Innovation, Imitation, and New Product Performance: The Case of China

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ABSTRACT

This paper compares the effects of innovation and imitation strategies on new product performance and examines their contingency across different market conditions in China. The empirical results from a cross-industry survey show that, compared with an imitation strategy, an innovation strategy leads to better new product performance. Furthermore, the benefits of an innovation strategy over an imitation strategy become stronger as market demand is increasingly uncertain and technology changes rapidly. The authors compare the findings with the predictions put forward in previous Western-based literature and discuss the implications of the findings in light of China’s unique market characteristics.

KEYWORDS: New product introduction, innovation strategy, imitation strategy, competitive environment, China
The importance of innovation in new product developments is well recognized (Wind and Mahajan 1997), in that developing and bringing to market innovative products ahead of competitors can generate various benefits in economic, preemptive, technological, and behavioral factors (e.g., Kerin, Varadarajan, and Peterson 1992; Lieberman and Montgomery 1988). A successful innovator therefore can outsell even superior late entrants, build a large market share, and enjoy a sustainable competitive advantage (Bowman and Gatignon 1996; Carpenter and Nakamoto 1989; Robinson and Min 2002). From this perspective, firms should always invest heavily in R&D and speed new products to market, i.e., an innovation strategy is key to long-term success.

Some researchers, however, posit that the benefits of innovation and early market entry may have been oversold. Golder and Tellis (1993), for example, find that market pioneers continue to be market share leaders in only 4 of the 50 product categories in their study. The average market share of pioneers is only 10%, and their failure rate is 47%. In comparison, late market entrants enjoy low failure rates (8%) and large average market shares (28%). Schnaars (1994) shows that late entrants overtake pioneers in various markets, including high-tech industries such as personal computers and cameras, as well as low-tech categories such as food processors, ballpoint pens, and light beer. According to this view, firms can exploit the innovator’s efforts in developing the products and markets and then overtake it with their improved products (Shankar, Carpenter, and Krishnamurthi 1998; Zhang and Markman 1998). That is, an imitation strategy is a wiser choice for firms that want to gain a competitive advantage.

To address this debate, existing studies have devoted great attention to the direct comparison of innovation versus imitation strategies by assessing the performance differences
between pioneers and followers (e.g., Bowman and Gatignon 1996; Carpenter and Nakamoto 1989; Robinson and Fornell 1985; Robinson and Min 2002; Urban et al. 1986; Utterback 1994). However, because both innovation and imitation strategies have their own merits, which strategy is more effective may depend on external factors, such as market environments, as well as internal factors, such as firm resources (Kerin, Varadarajan, and Peterson 1992; Lieberman and Montgomery 1998; Szymanski, Troy, and Bharadwaj 1995). Because few studies empirically examine this contingency aspect, the more intriguing issue of when innovation/imitation strategies matter more remains unexplored (Shamsie, Phelps, and Kuperman 2004).

Another limitation of extant research on product innovation and entry strategies is that most studies have been based on North American (mostly U.S.) data, which leaves the generalizability of their findings to other economies an open question (Lieberman and Montgomery 1998, p. 1122). For example, Cho, Kim, and Rhee (1998, p. 504) suggest that due to the unique cultural characteristics of Asian countries, the pioneer and follower phenomenon in Asia may not be systematically explained by theories largely embedded in the West. In addition, emerging economies, during their transition to market economies, experience unprecedented changes in their social, legal, and economic institutions, which in turn raise serious theoretical challenges to Western practices (Hoskisson et al., 2000; Li and Atuahene-Gima 2001; Zhou, Yim, and Tse, 2005).

To fill these research gaps, we studied the effects of innovation versus imitation strategies on new product performance in China. More importantly, by taking a contingency perspective, we examined whether the roles of innovation versus imitation strategies vary across environments with different levels of demand uncertainty, technological turbulence, and competitive intensity. China is of particular interest for several reasons. First, as the world’s
fastest-growing economy, China has attracted many multinational companies to enter and operate in its market. In 2002, China overtook the United States as the largest recipient of foreign direct investment (FDI) with a record inflow of $53 billion (World Investment Report 2003). The influx of foreign firms creates new methods of competition, marketing, and management. Adopting the proper new product introduction strategy may become increasingly significant for the survival of firms in China facing this competition. Second, most industries in China are experiencing constant structural transformation, providing a complex industrial dynamics that significantly affect firm strategies and business operations (Boisot and Child 1996; Hoskisson et al. 2000). Therefore, the role of innovation and imitation strategies may be different in China than in Western contexts. With these considerations, the Chinese market provides a rich setting to test whether an innovation or an imitation strategy is more effective for enhancing performance and whether their effects on performance depend on different market conditions.

CONCEPTUAL DEVELOPMENT

Innovation and Imitation Strategies

With an innovation strategy, a firm invests substantially in R&D and aims to be the first to bring the innovative product to market (Green, Barclay, and Ryans 1995; Lieberman and Montgomery 1988; Schnaars 1994). Such a move may benefit the firm in various ways. For example, a first mover may achieve economic benefits such as scale and experience economies (Robinson and Fornell 1985). Being a pioneer also can earn a firm advantage because it can preempt its rivals in the acquisition of scarce resources, such as the most attractive space or locations (Lieberman and Montgomery 1988). Furthermore, innovating firms can gain advantage through sustained technology leadership (Kerin, Varadarajan, and Peterson 1992).
From a behavioral perspective, pioneering advantage arises from the process by which consumers learn about brands and form their preferences. This process can produce a preference structure that favors the pioneer, making it difficult for late entrants to “compete away” the pioneer’s large market share (Carpenter and Nakamoto 1989).

Innovation, however, is not the only choice for a product introduction. Because there can be only one pioneer in any product market, imitation remains a viable and more common strategy than innovation (Golder and Tellis 1993; Kerin, Varadarajan, and Peterson 1992; Schnaars 1994). Imitation can take different degrees, from pure clones, which represent “me-too” products, to creative imitation, which takes an existing product and improves on it (Schnaars 1994; Shankar, Carpenter, and Krishnamurthi 1998). Product development accordingly can take a mixed form between two extremes on a continuum, from brand new innovation to pure imitation.

Early evidence for an imitation strategy mainly comes from case studies or historical analyses (e.g., Cho, Kim, and Rhee 1998; Golder and Tellis 1993; Schnaars 1994). More recently, on the basis of archival data of 13 brands in the pharmaceutical industry, Shankar, Carpenter, and Krishnamurthi (1998) find that creative late entrants can grow faster, slow the pioneer’s diffusion, and, consequently, overtake the pioneer. In contrast, noncreative late entrants face a smaller potential market, lower repeat rates, and less marketing effectiveness compared with the pioneer. Using archival data of 29 brands in drug markets, Shankar, Carpenter, and Krishnamurthi (1999) also indicate that entry timing significantly affects a late mover’s success. Fast followers (growth-stage entrants) grow faster than either pioneers or mature-stage entrants and are more likely to outperform the pioneers. In contrast, mature-stage entrants grow slowly and face a poor market response to their product improvement and
marketing spending and thus are the most disadvantaged. From a behavioral perspective, Zhang and Markman (1998) find in three laboratory experiments that late entrants with alignable enhanced features are evaluated more favorably than the pioneer, which suggests the effectiveness of a creative imitation strategy.

Consistent with recent empirical studies, we compared the effectiveness of an innovation versus an imitation strategy. Extending their findings, we examined whether the effectiveness of innovation versus imitation strategies is contingent on different market conditions. We employ a managerial viewpoint because, compared with secondary or experimental data, managerial opinions and perceptions can reflect firm-level strategies and orientations more accurately. Furthermore, a study of managerial opinions can help establish benchmarks that provide direct implications for new product development (Song, Di Benedetto, and Zhao 1999, p. 817).

**Product Introduction Strategy and New Product Performance**

As we discussed previously, being the first to bring an innovative product to market can enable a firm to achieve a competitive advantage (Lieberman and Montgomery 1988, 1998). Unlike imitators, innovators have the potential to create markets, shape consumer preferences, and even change consumers’ basic behavior; sometimes these changes can be “so fundamental that before long [consumers] cannot imagine living any other way” (Pilzer 1990, p. 53). However, an imitation strategy may also lead to better new product performance. Imitation costs often are much lower than innovation costs because an imitator, for example, does not need to spend as many resources on research; the existing products already provide the imitator with information for its product development (Schnaars 1994). Furthermore, a market usually is not well formed at its beginning. It is impossible for an innovator to make the right strategic move every time. This provides imitators with the opportunity to identify a superior position and
introduce improved products to better serve customers (Shankar, Carpenter, and Krishnamurthi 1998).

Because innovation and imitation strategies are both theoretically viable, we rely on empirical evidence to predict which strategy is more effective. On the basis of a meta-analysis of 23 empirical studies, Szymanski, Troy, and Bharadwaj (1995) find that, on average, early entry is associated with greater market share and makes other marketing mix strategies more effective. In their extensive review of the existing literature, Lieberman and Montgomery (1998) also conclude that early entry and innovation advantages not only exist but are robust. Therefore, an innovation strategy seems to contribute more significantly to new product success than an imitation strategy.

**H1**: Compared with an imitation strategy, an innovation strategy has a stronger positive impact on new product performance.

**A Contingency Perspective**

The success of new product introduction is contingent on external factors related to market opportunities and environmental threats (e.g., Bowman and Gatignon 1996; Green, Barclay, and Ryans 1995; Kerin, Varadarajan, and Peterson 1992). According to contingency theory, no strategy choice is universally beneficial to all businesses; hence, companies must match their strategic decisions to environmental conditions (Ginsberg and Venkatraman 1985). Environmental conditions are defined by suppliers, customers, and current and potential competitors and substitutes (Porter 1985). Voss and Voss (2000) summarize various market forces into three main categories: demand (e.g., demand uncertainty, market growth), competitive (e.g., competitive intensity, hostility), and supply (e.g., technological turbulence, supply power) characteristics. Of these, *demand uncertainty, technological turbulence*, and *competitive intensity* are the three most fundamental forces because they represent the influence
of customers, technology, and competition on the market (Li and Calantone 1998). Therefore, this study examines how these three market forces moderate the effectiveness of innovation versus imitation strategies.

Demands uncertainty (also called market dynamism or market turbulence) refers to the variability and unpredictability of customer preferences and expectations (Gatingon and Xuereb 1997; Jaworski and Kohli 1993). Demand uncertainty requires firms to adapt their product offerings and strategies to the changing needs of customers. As innovators, firms usually must make their investment decisions such as plant capacity, knowing that future demand is uncertain (Porter 1985; Wernerfelt and Karnani 1987). In a market in which customer demand is relatively stable, innovators tend to make sizable investments in production capacity and therefore are more likely to achieve superior performance through production and market scale economies (Kerin, Varadarajan, and Peterson 1992).

However, if customer demand is highly unstable and fast changing, identifying changing needs becomes much more difficult (Golder and Tellis 1993). Due to the high possibility that the prediction of future demand may be wrong, the likelihood that the first to market will be the first to fail increases substantially (Porter 1985; Wernerfelt and Karnani 1987). In contrast, an imitation strategy seems more effective; firms can sit back and watch, then initiate their activities only after the signs of market potential are clear. In this way, firms can avoid spending their time and resources on products for which there turns out to be no demand and, consequently, gain a better return (Schnaars 1994). That is,

H2: The benefit of an innovation strategy over an imitation strategy for new product performance becomes weaker as demand becomes increasingly uncertain.

Technological turbulence refers to the rate of technological advances within an industry (Jaworski and Kohli 1993). A key aspect that benefits innovators is technology leadership,
because the cost of learning falls drastically with cumulative output, and innovators often enjoy these advantages in the form of R&D and patent races based on existing technologies (Lieberman and Montgomery 1988). However, replacement technology often appears while the existing technology is still growing. In an industry in which technology undergoes rapid changes, the advent of next-generation technology enables imitators to neutralize the technology leadership advantage enjoyed by innovators (Porter 1980). Furthermore, in the face of major shifts in technology, early entrants tend to demonstrate “incumbent inertia,” because their investments in assets specifically for the existing technology are substantial, which makes them unwilling to cannibalize their existing product lines (Lieberman and Montgomery 1988). In contrast, imitators can take advantage of new technology to catch up with innovators because they are not burdened by investments in existing technology. Therefore, a high rate of technological change offers imitators a variety of ways to copy existing products and make improvements to them (Kerin, Varadarajan, and Peterson 1992; Schnaars 1994). For these reasons, we hypothesize that

H3: The benefit of an innovation strategy over an imitation strategy for new product performance becomes weaker when the technology is increasingly turbulent.

Competitive intensity refers to the degree of competition that a firm faces within the industry. Increased intensity is characterized by intense price wars, heavy advertising, more product alternatives, and added services (Porter 1980). In a highly competitive market, companies must pay special attention to costs, mainly because of the greater pressure from price wars (Porter 1985). Whereas an innovator must spend heavily on R&D and in educating cautious consumers about the benefits of its new products, an imitator can freeride on the innovator’s efforts by monitoring its patent applications, product usage, and presentations at professional conferences, for example (Schnaars 1994). As a much less expensive strategic
alternative, imitation enables firms to reduce the high cost of product innovation and thus achieve better performance (Day and Wensley 1988). Furthermore, in times of heavy competition, competitors are likely to match the innovator’s offers quickly. This fast response from the imitators offsets the innovator’s efforts to create awareness and brand loyalty. If the innovator is unable to establish entry barriers, its advantage is unlikely to last (Kerin, Varadarajan, and Peterson 1992). Thus, we predict that

H4: The benefit of an innovation strategy over an imitation strategy for new product performance becomes weaker as competition intensifies.

METHOD

Sampling and Data Collection

To test the hypotheses, we examined firms in manufacturing sectors located in three major cities (Beijing, Guangzhou, and Shanghai) in China. To collect the data, a questionnaire was developed and administered on-site to respondents by trained interviewers. Hoskisson et al. (2000) suggest that in an emerging economy, collaboration with local researchers is a key means to obtain reliable and valid information; in addition, a face-to-face interview is desirable because it generates more valid information. Thus, we commissioned a national market research firm headquartered in Shanghai, with branches and affiliates in major Chinese cities, to carry out the survey through personal interviews.

An English-language version of the questionnaire was developed first. To ensure conceptual equivalence, it was translated into Chinese and then back-translated twice by independent translators. Any conflicts were discussed by the researchers and translators until agreement was reached (see Hoskisson et al. 2000, Mullen 1995). To further ensure the content and face validity of the measures, we conducted five in-depth interviews with senior managers, during which we asked each respondent to check the relevance and completeness of the
questionnaire items. On the basis of their responses, we revised a few questionnaire items to enhance their clarity. Then, we conducted a pilot study with 30 senior managers whose titles included marketing manager, product manager, director of the new product development team, and so forth. In this pilot study, we requested that respondents not only answer all the questionnaire items but also provide feedback about the design and wording of the questionnaire. The results of this pilot survey reveal that virtually all the items were well understood by the respondents and most items had a reasonably diverse range of responses. On the basis of the pilot test, we further refined the questionnaire and finalized the survey.

A sample of 1000 companies was randomly selected from a list of manufacturing firms located in Beijing, Guangzhou, and Shanghai from the business directory entitled *Top 22,000 Businesses in the P.R. China*. These firms span diverse manufacturing industries (e.g., electronics, computer equipment, chemicals, transportation equipment, apparel, furniture, food, plastics), which increases the generalizability of our findings (Gatignon and Xuereb 1997). For each firm, a senior manager (e.g., vice president, product manager, director of new product development, marketing manager) was chosen as the key informant because our field interviews revealed that these managers were highly familiar with new product development and introduction. Consistent with Gatignon and Xuereb (1997) and Li and Calantone (1998), the unit of analysis is the last new product introduced in the market for at least 12 months.

Senior managers first were contacted by telephone to solicit their cooperation. The respondents were informed of the confidentiality of their responses and the academic purpose of the project. Respondents also were promised the reward of a valuable gift and a summary report of the survey. Oral agreements to participate were obtained from 428 firms, and successful interviews were conducted onsite with managers from 306 firms. After eliminating 8 surveys
with excessive missing data, we were left with 298 complete responses, representing a response rate of 29.8% (298 of 1000 firms). In addition to the quality controls implemented by the research firm, one of the authors randomly telephoned 10% of the respondents (30 managers) to confirm that the interviews had been conducted. No cheating by field workers was detected. A comparison between the respondent and nonrespondent firms indicated there were no significant differences in terms of key firm characteristics (e.g., firm ownership, firm size, industry types, locations), so nonresponse bias is not a concern in our study.

Measures

We report the measurement items and their validity assessments in the Appendix. All items, unless specified otherwise, were measured with a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree).

Product Introduction Strategy. We developed the product introduction strategy measure specifically for this study. We first drafted a set of five items from various theoretical works, such as Golder and Tellis (1993), Lieberman and Montgomery (1988), Kerin, Varadarajan, and Peterson (1992), and Schnaars (1994), as well as from input from academic scholars. Then, on the basis of the in-depth interviews of five senior managers, we modified the measures and reduced the number of items to four. Furthermore, we dropped one item on the basis of the pretest of 30 senior managers. The final survey thus included a three-item scale to assess a firm’s efforts to be the first to introduce innovative products to the market (composite reliability = .82). This operationalization is consistent with our conceptualization: A high value of agreement reflects an innovation orientation, a low value represents an imitation strategy, and a medium means a strategy in between these extremes.
**Competitive Environment.** The measure of demand uncertainty was adapted from Jaworski and Kohli (1993) and Gatignon and Xuereb (1997). The technological turbulence and competitive intensity measures also were adapted from Jaworski and Kohli (1993). Their composite reliabilities are .85, .88, and .78, respectively, which indicates their satisfactory scale reliability.

**Performance.** The measure of new product performance, adapted from Gatignon and Xuereb (1997) and Li and Calantone (1998), assesses the sales growth, return on investment, profit level, and market share of the new product relative to major competitors’ products (1 = much worse, 7 = much better; composite reliability = .89). Relative measures are commonly used in new product strategy research because accurate objective product performance data are rarely available and often not directly comparable across different firms or industries.

**Construct Validity.** We refined the measures and assessed their construct validity following the procedures recommended by Anderson and Gerbing (1988). First, we ran exploratory factor analyses for each set of focal constructs (i.e., competitive environment, product strategy, and performance) and attained the theoretically expected factor solutions. Second, we ran confirmatory factor analyses (CFA) for each set of focal constructs. After we dropped two items that possessed either low factor loading or high cross-loading, the confirmatory models fit the data satisfactorily. The results of the CFA, such as the goodness-of-fit index (GFI), factor loading, and composite reliability, are reported in the Appendix.

Furthermore, we assessed the convergent and discriminant validity of the focal constructs by estimating a five-factor confirmatory measurement model. All five constructs were latent variables, and each questionnaire item loaded only on its respective latent construct. The latent constructs were allowed to be correlated, whereas the measurement items and their error items
were uncorrelated. The model provides a satisfactory fit to the data \( \chi^2(109) = 269.44, p < .001; \) GFI = .90, confirmatory fit index [CFI] = .94, incremental fit index [IFI] = .94, Tucker-Lewis index [TLI] = .92; root mean square error of approximation [RMSEA] = .07) and thus indicates the unidimensionality of the measures (Anderson and Gerbing 1988). All factor loadings are highly significant \((p < .001)\), the composite reliabilities of all constructs (ranging from .78 to .89) exceed the usual .70 benchmark, and all the average variances extracted are either greater than or close to .50 cutoff. Thus, the measures demonstrate adequate convergent validity and reliability (Fornell and Larker 1981).

We assessed the discriminant validity of the measures in two ways. First, we ran chi-square difference tests for all the constructs in pairs (10 tests) to determine if the restricted model (correlation fixed as 1) performed significantly worse than the freely estimated model (correlation estimated freely). All the chi-square differences are highly significant (e.g., test for competitive intensity and demand uncertainty \( \Delta \chi^2 (1) = 62.85, p < .001 \)), providing evidence of discriminant validity (Anderson and Gerbing 1988). Second, we calculated the shared variance between all possible pairs of constructs to determine if they were lower than the average variance extracted for the individual constructs. The results show that for each construct, the average variance extracted is much higher than its highest shared variance with other constructs, which represents additional support for discriminant validity (see the Appendix) (Fornell and Larker 1981). Overall, these results show that the measures possess adequate reliability and validity.

**Common Method Assessment.** Because we collected the information for the dependent and independent variables from the same respondent, a common method bias may occur. We checked this potential problem with the Harman one-factor test (Podsakoff and Organ 1986). A factor analysis of the five multiple-item scales (i.e., product strategy, demand uncertainty,
technological turbulence, competitive intensity, and new product performance) resulted in a five-factor solution, as we expected, which accounted for 73.88% of the total variance; the first factor (i.e., new product performance) accounted for 18.23% of the variance. Because a dominant single factor did not emerge, common method bias is unlikely to be a concern for our data (cf. Li and Atuahene-Gima 2001; Tippins and Sohi 2003).

**Control Variables.** To account for the effects of extraneous variables on performance, we include *firm size, firm age, and firm ownership* as control variables (see Jaworski and Kohli 1993; Zhou, Yim, and Tse 2005). We used the logarithm of the number of employees as an indicator of firm size. Firm age was measured as the number of years the firm had been in operation. Firm ownership was included as a dummy variable to control for potential variations between foreign (coded as 1, including both joint ventures and wholly owned subsidiaries) and domestic (coded as 0) firms. In Table 1, we present the basic descriptive statistics and correlations of these constructs.

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**ANALYSES AND RESULTS**

Because the models contain the interaction terms of product introduction strategies and environmental factors, a moderated regression analysis is appropriate for testing the interaction effects (Jaccard, Turrisi, and Wan 1990). An important issue in the use of a moderated regression model is the possible multicollinearity between the interaction terms and their components. To deal with this problem, we mean-centered each scale that constituted an interaction term and then created the interaction terms by multiplying the relevant mean-centered scales (Jaccard, Turrisi, and Wan 1990). As a result, the largest variance inflation factor, a
multicollinearity indicator, is 1.613, well below the usual 10.0 benchmark (Hair et al. 1998), indicating that multicollinearity is not a concern. Furthermore, to assess the explanatory power of each set of variables, we employed a hierarchical approach to include variables into the model block by block. We included only the control variables in model 1 (M1); added environmental factors in model 2 (M2) and then new product introduction in model 3 (M3), and included the interaction terms in model 4 (M4) (see Table 2).

| Insert Table 2 about here. |

H1 deals with the main effect of innovation versus imitation strategies. As we show in Table 2, Models M3 and M4, the main effect of the product strategy on performance is positive and significant (b = .38, .39, \( p < .001 \)), in support of H1.

H2 addresses the contingency of innovation versus imitation strategies across different levels of demand uncertainty. In contrast with H2’s prediction, the results show that the benefit of an innovation strategy over an imitation strategy becomes stronger as demand grows increasingly uncertain (b = .11, \( p < .05 \)). In H3, we predict that the effect of an innovation versus an imitation strategy becomes weaker in the face of rapid technological change. However, contrary to our predictions, the benefit of innovation over imitation is stronger when technology changes rapidly (b = .11, \( p < .05 \)).

H4 assesses the moderating role of competitive intensity. Table 2 shows that the interaction between the product introduction strategy and competitive intensity is not significant (b = .05, \( p > .10 \)), providing no support to H4.

The Effects of Controls. As Table 2 reports, firm history is positively related to new product performance; thus, it appears that firms with greater experience achieve better
performance in their new product development. Firm ownership also positively affects performance, suggesting that foreign firms are able to achieve better new product performance. In addition, competitive intensity negatively affects new product performance.

**DISCUSSION**

Although product innovation and imitation strategies have generated substantial attention in the literature, few studies empirically assess the contingency of the effectiveness of innovation versus imitation strategies. This study seeks to fill this void by examining their contingency across various market environments in China. The results provide mixed support to our hypotheses, and we next discuss the implications of our findings in light of China’s unique market and cultural characteristics.

Consistent with literature based on the Western experience (e.g., Bowman and Gatignon 1996; Robinson and Fornell 1985; Robinson and Min 2002; Szymanski, Troy, and Bharadwaj 1995; Urban et al. 1986; Utterback 1994), we find that, compared with an imitation strategy, an innovation strategy has a greater impact on new product success. This finding demonstrates the power that a firm can attain by being an innovator, even in an emerging market such as China. This appears inconsistent with the conventional wisdom that, given Chinese consumers’ low consumption power, limited product experience, and frugal tradition, an imitation strategy with a low price may be the key to business success (e.g., Kotler 2002).

We posit several possible explanations for this counterintuitive finding. First, after many years of isolation from the rest of the world prior to 1979 and then years of rapid economic growth, Chinese consumers may be eager to learn about and try new and innovative products. According to a consumer survey, a key trend among Chinese consumers is their growing willingness to try new products (Bates 1998). A recent study also finds that Chinese consumers
demonstrate great interest in purchasing innovative products (China Brand Development Report 2002). Second, the Chinese are known for their propensity to “follow the leader,” which means that Chinese consumers naturally have a positive attitude toward and desire for top-ranked products (Tse 1996). They tend to view the pioneers more favorably and believe that their products are of higher quality, as is signified by the intense war among many large companies that fight annually for the “Advertising King” position (i.e., the first advertisement after news programs on the China Central TV station). In summary, the Chinese market provides a context that favors innovators over imitators.

The test of the contingency of innovation versus imitation strategies offers additional support for this logic. Unexpectedly, demand uncertainty does not hurt the performance of innovators. According to extant Western literature, the advantages of being the pioneer are likely to diminish if customer preferences change rapidly (e.g., Golder and Tellis 1993; Lieberman and Montgomery 1988; Kerin, Varadarajan, and Peterson 1992; Schnaars 1994). However, our findings indicate that the benefit of an innovation over an imitation strategy becomes stronger when demand is highly uncertain, possibly because in China, due to customers’ limited exposure and knowledge about innovative products (Zhou, Su, and Bao 2002), companies may be more successful if they offer products that satisfy customers’ latent needs and invoke customer demand by shaping the way customers behave (Hamel and Prahalad 1994). Consequently, a product innovation strategy handles uncertain demand better by leading the changes in market demand.

Received literature based on Western practices also predicts that rapid technology changes tend to offset the pioneering advantage because the appearance of replacement technology provides imitators with the opportunity to catch up with the pioneers quickly (Golder
and Tellis 1993; Kerin, Varadarajan, and Peterson 1992; Schnaars 1994). However, we find that
the benefit of an innovation over an imitation strategy is stronger in times of rapid technology
change. In developing economies, the trajectory of technological development may follow the
trajectory that takes place in developed economies, as is demonstrated by the rapid technological
advances that accompanied the recent influx of FDI in China (e.g., Luo 2002). That is, unlike in
developed markets, technological changes in China may be foreseeable and predictable. Because
of their technological leadership, innovators may be able to identify next-generation technology
from what happens in developed markets, and then be prepared to embrace and take advantage of
these new technologies.

Western literature also predicts that, as competition intensifies, the pioneering advantage
diminishes because the innovator is unable to maintain its entry barrier and competition is
necessarily based on cost (Day and Wensley 1988; Kerin, Varadarajan, and Peterson 1992;
Porter 1985). However, we find that the effect of an innovation strategy is not moderated by
competitive intensity. Again, this finding indicates the power of being the in the Chinese
market; innovator benefits do not erode even in the face of intensive competition.

Taken together, our findings contribute to the literature in several ways. First, our
findings provide insights that inform the ongoing debate about the role of innovation and
imitation strategies. Our results indicate that a product innovation strategy is a more desirable
choice in China than an imitation strategy and that their relative effectiveness is contingent on
different market conditions. Second, we deepen the understanding of new product development
and introduction in a non-Western setting through our finding of the similarities and differences
in new product introduction in China compared with predictions that have been based on
Western knowledge. This comparison helps us better understand why and how new product
development in China differs from that in Western societies.

**Managerial Implications**

Although the reward for a successful innovator is substantial, being a pioneer in a market
is inherently risky and can absorb many resources. Thus, many firms may be reluctant to invest
substantially in developing innovative products and introducing them into the market before their
competitors. Instead, they turn to an imitation strategy by copying others’ products in an attempt
to take advantage of the innovators’ efforts in developing the product and market.

However, our findings indicate that an innovation strategy may be a better choice in the
Chinese market because it strongly enhances new product performance. Furthermore, an
innovation strategy is more desirable when demand is uncertain and technology changes rapidly.
In these conditions, an innovation strategy may enable the firm to lead rather than respond to
market demand, and innovators can learn about possible technological advances quickly from
technological developments in developed countries. Overall, our findings provide evidence for
companies to undertake innovation strategies in China.

**Limitations and Further Research**

Our study also has some limitations that further research should overcome. First, we
focus specifically on the moderating role of environmental factors. However, the relative
effectiveness of innovation and imitation strategies also is contingent on various other factors,
such as organizational resources and structures (Shamsie, Phelps, and Kuperman 2004).
Additional research therefore should test the contingency of innovation and imitation strategies
for such factors. Second, the empirical findings of our study are based solely on data from
China. Although China shares many characteristics with other emerging economies and Asian
countries in terms of technology development, consumer behavior, and market conditions, among other factors (Hoskisson et al. 2000), it also displays certain idiosyncrasies. For example, business operations in China remain heavily influenced by the government and economic reforms toward a market economy. In addition, Chinese customers’ view of pioneers may be different from that in other emerging and Asian countries. These differences may limit the generalizability of the findings, and further research should attempt to corroborate our findings in other emerging and Asian markets.
Appendix: Measurement Items and Validity Assessment

**Product Strategy**  CR = .82, AVE = .60, HSV = .15  
In our new product development and introduction,
1. We emphasize heavily the importance of being the first company bringing to market innovative products. .636
2. We invest substantially in R&D in an attempt to be the first company into the market. .825
3. We try all we can in order to be the first to introduce an innovative product to the market. .846

**Demand Uncertainty**  CR = .85, AVE = .66, HSV = .18  
1. In this product industry, customers tend to look for new products all the time. .839
2. Customers’ product preferences change frequently over time. .916
3. Market demand is difficult to forecast in this product industry. .662
4. The evolution of customer preference is difficult to predict. *

**Technological Turbulence**  CR = .88, AVE = .71, HSV = .13  
1. The technology in this product industry is changing rapidly. .790
2. Technological changes provide substantial opportunities in this product industry. .935
3. A large number of new product ideas have been made possible through technological breakthroughs in this product industry. .795
4. Technological developments in this product industry are rather minor (reversed). *

**Competitive Intensity**  CR = .78, AVE = .48, HSV = .18  
1. There are many “promotion wars” in this product industry. .668
2. Any product that a company can offer, others can easily match. .786
3. Price competition is a hallmark of this product industry. .683
4. There are many competitors in this product industry. .583

**New Product Performance**  CR = .89, AVE = .68, HSV = .15  
Compared to your competitors’ product, how would you evaluate this product’s performance in the following areas?
1. Return on investment. .878
2. Sales growth. .848
3. Profit level. .836
4. Market share. .740

**Model Fit:** $\chi^2(109) = 269.44$, $p < .001$; GFI = .90, CFI = .94, IFI = .94, TLI = .92; RMSEA = .07

*Items deleted from further analysis due to low factor loading or high cross-loading.

Notes: SFL = standardized factor loading; CR = composite reliability; AVE = average variance extracted; and HSV = highest shared variance with other constructs.
REFERENCES


Golder, Peter N. and Gerard J. Tellis (1993), "Pioneering Advantage: Marketing Logic or Marketing Legend?" Journal of Marketing Research, 30 (May), 158-70.


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<th>Construct</th>
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<th>5</th>
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<td>8. Firm ownership</td>
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<td>-.07</td>
<td>-.09</td>
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**Mean**

| Mean      | 4.59 | 4.26 | 5.30 | 5.15 | 4.23 | 5.62 | 12.15 | .34  |
| Standard Deviation | 1.21 | 1.36 | 1.18 | 1.17 | 1.15 | 1.26 | 16.62 | .47  |

**p < .01.  
*p < .05. 
Notes: Sample size = 298.
TABLE 2
Standardized Estimates: Multiple Moderated Regressions

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<tr>
<th>Dependent Variable: New Product Performance</th>
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<th>M2</th>
<th>M3</th>
<th>M4</th>
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<td>.11 *</td>
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<td>.03 *</td>
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</table>

***p < .001.
**p < .01.
*p < .05.
†p < .10.