STRATEGIES OF HIGH-PERFORMING NEW AND SMALL FIRMS: A REEXAMINATION OF THE NICHE CONCEPT[1]

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EXECUTIVE SUMMARY

Entrepreneurs seeking to position new or small firms in industries populated by well established competitors are frequently advised to seek the protection of a market niche. There, shielded by market characteristics which render the niche uninteresting to larger rivals, small firms are urged to compete at the fringe of the market. This article challenges this conventional wisdom, citing industry and firm characteristics which, under certain conditions, create opportunities for successful direct competition by some small or new firms against much larger and established competitors. However, the authors caution that the conditions which created the opportunity may erode in time, rendering the successful challenger vulnerable either to retaliation by the larger firm or challenge from subsequent entrants.

Examples of successful direct confrontation by relatively small competitors are drawn from mature, low-tech industries, a rapidly growing high-tech industry and the service sector.

INTRODUCTION

New and small firms are an important part of a healthy economy. Nearly all of the 984,000 net new jobs created in the U.S. economy during 1981 and 1982 came from independent small firms with fewer than 20 employees (*The State of Small Business* 1984, p. 2). Two government sponsored studies of technological innovation concluded that small firms had played an unusually important role in the development of major new innovations (*Advisory Committee on Industrial Innovation* 1979; *Technological Innovation: Its Environment and Management* 1967). Furthermore, these firms are numerous and dynamic; in 1983 alone, more than 600,000 new corporations were formed.

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Despite the number and importance of new and small firms, there has been little explicit examination of their strategies. Founders of new firms must find ways to compete in a world which had gotten along without them before. Starting with no reputation and limited financial and human resources, they must seek out opportunities and develop strategies which enable them to compete, sometimes in industries dominated by larger, established companies. Since almost any strategy involves competing with someone, they need to consider which established competitors might be challenged and whether sustainable competitive advantages could be achieved.

The extant literature generally advises small firms not to meet larger competitors head-on. They should concentrate on specialized products, localize business operations, and provide products which require a high degree of craftsmanship (Hosmer 1957; Gross 1967). Small businesses are also seen to benefit from the provision of customer service, product customization, and other factors which are inimical to large-scale production (Cohn and Lindberg 1972). The above recommendations would often limit the opportunities open to new and small firms to "niches" too small to be of interest to larger firms. As seen in the statements following, this line of thinking predominates in the small business literature.

> It is preferable for the small firm . . . to operate in the crack between larger businesses.
> (Broom et al. 1983, p. 336)

> It is clear that a wise competitive strategy will avoid direct competition with big, strong firms. . . .
> (Buchele 1967, p. 114)

> Direct confrontation should be avoided.
> (Katz 1970, p. 364)

We suggest that this concept of the niche, although descriptive of the strategies of many small firms, is unduly limiting; in fact, it does not describe the strategies of some of the most successful new and small companies. Under some conditions, and for some firms, exceptional opportunities exist for *competing directly* with large established companies. These smaller challengers pursue "niche" strategies in the sense of being focused and directed at serving the needs of a particular group of customers. However, they do not avoid direct competition with market leaders or confine themselves to segments of no interest to them. If we were to apply the test of asking who the young firm takes customers away from, the answer would be clear. It is the largest, the most established, often the most successful firms in the industry that the smaller firm is competing with.

The conditions and strategies which enabled some low-share businesses to compete effectively against market leaders were examined in a number of studies. Woo and Cooper (1981) found such success possible within stable, low-growth markets where the products were frequently purchased, high value-added items. These businesses adopted a selective focus and shared a common orientation towards high quality, low price, and careful monitoring of discretionary expenses. Led by creative, dynamic leaders, these low share businesses were found by Hamermesh, Anderson, and Harris (1978) to select market segments carefully, approach growth cautiously, and to use R&D efficiently.

Other studies have offered conceptual approaches to how small competitors may directly attack industry leaders. Porter (1985) suggested three strategies: reconfiguration or doing things differently, redefinition of the product, market, channels, or geographic scope, and outspending the leader. Similarly, Kotler and Singh (1981) viewed such challenges as

possible and suggested such alternatives as flanking attacks that focus on shifts in market segments, or guerilla attacks which consist of small, intermittent raids on random corners of a larger opponent's market.

More general recommendations pertaining to effective competition by both large and small competitors include targeting the weakness in the organization processes of competitors (MacMillan and Jones 1984), and the adoption of proven generic competitive strategies such as cost leadership or differentiation (Porter 1980).

While Hamermesh et al. (1978) and Woo and Cooper (1981) recounted how some low-share businesses performed successfully within markets they did not dominate, the studies did not examine the processes by which low share businesses might aggressively challenge leaders. While the conceptual articles spoke directly to this issue, they did not focus on new firms with their unique constraints and advantages.

The objective of this article is to reexamine the concept of the niche strategy with particular attention to new firms challenging industry leaders. In no sense do we argue that such strategies of direct competition are feasible under all conditions or should be undertaken by all new firms. In this article we will discuss what conditions might support the choice of this strategy. We shall consider

1. the industry characteristics which make this possible;
2. the company characteristics necessary to make such strategies viable for a small firm;
3. the barriers which exist within large firms making it difficult for them to respond, even when the potential of the new strategies begins to unfold; and
4. the factors bearing upon whether competitive advantages achieved by the new challengers might be maintained.

The concepts discussed will be illustrated by reference to five successful challengers which developed strategies of direct competition against much larger established industry leaders. These are:

1. MCI, which competed directly with AT&T;
2. Amdahl Corporation, which competed directly with IBM;
3. Iowa Beef Processors, which competed directly against large meat packers such as Armour and Wilson;
4. People Express Airline, which competed directly against larger airlines such as Eastern; and
5. Nucor, which competed directly against old-line steel companies such as US Steel and Bethlehem.

The strategies and recent performance of these firms are summarized in Table 1.

CONDITIONS UNDER WHICH SUCCESSFUL DIRECT COMPETITION MAY BE POSSIBLE

Opportunities to compete directly with large firms vary widely aross industries. Of particular importance is whether an industry is changing, the nature of those changes, and whether the managements of the leading firms recognize their implications. In any industry the leading companies have been the most successful in developing strategies to exploit previously existing opportunities. Over time they have mastered existing technologies, fine-tuned their strategies, and developed organizations trained and committed to these ways of competing. If there are no changes, there are few opportunities for challengers.

TABLE 1. Strategies and Recent Performances of Sample Firms

MCI Communications

Microwave Communications Inc. applied to the FCC in 1963 to build a microwave radio system between St. Louis and Chicago. The application was strongly opposed by AT&T and the firm did not move forward until after 1968, when William McGowan agreed to pay off the firm's debts and manage the company. Subsequently, the original application was approved in 1969, and a network of radio relay towers was established. After an early strategy of offering private-line services between two points to big-volume business users, MCI won legal permission to broaden its market. Offering long-distance rates 30% to 50% lower than those of AT&T, MCI grew rapidly.

MCI's customer base grew at 40% or more per year through 1983, but sales growth slowed in 1984. MCI earned $87.6 million on sales of $1.9 billion in 1984. This represented an increase of nearly 19% in sales, but a decline of nearly 52% in earnings. MCI's $1.2 billion in capital investment in 1984 was a record for the company, but it continues to face heavy capital spending demands as it seeks to expand its geographic market coverage.

Amdahl Corporation

Amdahl was founded in 1970 to develop an IBM-compatible large central processor. After overcoming the problems of large-scale integration, it shipped its first machine (Model 470 v/6) in 1975. Amdahl competed directly against IBM's model 168, performing 1.4 to 1.8 times faster at a price which was 8 to 12 percent lower. The 470 v/6 was also smaller, lighter, and used much less power. Normal industry practice required one to three weeks for installation, but the 470 v/6 required only two to three days to install.

Amdahl's recent financial performance has been irregular. 1984 earnings were down 32% to $29.3 million while sales increased by $1.7 million to $799.4 million.

Iowa Beef Processors

Iowa Beef Processors was started in 1961 with a $300,000 Small Business Administration loan. They focused on being the low cost producer through modern plants established in the middle of cattle country, emphasis on low cost "dis-assembly" by relatively unskilled workers, and efficient use of byproducts. Somewhat later, they moved to shipping pre-cut beef in vaccum-packed plastic bags directly to major metropolitan beef retailers. From 1961 earnings of $360 thousand on sales of $55 million, earnings climbed to $55.2 million on sales of $4.6 billion in 1980

In August, 1981, IBP was acquired by the Agribusiness Division of Occidental Petroleum and has been submerged in Oxy's consolidated figures since that time. There is evidence in Oxy's annual reports, however, that despite increased sales, earnings have been disappointing at IBP. Best estimates by outsiders place IBP's earnings at less than $20 million in 1984 on sales of just over $5 billion.

IBP's management is said to be considering a leveraged buyout to regain its autonomy so that it may once again pursue its stated objective of being the undisputed low cost producer in the fresh red meat processing business.

People Express, Inc.

People Express was founded in 1980 by six former Texas International Airways executives. It operated out of Newark International Airport and competed against major airlines through rock-bottom fares and the elimination of "free" services to passengers. Tickets were sold, and fares collected on board the aircraft. No hot meals were served, but snacks and beverages were available for an additional fee. Baggage handling was available on a sharply increasing price-per-bag basis in addition to the fare. Expenses were kept low through the use of pre-owned aircraft, a "low-rent" location, and flexible labor practices which included job-rotation and lower wage rates.

From its initial (1981) loss of $9.2 million on revenues of 38.4 million, People Express has grown to nearly 4000 employees and an all-jet fleet of 76 aircraft with 28 more on order. 1984 earnings were down nearly 74% (from 1983) to $1.7 million on revenues which were up nearly 105% to $586.8 million.

Nucor Corporation

F. Kenneth Iverson was picked in 1965 to lead the foundering Nuclear Corporation of America back from the brink of bankruptcy. He quickly disposed of the diode manufacturing, radiation detector, and leasing parts of the business to concentrate on the steel bar joist operation. By 1968, Iverson had 20% of the bar joist market and had concluded it was time to start making his own steel.

Subsequently, Nucor established a series of four "mini-mills" which produced narrow lines of near-commodity steel products for high-growth regional markets. Using scrap as raw material, modern electric

TABLE 1. *(Continued)*

furnaces, continuous casting technology, and innovative personnel policies for tight control of costs, Nucor achieved some of the lowest production costs in the industry.

From its 1965 brush with Chapter 11 with a loss of $2 million on sales of $22 million, Nucor's earnings reached $9.7 million on sales of $160 million in 1974, a return on total capital of 18.4%. From 1975 through 1984, sales and earnings have grown at nearly 21% per year, compounded, reaching $660.3 million and $44.6 million respectively in 1984.

Nucor produced 1,541,000 tons of steel rod, bars, angles, and other light structural shapes in 1984. Approximately 35% of this was used by Nucor's steel joist division, which now holds a 30% share of that market.

However, changes in the form of deregulation, new technology, organizational and management innovations, and changing consumer preferences create opportunities for new firms. Thus, deregulation in air transportation and telecommunications enabled People Express Airline and MCI to confront established firms not attuned to competing against new entrants. Nucor took advantage of technology in the form of electric furnaces and continuous casting which permitted it to compete directly against steel mills locked into old technology. Innovative concepts for shipping trimmed, precut, boxed beef, prepared at plants near the feedlots, gave Iowa Beef advantages in competing against established meat packers. The enormous growth in business communications, including transmission of data as well as voice, led to MCI's entry strategy of serving corporate customers wishing to communicate between St. Louis and Chicago.

Although change can create opportunities, other industry conditions may make it easier for a small firm to achieve advantages or to keep from being overwhelmed by larger competitors. If there are opportunities for differentiation, for offering a product or service which is somewhat different, then the small firm may be able to achieve an advantage in serving some segment of the market. Frequently, differentiation is perceived to be the process of adding services or product features which some customers value. But, differentiation may also be achieved by subtracting a feature or service included by large firms in their standard offering, but which a segment of the market does not value highly. People Express Airline, for example, eliminated the "meals-in-flight" feature and baggage handling from the standard airline product, reduced the price, and found a ready market from among the major airlines' price-sensitive passengers.

By contrast, if products are nondifferentiated—"commodity-like"—then alternative ways of competing are more limited. Although established firms may already be organized to compete on the basis of price, the new firm can, in certain cases, adopt a different (and inherently lower cost) technology for providing the commodity-like product. Nucor, a successful "mini-mill," adopted the electric furnace technology for making steel directly from scrap-iron, and avoided the heavy capital investments associated with making steel from ore. Low-cost technology similarly enabled Iowa Beef to undercut prices of industry leaders.

The relative importance of economies of scale and/or experience curve effects also bears upon the opportunities for direct competition. If it is possible to compete on a small scale or with little experience and not incur a substantial cost disadvantage, then small firms (with little volume) or new firms (with little experience) may be able to compete directly with success. Nucor and other mini-mills positioned themselves in a segment of the steel industry in which small scale was not a disadvantage. Mini-mills can achieve cost advantage despite annual tonnages of only 250,000 tons per year, a mere "drop in the ladle" in the steel industry.

NATURE OF SUCCESSFUL CHALLENGERS

Even within industries offering opportunities for direct competition, only some new firms may be in a position to adopt such strategies. There must be the right combination of insight, assets, and commitment.

Central to success is a concept, a strategy, which enables the new firm to earn a competitive advantage. Although all of the small firms considered here confronted much larger companies, none competed in exactly the same way as their larger competitors. All were headed by entrepreneurs who innovated and challenged the conventional wisdom within their industries. At first, their strategies were untested and their potential was unclear. However, all saw possibilities not evident to others and all served as champions of the new strategies which their firms developed.

Financial and managerial resources are critical to all firms, but particularly to those following these strategies. The emphasis on innovation, the development of larger markets, and direct confrontation with powerful competitors all require more resources than needed for many small businesses. In addition, these strategies are characterized by experimentation, by feedback from the marketplace, and by adaptation to competitive response. All require time and sufficient capital to stay in the game. Some new firms run out of money (or credibility with investors) before they can perfect and implement their strategy. Thus, Amdahl, after developing its initial product line, but before market introduction, was confronted by a newly introduced IBM product in 1972. It was necessary for Amdahl to go back to its investors for an additional $16 million in order to upgrade its product line before it had realized any revenues.

The early capital of these five firms (after initial public offerings) ranged from $956 thousand to $105 million. Although these amounts were substantially more than the capitalization of most new firms, they were far less than those of their major competitors. For example, the initial capital of People Express Airline was $28 million versus $2 billion for Eastern Airline at that time, and that for MCI was $105 million, compared to $29 billion for AT&T. In no way were these challengers in a position to outspend their major competitors.

Those small competitors suited for strategies of direct confrontation must also be able to capitalize upon their potential for achieving organizational commitment and for shaping organizations attuned to these innovative strategies. A young firm, such as those considered here, does not have a stake in the status quo. Employees' security and influence are not tied to traditional ways of competing. If the young firm is led by management with vision and leadership ability, it may be possible to recruit, train, and motivate a cadre of people dedicated to the new strategy. Thus, the new employees of People Express knew they would be operating out of dingy headquarters in Newark, with "previously owned" aircraft, and a work schedule in which jobs would be rotated. An enthusiastic management, which led by example, was able to achieve a high degree of organizational commitment to the new strategy.

BARRIERS TO RESPONSE

In each of the five examples considered here, these young companies competed directly with established large firms. Despite limited finances, reputation, and organizations, they developed and implemented strategies which captured customers away from large, established competitors. We might have expected direct and massive retaliation. Yet, in many cases, this did not occur.

The literature on barriers that prevent response to competitive challenge offers some insights worth noting. MacMillan and Jones (1984) suggest that response will be difficult

in situations in which the challenged firm is organized around a particular activity/output configuration. To the extent that response will divert the challenged firm from "doing what it does best," violate existing product/market boundary charters, or result in cannibalization of existing product offerings, the competitive reaction will likely be delayed (Coyne 1986; Kotter and Schlesinger 1979; McIntyre 1982).

If the response requires fundamental changes in the organizational or reporting relationships within the challenged firm, the response lag is likely to be greater (MacMillan, McCaffery, and Van Wijk 1985). Coyne (1986) suggests that response may be delayed if "capability gaps" exist because of facility locations or regulatory/legal restrictions. MacMillan (1982) and Coyne (1986) refer to inertia barriers which may prevent competitive response.

The literature above suggests several reasons why the challenged firm may be unable to answer the competitive attack promptly. In our study of five focal firms, we found some support for these, as well as some additional considerations.

Locked into Existing Product Packages and Prices

Standardized Products

Large firms often develop a common approach to serving broad markets, even though customer preferences may not be uniform. This practice enables firms to simplify the structure of their supporting organizations and to standardize policies with respect to production, customer services, distribution, pricing, and other functional activities. Thus, established airlines had developed strategies of providing full services for all of their customers. Organizations were developed and employees trained to provide ticketing assistance, baggage handling, and meals in flight. Having defined their "product" in this fashion, and having developed the supporting logistic structure, it was difficult for them to "unbundle" these services for those passengers who would rather not pay for them.

Pricing Distortions

Similar distortions may occur when one product is priced to recover the cost of another product. The unprofitable product may be justified on the basis of social benefits, attempt to gain distribution power, utilization of excess capacity or other reasons. AT&T, for example, had long used the profits from long distance service to subsidize local telephone rates. As a regulated monopoly, it had been considered "in the public interest" to provide this subsidy, which was estimated to be as high as 35% of long distance revenues. When MCI was permitted to compete in the long distance market, paying a much lower subsidy to local phone service than AT&T, the latter faced a competitive challenge which was difficult to respond to. This disparity was reported to account for 70% of MCI's ability to undercut AT&T. AT&T is bound to this local subsidy until 1988, when it will be phased out. Meanwhile, they must rely on the short-term solution of emphasizing nonprice characteristics in the face of 15%–50% price discounts offered by MCI and other new competitors.

Cannibalization of Existing Products

In meeting a confrontation, established firms are constrained by the extent to which their response would affect sales of products which are not directly challenged. Efforts to protect a particular product may lead to loss of sales on other products.

At IBM, the pricing policy reflected a constant price/performance ratio across the entire

family of computers. This policy paid off for IBM inasmuch as the lineup of products was developed to derive maximum revenues. While still employed at IBM, Gene Amdahl proposed to IBM a large central processor which would be profitable under two conditions. First, to gain market acceptance, this machine would have to be priced lower than that stipulated by the existing pricing strategy. Second, two additional machines would have to be placed between the IBM 370 family and the largest processor to generate sufficient volume. These steps, however, would upset IBM's overall pricing ratio and threaten the demand for those machines for which the price/performance ratio would become less attractive. Thus, IBM rejected this proposal, and Amdahl subsequently left to found his own firm. He eventually gained success by offering an advanced central processor (the 470 V/6) priced at a level consistent with market demand and not hampered by consideration of whether it would cannibalize smaller machines.

Manufacturing Barriers

The challengers in our examples all demonstrated superior cost advantages. These became feasible through a combination of policies which departed from traditional industry practice. However, the established firms found themselves "locked into" higher cost positions, which reflected historic decisions about wages, work rules, locations, processes, and the skills needed to compete.

Wage Rates and Work Rules

At People Express, the salary structure was substantially lower than that of the established airlines. Initially, its pilots earned $30,000 per year and worked 70 hours per month, compared with industry averages of $60,000 and 45 hours.

Operating by work rules which were much more flexible than those of the industry, People Express promoted efficiency by rotating all its employees through different job assignments. This practice extended to managers, pilots, maintenance personnel, and flight attendants (known as customer service managers at People Express). Hence, People Express "produced" at significantly lower costs than would have been the case had they accepted the high salary structures and rigid job classifications of their larger rivals. Its labor costs were about 20% of revenues, compared with 37% for major airlines as a group. The competing major airlines had wage contracts in place; they also had pilots and managers who would regard the rotation of job assignments as demeaning and unacceptable.

Existing Facilities and Processes

IBP's decision to locate its cattle slaughtering facilities in the heart of cattle feeding country, rather than only in the traditional stockyard terminal cities of Kansas City, St. Louis, or Chicago, not only resulted in lower wage rates, but also lower real estate and building costs. Moreover, this strategy drastically reduced the shrinkage normally experienced when livestock were transported long distances from the feedlot to the slaughter site.

And redefining the manner in which slaughter cattle were processed, IBP introduced the moving "disassembly" line. Unskilled or semiskilled laborers were used to perform simple repetitive tasks, replacing the skilled butchers required by the traditional meat packing process. The combination of efficient, one-story plants, redefined process operations and lower wage rates gave IBP a "kill" cost of around $18 per head compared to $30–35 per head for old-line packers.

IBP led the industry in cleaving and trimming carcasses into loins, ribs and other cuts and boxing the pieces at the plant, which further reduced the transportation costs by removing excess weight. The innovative plastic packaging introduced by IBP virtually eliminated shrinkage due to refrigeration and quadrupled the shelf-life of fresh meat from 7 to 28 days. In fact, IBP claimed it could deliver boxed beef to a supermarket at prices as much as $36 less per head than the retailer could buy and process carcasses himself.

The established meat packers had commitments to existing plants and facilities. They had already trained skilled butchers, and were paying them accordingly. Their entire organizations were oriented toward the traditional way of slaughtering and shipping beef.

Joint Manufacturing

Components shared across product lines can give rise to economies of scale in production, lower design, engineering, and service costs. On the other hand, this practice often promotes standardization and exacts a compromise in product performance.

In IBM's case, the component division recognized that the largest mainframe computers represented only a small market. To attain economies of scale, components for the large processor would also be designed for use in the smaller computers in the company's line. This commonality would lead to lower production costs, particularly across the entire family of products, but also would lead to sacrifices in product performance. When Gene Amdahl proposed the development of a large central processing unit, he could not obtain assurances that the components needed would not be downgraded. Yet without such guarantees, he felt that the desired performance specifications would be compromised. When Amdahl later left IBM and developed his own central processor, utilizing only those components appropriate to its design, IBM was faced with a dilemma. Should it retain emphasis on commonality, leading to lower development, manufacturing, and service costs across a family of products, or should it seek to match the price/performance ratios of the Amdahl computers through using components uniquely suited to large central processors?

Organizational Structure and Culture

Organizational Structures

The organizational structures of large companies influence their ability to respond to direct competition by small firms. High degrees of centralization and thick policy manuals make it more difficult to modify policies or respond quickly to the moves of smaller competitors. Layers of organization also are often associated with high overhead rates. AT&T was characterized by strong central staff groups, careful and deliberate study of proposed policy changes—including pricing, and concern about system-wide consistency. The corporation was noted for many strengths, but not for internal entrepreneurship. Thus, MCI's development of a lean, stripped-down organization with innovative pricing and marketing techniques, was difficult for AT&T to match.

Organizational Cultures

The organizational cultures of established firms evolve through long periods of hiring, training, and motivating employees to implement particular strategies. Employees become proud of organizational capabilities, such as offering a full product line or excellent service.

The integrated steel companies competed on the basis of offering broad product lines. Many major steel companies had integrated backward to the point of iron and coal mining and forward to the point of steel service centers where structural shapes were prepared for individual customers. The traditional "big steel" claim of "If it's done in steel, we do it" required a large investment in metallurgical skills and facilities which had come to be accepted as a necessary requirement of being in the steel business.

But, at Nucor Steel, Iverson did not need or want a full product line. Hence, he had no requirement for the extensive staff, large capacity furnaces, rolling equipment, reheating facilities, and other investments required of an integrated steel producer. In fact, the investment cost of Nucor's "mini-mills" ran only about $150 per ton of annual output, compared to the nearly $1400 per ton of annual output for an integrated mill.

The young firms in this study created cultures which were difficult for the large firms to replicate. In the early days of Amdahl, Gene Amdahl visited customers and closed the sale himself—an approach that was difficult for IBM to match. Nucor created a culture in which every employee was made to feel important. They even listed the name of every employee on the back page of their annual report!

Ability to Innovate

Innovation can vary widely across established firms. Often, they are well-equipped to deal with incremental innovations leading to gradual improvements in cost or performance. However, dramatic changes in the concept of the products, services, or production systems may encounter significant organizational barriers. Initially, it is not clear whether the new concepts will be successful or how large their market potential might be. The methods of analysis used in large corporations often emphasize "hard data" and systematic analysis more suited to incremental innovation than to major changes in strategy. Moreoever, innovative strategies often call into question the long-established success formula of the corporation. Such changes threaten managers whose power bases depend on the existing strategy and who may have spent careers developing skills which would no longer be valued.

By contrast, the entrepreneurs within these new companies were the product champions. Gene Amdahl of Amdahl Corporation and Gitner and Burr of People Express Airline had dreams of what they hoped to bring about through their new companies. They could rely upon their "feel" for the technology and marketplace based upon personal experience. Unencumbered by high administrative overhead and large organizations, they could achieve success at relatively low sales volumes. Thus, their small firms were almost ideal settings for experimentation with innovative strategies.

Barriers to Response

In examining these barriers to response, we should not underestimate the role of *government regulation* and *union contracts*. Established firms are visible and accumulate, over time, a history of agreements. AT&T certainly was subject to regulatory constraints, such as the requirement to provide low-cost local service. MCI was faced with no such requirement. Major airlines and old-line beef packers were obligated to labor agreements which restricted flexible work assignments and called for much higher hourly wage rates than those faced by competitors such as People Express or Iowa Beef.

FACTORS BEARING ON WHETHER CHALLENGER ADVANTAGES MAY BE ERODED

Young firms engaged in strategies of direct competition may achieve initial success, based upon some of the advantages just considered. The firms illustrated in this study have all achieved substantial growth and are no longer small. Their 1984 sales ranged from more than $500 million to over $5 billion.

This is not to suggest that the conditions which give rise to this success, and the effectiveness of strategies which exploited these opportunities will persist permanently. Much depends on how the industry evolves and how established competitors respond. Responses may be of a short-term tactical nature, or they may involve basic changes in the large firms' strategies and organization structures.

Small firms must also be aware that, as they grow, they may lose some of the characteristics which contributed to their success. New players, encouraged by the visible success of challengers, may enter and crowd the markets. Managements of challenging firms must assess these developments and how they may threaten their competitive advantage.

The previous literature clearly notes that early sucess may not endure and that "sustainable competitive advantage" is required for continuing success (Coyne 1986; Porter 1985). The ability to sustain advantage may depend, in part, upon how well the new firm deals with the continuing crises of growth (Buchele 1967; Baumback and Mancuso 1975). Even as the firm grows to substantial size, management confronts a series of internal challenges, of evolutions and revolutions (Greiner 1972). Outside the firm, continuing industry development may shift the focus of competition (Porter 1980). In some cases early sucess may attract excessive numbers of competitors, which coupled with rapid change and customer instability, can lead to disappointing performance for many participants (Sahlman and Stevenson 1985).

The five challengers considered here all had to deal with a succession of responses by established competitors, internal changes, and confrontations with new entrants.

Responses by Established Firms

Responses by established firms can be tactical or strategic. Tactical responses do not stem from fundamental changes in the firm's policies. They represent short term responses by established firms to protect critical segments, to test the commitment of challengers, or to buy time to implement new strategies or organizational changes. In certain key markets, established airlines slashed ticket prices by over 50% to meet People Express' low fares in an all-out price war. One United ad directly attacked the upstart with the slogan, "You can fly or you can be shipped." Established airlines also lobbied the CAB to eliminate subsidies relating to the lower penalties People Express faced if luggage was lost or confirmed passengers were bumped.

Strategic actions, on the other hand, involve major adjustments in the large competitors' products, processes and organizational structures. Two years after Amdahl sold its first 470V6, IBM announced a radical new product, Model 3033, which would bring a price/performance improvement of some 140% over its predecessor. The major reorganization proposed by AT&T would allow it to compete with fewer constraints. After subsidy to local services is phased out in 1988, approximately 70% of the cost advantages MCI currently enjoys will be eliminated. Major efforts were also undertaken by leading airlines

to pare down operations, evaluate route structures, and negotiate with unions for lower wage rates.

When faced with these tactical and strategic countermoves, what might challengers do? They must choose their battlefields carefully, taking into account their more limited resources. Thus, rather than become locked into a prolonged, bitter struggle with TWA and US Air over the Newark to Indianapolis route, People Express withdrew from that market when it could not generate sufficient volume. Although this might be viewed as a "hit and run" attack, the management of People Express was confident of its ability to compete in many markets if it continued to maintain its low-cost operations.

Challenging firms must also be prepared to compete more aggressively as established firms react. As MCI's cost advantage over AT&T began to slide, MCI increased its marketing emphasis and expanded its sales force to contact wavering customers. Moreover, it continued to adopt an aggressive posture, spending heavily to expand capacity, workforce, and upgrade microwave transmitters.

Evolution of Small Firms

If challengers are successful in developing markets, they will eventually evolve into larger organizations. As these firms grow, they become more complex and the necessary administrative processes may cause such firms to take on characteristics of larger competitors, slowing response time and dulling the competitive edge they once held.

At Amdahl, decision processes have become oriented toward concensus. In an interview, Gene Amdahl expressed concern that a democratic process may not always produce the best decision. To the extent that innovation requires approaching things differently, the concensus process can become an obstacle. As any firm grows larger, it is more likely to have "experts" who know more about their territories than others. Such specialization may cause conflicts as people go about defining and protecting their "turf." Amdahl has also had increasing difficulty in recruiting and training salesmen and engineers to keep pace with growth. Finally, rapid growth had rendered it less feasible to utilize the personal touch of Gene Amdahl as a major competitive strength. In the late seventies before Amdahl retired, he spent a great deal of his time as a high-level salesman. Customers usually would not buy until they had met Gene Amdahl. This direct involvement became a bottleneck as Gene Amdahl's administrative responsibilities increased.

Challengers must recognize those dimensions of their cultures which were relevant not only to their past success, but would be critical to their future performance as well. Only half-jokingly, McGowan said he would abolish the existing MCI to build a new company "to keep employees on their toes." This statement, albeit made in jest, reflected his acknowledgment of the need to maintain MCI's fighting spirit despite experiences of success. Nucor, to affirm its belief in the importance of its workers, has continued to print the names of employees on its annual reports. Only now the organization has grown so large that even the front cover is used for this purpose. Nucor's workers have always enjoyed generous bonuses based on production levels. The base levels on which such bonuses are calculated have remained unchanged despite significant technology-driven productivity gains.

Entrance of Other Firms

In the beginning, it is usually not clear whether innovative small firms are developing strategies with great potential. However, as their success becomes visible, other competitors, both established corporations and new ventures, may begin to copy their strategies. For

example, MCI and AT&T subsequently competed not only with each other, but also with Sprint, Allnet, US Telephone, and SBS. In the meatpacking industry, IBP competed not only against the old-line packers, but also against such firms as MBPXL and Monfort, which were following strategies similar to their own. Suppliers of supercomputers subsequently included not only IBM and Amdahl, but Cray Research and Control Data as well.

The innovative small firm may thus confront a variety of competitors, with different strategies and strengths. Management must anticipate these competitive pressures. This may include being careful not to overextend the firm and developing the financial strength or competitive alliances needed to survive under more difficult conditions. It also means sharpening the distinctive skills which led to their early successes and being careful not to let creeping changes in strategy take the firm away from its core strengths. Faced with the scores of new long distance carriers, small airlines, and mini-steel mills, MCI, People Express, and Nucor demonstrated their competitive edge not only against established industry leaders, but also against other small and new challengers.

CONCLUSION

We have examined firms that developed strategies of competing directly with much larger established companies. The potential of their strategies has been demonstrated, both to investors and to their competitors. Whether they continue to be successful will depend upon how well they manage their growth. It will also be affected by how well they respond to competitive countermoves by their larger competitors. However, they may also confront competition from still newer firms which tailor strategies of direct competition against them. The cycle continues.

The strategies considered here are niche strategies in the sense that they concentrate on serving the needs of limited groups of customers. They are also "focus strategies" as described by Porter (1980), in the sense of emphasizing lower costs, differentiation, or both, in dealing with a portion of the market. However, contrary to the prevailing thinking in much of the literature, these niche or focus strategies do not limit young firms to markets that are of no interest to leading competitors. Those firms with the right combination of corporate resources and industry opportunity may be able to develop strategies of direct competition which lead to continuing and enviable success.

In no way do we suggest that a direct confrontation strategy is appropriate for all small businesses. The sample considered is small and may not be broadly representative. However, these observations may challenge the dominant perspective and hopefully, invite future entrepreneurs and researchers to think more broadly and aggressively about the distinctive competencies of small and new businesses.

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