repeat those actions that had the highest degree of variability in performance in the past.

**H1f (Opportunity):** *Companies choose those actions that had the highest degree of variability in performance among their competitors in the past.*

It is difficult to predict whether a particular mode of action pattern choice will yield a higher overall performance. However, there are different levels of sophistication implied in the modes distinguished. Generally speaking, a higher level of sophistication implies a lower probability of failing to adapt to changing competitive environments. Therefore, we hypothesize in a transitive manner that:

**H2a:** *Different modes of action pattern design will lead to different levels of performance.*

**H2b:** *Blind imitation will lead to a higher performance than momentum.*

**H2c:** *Learning from one's own success will lead to a higher performance than blind imitation.*

**H2d:** *Learning from others will lead to a higher performance than learning from one's own success.*

**H2e:** *Risk will lead to a higher performance than blind imitation.*

**H2f:** *Opportunity will lead to higher performance than risk.*

## **METHODS**

### **Data and Variables**

Our research is based on a longitudinal dataset including 370 competitive actions of the 17 largest companies in the U.S. retail industry between 1994 and 2000. The retail industry is particularly suitable for our research, since it is highly competitive and media coverage of competitive actions is comprehensive. Competitive actions were identified through content analysis from the *factiva* database. Two independent reviewers verified the actions and organized them into nine action types: format, range, service, pricing, marketing, geographic expansion, direct channels, M&A, and legal actions.

Performance of the individual actions was assessed using an established event study methodology on stock market data (McWilliams & Siegel, 1997; MacKinlay, 1997). Daily quotes were available from *Commodity Services, Inc.* Company performance was measured using net income data available from *Moody's Company Database*.

Variables were constructed in line with existing methodology from competitive action patterns research (Miller & Chen, 1994; Ferrier et al., 1999). As is customary in action patterns research, 'competitive activity' of a company, i.e., the overall number of competitive actions in a given year, was introduced as a control variable.

### **Analysis**

The two sets of Hypotheses required different analytical approaches. The first set of Hypotheses was tested in a logistic regression model with the implementation of actions of a specific kind by

a company in a specific year as the dependent variable. With 17 companies and 9 action types for each of the six years considered, this resulted in a sample of 900 actions (18 data points had to be eliminated due to overlaid stock effect calculations). 1994 data were used to lag independent variables.

The second set of Hypotheses was tested using a one-way ANOVA (H2a) and independent sample *t*-tests for the relevant categories (H2b-H2f). Net income was used as the dependent variable. In order to perform the analysis, companies' action patterns were determined for each year. A comparison of action patterns from one year to the next, within and between competitors, was used to determine which mode of action pattern design had been applied. In addition to the modes described above, a residual category was introduced for action patterns that could not be mapped to either of them. In line with the notion of increasing sophistication, we have labeled the residual category as 'not even momentum'.

## PRELIMINARY RESULTS AND DISCUSSION

**Table 1** gives an overview of the results with regard to the first set of hypotheses. In our sample, momentum (H1a), blind imitation (H1b), risk (H1e) and opportunity (H1f) behavior could be observed. However, no intra-organizational learning from past success (H1c) seems to have appeared. In contrast to hypothesis H1d, successful actions of others lead to a decrease in these types of actions.

The ANOVA resulted in an *F*-value of 2.683 ( $p < .05$ ), supporting Hypothesis 2a. However, pairwise *t*-tests provided significant support only to Hypothesis H2d ( $t=2.751, p=.010$ ). Marginal support resulted for Hypotheses H2b ( $t=1.765, p=.064$ ), and a significant contradiction resulted for Hypothesis H2c ( $t=-2.523, p=.015$ ). H2e and H2f could not be confirmed.

Our results show that competitive action patterns can evolve in many different ways with modes of choice that vary in their degree of sophistication. Interestingly, no general tendency to repeat those actions that were successful in the past could be observed among our sample firms (H1c). Successful competitor actions have even inspired others to decreases in these action types (H1d). Our results are surprising for several reasons. On the one hand, the absence of intra-organizational learning and the resistance to inter-organizational learning is surprising because the effort of evaluating one's own success should be lower than that of estimating the performance effects of competitor actions. These behavioral choices also seem to be misguided given the result that learning from competitors yielded significantly stronger performance effects than intra-organizational learning (H2d). On the other hand, it is also surprising that even a blind imitation of competitors has better performance effects than intra-organizational learning (H2c).

In sum, these results point to the importance of inter-organizational learning, learning from the success of others. Firms in this industry should use the past actions of their competitors as a benchmark for their own choices of action, but seem to have failed to realize this necessity.

**TABLE 1: Logistic Regression Results**

<b>Independent Variables</b>	<b>B</b>		<b>S.E.</b>	<b>Wald</b>	<b>Model statistics</b>	
Intercept	-3.704	***	.365	102.976	<i>% correct</i>	83.3
Momentum	1.365	***	.426	10.264	<i>predictions</i>	
Learning from own success	.006		.199	.001	<i>tau-p</i>	.492
Risk	1.288	**	.508	6.432	<i>sig.</i>	.000
Blind imitation	5.027	***	1.266	15.760	<i>GM</i>	235.434
Learning from others	-.884	***	.277	10.185	<i>sig.</i>	.000
Opportunities	.433	*	.219	3.890		
Activity	.281	***	.028	99.622		

\*  $p \leq .05$ , \*\*  $p \leq .01$ , \*\*\*  $p \leq .001$



## REFERENCES

- Abrahamson, E., & Park, C. 1994. Concealment of negative organizational outcomes: An agency theory perspective. *Academy of Management Journal* 37: 1302–1334.
- Ashby, W. R. 1956. *An introduction to cybernetics*. London, UK: Chapman & Hall.
- Bresser, R. K. F., Heuskel, D., & Nixon, R. D. 2000. The deconstruction of integrated value chains: Practical and conceptual challenges. In: R. K. F. Bresser, M. A. Hitt, R. D. Nixon, & D. Heuskel (Eds.): *Winning Strategies in a Deconstructing World*. New York, NY: Wiley: 3–21.
- Chen, M–J., Venkataraman, S., Black, S. S., & MacMillan, I. C.. 2002. The role of irreversibilities in competitive interaction: Behavioral considerations from organization theory. *Managerial and Decision Economics* 23: 187–207.
- D’Aveni, R. A. 1994. *Hypercompetition: Managing the Dynamics of Strategic Maneuvering*. New York, NY: Free Press.
- Deephouse, D. L. 1999. To be different, or to be the same? It’s a question (and theory) of strategic balance. *Strategic Management Journal* 20: 147–166.
- Ferrier, W. J., Smith, K. G., & Grimm, C. M. 1999. The role of competitive action in market share erosion and industry dethronement: A study of industry leaders and challengers. *Academy of Management Journal* 42: 372–388.
- Greve, H. R. 2003. *Organizational Learning from Performance Feedback*. Cambridge, UK: Cambridge.
- Grimm, C. M. & Smith, K. G. 1997. *Strategy as Action: Industry Rivalry and Coordination*. Cincinnati, OH: South–Western.
- Haveman, H. A. 1993. Follow the leader: Mimetic isomorphism and entry into new markets. *Administrative Science Quarterly* 38: 593–627.
- Hayagreeva A., Greve, H.R., Davis, G. F. 2001. Fool's gold: Social proof in the initiation and abandonment of coverage by Wall Street agents. *Administrative Science Quarterly* 46: 502–526.
- Hayward, M. L. A. 2002. When do firms learn from their acquisition experience? Evidence from 1990–1995. *Strategic Management Journal* 23: 21–39.
- Hitt, M. A., Keats, B. W., & DeMarie, S. M. 1998. Navigating in the new competitive landscape: Building strategic flexibility and competitive advantage in the 21st century. *Academy of Management Executive* 12: 22–42.
- Kelly, D., Amburgey, T.L. 1991. Organizational inertia and momentum: A dynamic model of strategic change. *Academy of Management Journal* 34: 591–612.
- Levinthal, D. L., & March, J. G. 1993. The myopia of learning. *Strategic Management Journal* 14: 95–112.

- Levitt, B., & March J. G. 1988. Organizational learning. *Annual Review of Sociology* 14: 319–340.
- MacKinlay, A. C. 1997. Event studies in economics and finance. *Journal of Economic Literature* 35: 13–39.
- March, J. G. 1991. Exploration and exploitation in organizational learning. *Organization Science* 2: 71–87.
- McWilliams, A., Siegel, D. 1997. Event studies in management research: Theoretical and empirical issues. *Academy of Management Journal* 40: 626–657.
- Miller, D., Chen, M.–J. 1994. Source and consequences of competitive inertia: A study of the U.S. airline industry. *Administrative Science Quarterly* 39: 1–23.
- Miller, D., Friesen, P.H. 1984. *Organizations: A Quantum View*. Englewood Cliffs, NJ: Prentice-Hall.
- Miller, D., Lant, T. K., Milliken, F. J., & Korn, H. J. 1996. The evolution of strategic simplicity: Exploring two models of organizational adaptation. *Journal of Management* 22: 863–887.
- Suchman, M. C. 1995. Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review* 20: 571–610.