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Small Business and Economic Development for Nebraska

Bruce A. Kirchhoff

Economic theory and research data suggest that Nebraska policymakers should redirect economic development efforts toward the formation and growth of small businesses. A mechanism is presented for categorizing small businesses into sectors which are most likely to provide the economic growth so necessary to the state. Recommendations for implementing a search and screening process to identify businesses with high growth potential in the state are discussed. Finally, recommendations for changing policies and programs to increase the formation and growth of small businesses in Nebraska are presented.

Since the early 1980s, policy formulators have been intensely interested in the role that small businesses play in economic development. The popular belief in post-World War II America that big businesses were the source of economic growth in our society has been discredited by recent research. In 1979, Massachusetts Institute of Technology (MIT) published research which showed that from 1969 through 1976, small businesses created 82 percent of the net new jobs generated in the United States. Other research since 1976 has added support to MIT’s findings.

Evidence suggests that economic development policies should focus on the formation and growth of small businesses, not the growth or relocation of large businesses. This is especially important in Nebraska where, historically, economic development has emphasized recruiting large businesses to locate new manufacturing plants in the state. Recent research suggests that the thrust of economic development should be to encourage entrepreneurs to form and expand businesses in Nebraska.

Nebraska’s growth in the number of nonagricultural businesses has lagged the growth of such businesses nationwide. According to data published by the U.S. Small Business Administration (SBA), Nebraska had 35,459 nonagricultural business establishments in 1976; in 1982, this number had grown by 6.1 percent to 37,638. But, nationwide, the number of nonagricultural business establishments had grown by 10.3 percent.
To correct such lagging growth, Nebraska's policymakers are faced with the difficulty of moving from the historical basis for economic development to a new view based upon entrepreneurship. Three major issues must be considered carefully: (1) Is the new view of entrepreneurial economic growth justified; (2) How do policymakers identify the small businesses which should be given economic development attention; and (3) What policies can be used to encourage entrepreneurial activity in Nebraska?

The New View of Small Business

The central question is whether economic growth based upon small businesses is a lasting phenomenon or just a passing fad. If the new view lacks either a theoretical base or strong empirical research support it is likely to be a fad rather than a foundation for economic development policies.

Theoretical Base for Entrepreneurial Growth

Historically, small businesses have not been perceived as major contributors to economic growth. Conventional wisdom reasoned that many small businesses were needed to produce as much economic activity as only one big business. Thus, large businesses were the focus of most economic development efforts. This logic was so much a part of American life that few questioned it. John Kenneth Galbraith codified this belief in *The New Industrial State*. Therein, Galbraith theorized that our nation's economic and social fabric was controlled by a technocratic structure composed of large businesses, large government bureaucracies, and large labor unions working together to accomplish society's goals of economic growth and stability.

The potential for economic growth in Galbraith’s new industrial state was vested in large corporations and large government bureaucracies. Small businesses were of little importance; many economists, sympathetic to Galbraith’s view, considered small businesses to be anachronisms — inefficient and economically unimportant.

Recent Research Evidence

Yet, even as Galbraith wrote, empirical evidence was being collected to refute his big business hypothesis. By 1979, research at MIT revealed
that 82 percent of the new jobs created in our society between 1969 and 1976 were created by firms with less than 100 employees. Dave Birch's innovative approach to analyzing employment data uncovered what no previous economic study was capable of disclosing. And, once he applied his analysis, the traditional view that large businesses dominate economic growth began to crumble.³

In quick succession, others searched for explanations for why small businesses created more jobs. One answer had been found earlier, but no one had been able to explain it. In a 1976 study conducted for the National Science Foundation, Gellman Research Associates found that small businesses create 2½ times more innovations than large businesses.⁴ The National Science Board then examined its figures on research and development expenditures and concluded that small businesses generate many more innovations per dollar of research and development expense than large businesses.⁵ Later, in a follow-up study, Gellman Research Associates found that small businesses create more innovations per employee than large businesses.⁶

Since the publication of David Birch's findings in 1979, the SBA has systematically assembled a data base on small and large businesses similar to that used by Birch. Analysis of this data base has resulted in estimates of the percentage of net new jobs generated in the United States by businesses with fewer than 100 employees. This percentage ranges from a low of 51 percent in the period 1976-80 to a high of 100 percent from 1980 to 1984.⁷ Clearly, since 1969, small businesses have been the source of job growth.

This combination of findings began to suggest an economic growth phenomenon most unlike Galbraith's hypothesized new industrial state. Instead, it identified economic growth patterns that resembled those described by Joseph Schumpeter.

Schumpeter's Entrepreneurial Economy

Schumpeter perceived the economic structure of our society as being dominated by large businesses that find some form of mutually agreeable price, product, and quality relationship within their common markets.⁸ These implicit agreements constrain the degree of competition in the marketplace.⁹

Price leadership is a commonly observed example of such constrained competition. General Motors (GM), for example, traditionally is
the first U.S. automaker to announce price changes (or interest changes). The other automakers copy whatever GM announces. Schumpeter believed that large businesses would become satisfied with their relative market shares in such markets and seek to acquire profits without upsetting the agreeable competitive situation.

True capitalistic competition, Schumpeter noted, emerges when entrepreneurs discover innovations which can be used to enter markets that are dominated by large businesses and to destroy the competitive agreements. In so doing, entrepreneurs create profits for themselves, expand overall economic activity, and create increased wealth for society as a whole. Entrepreneurial growth occurs both by eroding market shares from existing large businesses and by expanding markets into new areas. This is Schumpeter’s theory of creative destruction, that is, creating wealth by destroying current market structures.

A good example of creative destruction is the start up and success of Godfather’s Pizza, Inc. Willie Theisen developed a combination of innovations—pizza recipe, self-serve restaurant, pricing, restaurant motif, and advertising and promotion themes. This combination allowed Godfather’s to enter the restaurant franchise business in 1976 and become the fastest growing restaurant franchise in the United States by 1982. At the same time, large pizza chains, such as Shakey’s Pizza and Pizza Inn, suffered considerable loss of market share while Pizza Hut was forced to reorganize. In the meantime, the entire pizza restaurant industry experienced a spurt in growth. Thus, Godfather’s entered the market with successful innovations, significantly changed the market structure by eroding the market share of several established large businesses and expanded the pizza restaurant market by appealing to a broader segment of the population.  

The Godfather’s example and many like it make Schumpeter’s theory fit the research findings on job generation and innovation. Small innovative businesses then are the source of economic growth; they form and grow by creatively destroying existing market structures and so produce new wealth and new jobs.

Why do innovative entrepreneurs choose Nebraska as a place to start businesses? Entrepreneurs start businesses where they live, and they keep their businesses located where they live. This is logical and many research studies have confirmed it. Godfather’s was started in Omaha because Willie Theisen lived there; in fact, it was started only a few blocks from where he lived.
Still, not all small businesses are, nor should they be, creative destroyers of the scale of Godfather’s. Clearly, some small businesses in Nebraska can and do become Schumpeter type entrepreneurship; others do not. However, examples of successful Schumpeter-type businesses abound in Nebraska: Pamida, Valmont Industries, Iowa Beef Processors, and Lindsay Sprinkler. But, where are the creative destroyers of tomorrow? How can they be identified? How can Nebraska establish policies that facilitate formation and growth of these businesses? How can Nebraska take advantage of this new view of small business?

Identifying Small Businesses with Growth Potential

There are 7-17 million small businesses in the United States, depending on how you count them. It is impossible to focus economic development efforts on all of these businesses. But, how do economic development specialists identify which small businesses are potentially high-growth businesses?

Policymakers have long known that small businesses were the backbone of Nebraska’s agricultural economy. It is obvious, however, that these agriculturally related small businesses are not the entrepreneurs on which the popular press focuses national attention. Newspapers and magazines glamorize hi-tech entrepreneurial firms, such as Apple Computer Company, Atari, and Compaq Computer. Are there such glamorous firms in Nebraska? Where are they? How can they be identified?

Smallness by itself does not identify those businesses which have high-growth potential. Instead, smallness identifies a hodgepodge of disparate businesses characterized more by differences than by similarities. These businesses range from family owned, neighborhood retail stores to venture capital owned, innovative computer software firms. Identifying which among such a variety of businesses offers growth potential is difficult. A new, more useful segmentation of the small business sector which identifies business growth is necessary.

Classifying Small Businesses for Economic Development

Schumpeter’s theories provide a base which can be used to create a classification of small businesses for economic development analysis. Schumpeter noted that creative destruction resulted in growth of the
firm’s and the economy’s wealth. Schumpeter implicitly assumed that growth and innovation were synonymous; innovation produced growth, and growth emerged naturally from innovation. But, experience tells us otherwise. Entrepreneurs can innovate without success, and, therefore, experience no growth. Alternatively, a business can grow, even without innovation, on the strength of an initial successful innovation. For example, Godfather’s initial innovations provided it with growth for 7 years.

If we recognize that innovation and growth are two separate phenomena, we can then classify small businesses by their innovation rates and growth rates. Such a classification can reveal business characteristics that are particularly relevant to economic development.

Four Segments of the Small Business Sector

Using the two dimensions of innovation and growth, we can draw a matrix that can be divided into four segments (figure 1). The first segment is one in which firms experience low growth and low innovation rates. This segment contains the largest number of small business firms and is called the economic core. Next is the group of businesses that have high rates of growth but low rates of innovation. These ambitious businesses are truly Schumpeter types in the extent to which they creatively destroy markets, but they grow on the basis of their initial innovations. The third group of businesses has a high rate of innovation but these businesses have not achieved growth, that is these businesses have constrained growth due to a lack of success in penetrating their intended markets. Fourth are the firms that have high rates of innovation and high rates of growth; these are the glamorous firms upon which the popular press thrives.

Economic Core Firms

By far the greatest number of small business firms are in this category, defined as low growth and low innovation. At the time of formation these firms innovate enough to destroy a small portion of market structure, such as a local market or a specialized part of a national market, in an effort to carve out a market position that will establish and maintain the firm. But, the innovation is not sufficiently powerful to
Figure 1
Categorization Matrix for Small Businesses

HIGH

Resource constrained growth

Growth

BIG BUSINESS

Resource constrained growth

Internal constrained growth

III Glamorous

GROWTH

BUSINESS GROWTH RATE

LOW

BUSINESS INNOVATION RATE

LOW

I Economic Core

IV Ambitious
initiate major market changes so the firm’s growth tapers off quickly to a low and stable rate. Many retail and service firms are of this type; neighborhood auto repair shops, retail boutiques, restaurants, even the locally owned franchises of national fast-food chains can be cited as examples.

Economic core entrepreneurship is an important contributor to economic growth for four reasons. First, formation of each small firm creates one or more jobs and expands economic activity. A lot of formations take place. For example, according to statistics reported in *The State of Small Business* the number of establishments in Nebraska increased by 2,351 (6 percent) from 1976 to 1982. Over two-thirds (69 percent or 1,618 firms) of the net new business formations were in the transportation, wholesale trade, retail trade, finance, insurance, real estate and service sectors. This is typical of the economic core. Most business formations in Nebraska are economic core firms, and each firm creates at least one new job for Nebraska.

Second, economic core firms are the backbone of retail and wholesale trade in rural Nebraska. Without them, the agricultural production system would fail. In 1979, Riefler and Lamphear showed that small businesses have been the mainstay of commercial activity throughout the rural Midwest. Economic core firms are essential to commercial activity in Nebraska’s cities as well. For example, in Omaha, few national food retailing chains have competed successfully with the locally owned, small retail chains. Safeway and Hinky Dinky both left Omaha, while the locally owned firms seem to thrive.

Third, in periods of economic decline, small firms continue to create jobs. Data from the U.S. Small Business Administration show that between 1980 and 1982 (a severe recession period) firms with 100 or fewer employees in the West North Central Region (Minnesota, Kansas, Nebraska, Missouri, Iowa, North Dakota, and South Dakota) created 91,000 new jobs, while larger firms lost 99,000 jobs. Nationally, small businesses created all of the net new jobs during these years.

Fourth, a small but important percentage of economic core firms evolve into ambitious businesses. For example, Godfather’s Pizza was founded as Wild Willy’s bar, a locally owned tavern serving southwest Omaha. The firm’s growth potential was not fully realized until it was combined with the restaurant next door, given the name Godfather’s Pizza, and franchised nationally.
Ambitious Firms

Ambitious firms are often mixed into discussions of the highly innovative high-growth firms. The assumption is that all high-growth firms are highly innovative. But, ambitious firms are not highly innovative. They are high-growth, and their growth is derived from one, or a few, highly successful innovations.

Ambitious entrepreneurs consider growth to be their primary objective and concentrate their resources on the growth process. They avoid diluting their growth by allocating scarce resources to the creation of additional innovations. This can be demonstrated from Godfather's experience.

Once Godfather's Pizza identified its potential for growth, it focused its resources on growth. Early in its development, it identified an innovative combination of product, price, decor, and advertising that suited consumers' tastes and produced outstanding profits for the franchise owner. It left this combination relatively unchanged while it used its resources to market franchises and to guide the development of new restaurants nationwide. Within 6 years, this combination of innovations had rocketed Godfather's into the highest rate of growth among food franchise operators in the United States. But, Godfather's did not attempt to create any new innovations of the magnitude of its original combination, so as it gradually achieved geographic saturation with its franchises, its creative destruction impact became less and its rate of growth declined. This cycle is typical of ambitious businesses.

Another example of an ambitious Nebraska firm is Iowa Beef Processors, Inc. IBP was founded in the early 1960s with the innovative idea of slaughtering, breaking, and butchering beef all under one roof. By the early 1970s, it had changed the entire wholesale beef business by marketing boxed beef nationally and offering high-quality beef at a lower per unit processing cost. And, while the large traditional beef processors suffered decline, U.S. per capita beef consumption rose in conjunction with declining constant dollar retail prices for beef.

IBP became a member of Fortune magazine's 500 largest industrial companies. But, in the 1970s, new competitors emerged while the remaining untapped markets proved harder to penetrate. And, changing consumer tastes combined with major innovations in the production, pricing, and marketing of chicken (a substitute product) reduced per
capita beef consumption. IBP’s rate of growth declined with the changing industry and increased competition.

Ambitious entrepreneurs bring their innovations into a market structure dominated by large firms. Both Godfather’s and IBP entered markets which most experts perceived as saturated and stable. Experts said that the pizza restaurant business would not support another pizza chain; they also said that the wholesale and retail beef business was locked up by Wilson and Swift. The experts were wrong; such is the stuff of innovative entrepreneurs.

In each of these examples, the desire of the entrepreneur to achieve growth through exploitation of an initial innovation led to increased competition, increased consumer variety, and increased overall consumption, that is, to new and expanded markets. But, in both examples, growth eventually declined as the innovation achieved geographic coverage, new competitors emerged, and market changes became incremental. Simultaneously, the entrepreneurial firms became part of the big business economic structure and experienced declining growth. The only mechanism available for continuous high rates of growth is continuous entrepreneurial innovation.

Constrained Growth Firms

Entrepreneurial innovativeness, in Schumpeter’s definition, leads to creative destruction of current market structure. But, in reality, some highly innovative firms fail to destroy market structure; in such cases, something must be constraining the firm’s ability to penetrate its chosen market.

Constrained growth firms are those highly innovative firms that should be high-growth firms but something constrains the entrepreneurs’ efforts to enter and change markets. These constraints fall into two classes: internal constraints and external constraints.

Internally Constrained Firms. Internal constraints are imposed by the entrepreneur upon the firm’s activities. Some entrepreneurs are unwilling or unable to grow for reasons within their control. These entrepreneurs accept lower levels of market penetration as necessary conditions to achieve their other objectives, which may or may not be conscious objectives. In other words, some of their objectives differ from Schumpeter’s theoretical entrepreneurial objectives. These other objectives may be maintenance of individual or family control.
Avoidance of high rates of internal change (and the strife and trauma associated with such change), fear of failure, or simply satisfaction with establishing and maintaining a secure, adequate, personal income flow. Maintenance of control is the most common constraint. Entrepreneurs recognize that achieving high rates of growth requires large sums of capital, sums that exceed the firms' internal cash generating and borrowing capabilities. Thus, they need to constrain the growth of their firms or seek outside sources of equity capital, that is, share ownership. They choose to constrain growth because they fear loss of control if they share ownership with outsiders.

Another common reason for constraining growth is income targeting. The entrepreneur seeks to achieve a level of income which satisfies personal or family needs. Once this level of income is achieved, the entrepreneur's need to commercialize inventions and expand applications declines and growth slows. Although the entrepreneur may continue innovating, the innovations are not commercialized as quickly, or they are not commercialized at all. Income maintenance dominates decision making and risk of failure makes investment in innovation and growth appear as a threat rather than an opportunity.

Growth in sales and employment of internally constrained firms lags behind potential. If the innovations are attractive enough, competitors eventually copy them, enter the market, and carry out the creative destruction. Inventors who start firms based on a patented invention are often surprised to discover that competitive entry is not prohibited by patents. Unless the patent holder aggressively commercializes and exploits the market potential of the invention, competitors will willfully violate the patent simply because the potential profits more than justify patent infringement penalties.

For example, a major innovation in pocket pager technology in the early 1970s occurred in the design of a battery power-conserving circuit. This circuit was invented and patented by the principal owner of Reach Electronics Corporation in Lexington, Nebraska. The patented circuit extended the life of the battery from 30 days to over 1 year and made the pocket pager a truly reliable device. But, Reach constrained its growth and moved slowly into the market. Meanwhile, Motorola copied the circuit and aggressively moved into the market. The owner sued Motorola and eventually won the patent suit. But, by the time the suit was settled, Motorola had 95 percent of the U.S. pager market, and had increased employment in Illinois by thousands.
Large competitors fill the gap created by self-constrained entrepreneurs by licensing patents or by buying out the firms. But, until ownership of internally constrained firms changes, rates of growth remain low. Such firms meet their owners’ needs but fall short of fulfilling their potential for economic growth. The greatest economic growth impact occurs when a firm grows rapidly.

**Externally Constrained Firms.** Some entrepreneurs are unable to obtain the resources they need to exploit their innovations. These tend to be new, early developing, innovative firms. The cost of innovation is so high that firms either overcome their constraints or fail within a few years. Their products or services have not yet demonstrated market worthiness or management has not yet proven itself capable of performing. Thus, suppliers restrict or withhold credit, banks limit their lending, and venture capitalists hesitate to invest, asking instead for proof of ability to succeed.

Furthermore, suppliers of special resources, parts, or subassemblies hesitate to supply small quantities because of high start-up costs and credit risk. At the same time, distributors are reluctant to stock the firm’s product or even actively sell it until the market is defined or the firm shows itself to be a survivor. This is the small business Catch 22. Showing proof of success as required by potential investors is not possible until after the investors invest and the markets develop.

If an externally constrained firm survives and demonstrates market potential for its product or service, resource constraints will disappear. In the meantime, the firm struggles for survival and remains resource starved with an economic growth potential unfulfilled.

Another possibility is that the externally constrained firm can be bought out by a large firm before its potential is realized. If this happens, it is probable that the firm’s potential for destroying market structure will never be realized, because market turmoil is resisted by the large firm. It will prefer to exploit the innovations in an orderly way that does not radically upset the current competitive agreements in the market. This may benefit the exploiting firm, but it results in reduced economic growth for society as a whole.

Examples of externally constrained firms abound in the consulting studies done by the Nebraska Business Development Center. Few of these are known because they are not the focus of public attention or press reports. For example, Goldenrod Research Inc., of Spalding
Nebraska, is a struggling computer manufacturer that is trying to raise sufficient capital to initiate marketing. Whimseys of Omaha manufactures unique Christmas tree ornaments for which there is a substantial market, a long list of new products, and a need for an investor who can also serve as a business manager. Which of these might be Nebraska’s high growth firm of the 1990s?

Overview of Constrained Growth Firms. Constrained growth entrepreneurs are, in fact, small firms whose contributions to economic growth remain unrealized. Highly innovative, they possess the capability to become high growth firms.

Constrained growth firms deserve special attention by policymakers because their economic growth potential is so great. Externally constrained firms are of particular interest to economic policymakers; such firms have considerable potential for economic growth but teeter on the brink of failure. The extent to which they overcome their constraints will determine whether they do or do not contribute to economic growth. Capital, especially start-up capital to turn inventions into innovations, is the most frequent growth constraining resource for such firms.

Venture capital firms see many such firms but turn away most because they lack defined markets and management expertise. Research funded by the National Science Foundation suggests that venture capitalists rarely invest in externally constrained firms. An analysis of the average value of venture capital investments and the number of investments in technologically innovative firms during the early and seed stages of development reveals significantly lower investment than at later stages of the firm’s development. Venture capital firms prefer less risky investments.

On the other hand, research for the U.S. Small Business Administration suggests that informal investors appear to be the predominant investors in externally constrained firms. Such informal investors, however, usually invest only an average of $25,000.

Furthermore, such firms are among the highest risk category of investment ventures and, therefore, have little luck at borrowing from financial institutions. I have demonstrated that financial institutions will refuse to lend to such firms rather than lend at interest rates adjusted for risk. Thus, while ambitious firms usually encounter capital problems associated with their growth, constrained growth firms encounter capital problems before growth can be realized.
Of all the small business segments, glamorous firms demonstrate the greatest economic development deriving from sustained high growth. These firms have high rates of innovation and achieve high rates of growth from successful exploitation of their many innovations. Growth continues as long as the firms develop innovations and successfully use them to destroy economic structure.

These are called glamorous firms because they receive so much publicity for their contribution to economic growth. Such firms start small but are rarely small for long. Once such a firm passes the period of constrained growth, it catapults into the large firm sector. The founding entrepreneurs become locally (or nationally) renowned, and the press extols the virtues of successful entrepreneurship. Only the founders understand the agony of the start up and the initial struggle to survive.

Such entrepreneurs place priority on innovation and growth. They believe that growth is the outcome of innovation, and, therefore, they pursue innovation. Alternatively, they may simply prefer innovation as a way of life. Growth is sustainable as long as the firm creates innovations that attack current markets.

Many of today's large firms began as glamorous small firms. For example, Control Data Corporation was started by several scientists who wanted to innovate outside the constraints of their previous employer. Their commitment to innovation carried them into a long series of new computers and applications and into a large corporation. Wang Laboratories and Digital Equipment Company have similar stories. And, Apple Computer is in the throes of proving its ability to sustain innovative growth.

But, even highly innovative firms eventually experience declining rates of innovation and subsequently declining growth. Once the entrepreneurial spirit of innovation wanes, bureaucratic behaviors emerge and entrepreneurship vanishes. Instead, large firms begin to focus on lower risk strategies and defense of current market shares, thereby becoming the target of new entrepreneurs.

Nebraska has examples of glamorous firms; Norden Laboratories of Lincoln, First Data Resources of Omaha, and, most recently, Applied Communications of Omaha. Valmont Industries, Inc., has a history that may typify these firms. Valmont began in 1946 when Robert Daugherty...
and his uncle purchased Platte Valley Manufacturing, a firm that manufactured farm elevators for Sears, Roebuck and Company. Although successful, the firm recognized the mechanical irrigation equipment of Frank Zybach as an important innovation and bought him out in 1953. Platte Valley Manufacturing worked on the development of irrigation equipment for 8 years before its market penetration became significant. In 1960, Platte Valley Manufacturing recognized that its manufacturing ability with steel tapered pipe could be used to innovate in the market for electrical utility poles. Market penetration was slow here as well.

By 1963, Platte Valley Manufacturing had only 180 employees and $6.2 million in sales. But, demand for irrigation equipment began to grow. In 1967, the firm was renamed Valmont and then a public issue of stock was made in 1968, a year in which its annual sales reached $22.3 million. By 1976, mechanical irrigation equipment sales peaked and the firm had sales of $105 million. Then, electrical product sales began to grow faster than irrigation equipment. In 1980, total sales reached $152 million. In 1982, Valmont innovated again by forming a retail computer sales business, Valcom. By 1985, Valmont's sales reached $313 million with 1,960 employees. Irrigation equipment, electrical products, and computers—three major innovations to achieve more than a tenfold increase in sales and employment in 20 years.19

Glamorous firms probably represent the smallest percentage of small firms. Twelve to 15 percent of small firms create most new jobs,20 and glamorous and ambitious firms constitute no more than 12-15 percent of that number of small firms. Venture capital data suggest that ambitious firms dominate within this group.21

Focus of Economic Development

Ideally, economic development efforts should identify ambitious and glamorous firms as they are formed and provide support for them as they grow and create increased wealth for the state. But, glamorous firms usually start as constrained growth firms and ambitious firms typically have roots as economic core firms.

Neither glamorous nor ambitious firms are amenable to typical government policy prescriptions. For example, I have shown that federal tax policies, enacted on the basis that they would be good for small businesses, had little impact on ambitious or glamorous firms and possibly negative effects on constrained growth firms.22 Simply stated,
once a firm enters the ambitious and glamorous categories the ability of any public policy to affect its growth is questionable.

Thus, the greatest effect economic development policies can have and should have is on the constrained growth and economic core sectors. These sectors are characterized by formation activity and limited growth. Economic core firms do not aspire to growth. Constrained growth firms are constrained in their growth ambitions. Thus, policy prescriptions should address two principal characteristics of small businesses:

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<th>Formation</th>
<th>Growth</th>
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<td>What can be done to increase the rate of business formations? Unless new businesses are formed, opportunities for economic growth eventually wane as the economic structure becomes dominated by large firms that are intent on defending their current markets.</td>
<td>What can be done to increase the rate of growth of businesses? Unless economic conditions facilitate new business growth, new business formations will stagnate as either economic core or constrained growth businesses. Either way, the largest part of their contribution to economic growth will not be realized.</td>
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Effective encouragement of entrepreneurial activities in Nebraska requires that economic development policies address business formation and growth needs.

Encouraging Formation and Growth of Small Businesses

Resources are the essential elements of formation and growth of businesses. To form a business, an entrepreneur needs to perceive that the resources necessary for success are available. To make a business grow the entrepreneur must convert perceptions of resources into actual resources.
All small businesses need four categories of resources.

- Managerial knowledge and ability in diverse areas such as personnel, marketing, accounting, finance, law, and production.

- Scientific knowledge and ability in areas such as product design, engineering, manufacturing systems, and materials testing.

- Debt capital. This is money which must be repaid along with interest to a lender at some defined future date.

- Equity capital. This is money which may (or may not) be repaid at an undefined future date if the firm achieves adequate earnings.

Others may suggest a different list of resource categories; for example, classical economics uses three classes of resources, land, labor, and capital. Land seems of little importance because it is easily interchangeable with capital in today’s American economy. Labor remains an important variable and is incorporated in the list by referencing the critical elements of labor in an advanced technological economy, that is, specialized knowledge and ability. These are the constraining characteristics of labor resources.

The list somewhat artificially separates knowledge into business related subjects and scientific and engineering subjects. Managerial knowledge is defined as business know-how. Scientific knowledge is defined as science and engineering know-how. This distinction is not as obvious to the practicing entrepreneur as it is to policy analysts, but it remains an important designation for policy development because the subjects are clearly separated within the state’s educational system and have been conventionally treated as separate subjects in the literature on entrepreneurship.

For policy purposes, there are substantial differences between debt and equity sources of capital. For example, debt repayment is made from earnings before taxes with interest, a tax-deductible expense, whereas equity repayment must be made with after tax earnings. This makes capital acquisition sensitive to tax policy. Again, entrepreneurs will not often see the difference between these two as relevant to their operations, but the differences are important to policy formation. These four categories capture the essential nature of business resources for policy development.
The Motive to be Entrepreneurial

Another aspect of entrepreneurship not mentioned in the list of resources is motivation, that spirit of human beings which fosters and promotes the vision of business formation and growth in the minds of men and women. No one fully understands why or where this spirit originates, but there is no reason to believe that Nebraskans are any less endowed with this spirit than other Americans.

Some very useful research has been conducted on the motivation of entrepreneurs by David McClelland and others. McClelland has defined a human characteristic called achievement motivation that is related to entrepreneurial behavior. Several major behavioral change programs have been developed and tested in the United States and other nations. Generally, these programs have been successful, especially in the formation of economic core businesses in less developed nations.\textsuperscript{23}

However, it is generally believed that middle class persons in the United States are imbued with a significant natural tendency toward entrepreneurial behavior and, therefore, behavioral change programs are not used widely in our nation. Whether they should be more widely used in the United States is an interesting question, but a question outside the range of this chapter.

Managerial Knowledge and Ability

As soon as a business is formed it becomes a taxable entity. Thus, the need for business knowledge suddenly burdens the entrepreneur with recordkeeping. And, forever thereafter there are demands for specific types of technical knowledge on business topics.

It is rare to find anyone in any business organization, no matter how large, who has enough knowledge about all aspects of running a business that advice from technical consultants is not needed. Large businesses meet this need by hiring a bevy of experts—personnel specialists to interview and hire, financial wizards to manipulate cash balances, and accountants to record every action the firm takes. But, small business owners or managers do not have access to these experts, and lack of such expertise can lead to constraints upon formation and growth.

Such lack of expertise is very specific and unique to each business and market situation. General education programs, either credit or non-
credit, rarely address the individual manager's knowledge needs at the level of specificity required. Delivery of managerial assistance to small businesses requires individualized instruction; such individualized instruction is conventionally called consulting, that is, a knowledgeable expert communicating with a small business manager one on one.

The U.S. Small Business Administration's (SBA) accumulated experience of over 30 years of management assistance to small businesses clearly indicates that effective management assistance for small businesses requires individualized consultation. It is for this reason that the U.S. Congress authorized the SBA to implement the Small Business Development Centers (SBDCs) in seven states in 1976. The SBDCs were designed to provide management assistance to small businesses by using the faculty of university business schools to provide consulting and training.

The SBDCs' principal program is providing individualized consulting to small businesses. The success of this program is evident by SBA's gradual phase out of many of its Management Assistance Programs, while increasingly relying on the SBDCs and the Service Core of Retired Executives (SCORE) Program, wherein retired executives consult with small business owners individually.

No small business possesses all of the managerial expertise necessary to cover its business needs. To facilitate business formation and growth, individualized consulting services must be provided to small businesses, especially externally constrained growth businesses whose constraint may be business knowledge rather than capital.

Technical Assistance

Those who specialize in the sciences and engineering will recognize the similarity between the comment about specialized knowledge and the need for individualized consulting rather than broad-brush educational programs. Each small business with a technical problem needs specialized one-of-a-kind assistance.

Again, such consultation is needed on an individual basis. And, the lack of such technical assistance could limit the formation and growth of small businesses, especially the externally constrained growth businesses whose constraining resource may be scientific knowledge rather than financing.
But, the differences between management assistance and technical assistance are not as clear to working entrepreneurs as they are to policymakers. Many business problems can be recast easily as scientific problems. For example, selling a high-priced product may be perceived as a marketing problem. On the other hand, the same problem could be perceived as a technical problem of finding a cheaper raw material for producing the product, thereby permitting reduction of its price. This blend of business and scientific knowledge is understood by those who routinely perform such problem analyses, that is, entrepreneurs. But, every technical expert typically brings bias to problems so that the definition of the problem reflects scientific or business specialty. Thus, entrepreneurs are required to define their problems before they select consultants.

This is a dilemma policymakers must face if they are to promote the formation and growth of businesses. How can the government facilitate problem definition so that entrepreneurs can obtain assistance, either business or technical?

Debt Capital

Debt capital is not as readily available as economists generally theorize. The reason is that financial institutions do not vary interest rates to adjust for variations in risk on small business loans. Instead, lenders tend to either lend or not lend, that is, they ration funds. And, the lenders' assessment of risk is heavily dependent upon a firm's history of financial performance. Furthermore, when they do lend, financial institutions charge small businesses an interest premium disproportionately large relative to the risk involved.

Most small businesses, especially economic core businesses, have limited access to markets for loan funds compared with large businesses, and, therefore, depend almost entirely upon financial institutions for their debt capital. Under these conditions, many small businesses simply have no access to loan funds. This is especially true for newly formed businesses because they lack financial histories and are assessed as high risks.

Economists often note that debt to asset levels among small businesses, especially economic core businesses, are typically higher than those of large businesses in the same industries. However,
Economic core businesses are usually closely held and the personal assets of the owners are pledged as collateral for debt; because personal assets are not reported as part of the businesses' assets, the debt to asset ratio is overstated. Thus, apparent high-debt levels are probably not out of line with conservative institutional lending practices. Furthermore, recent research has shown that smaller economic core businesses are more profitable and demonstrate less risk as measured by their profits relative to their debt obligations than larger businesses in the same industries.26 Contrary to popular opinion, small businesses are not high-risk borrowers. Thus, economic core businesses are capable of handling fairly large amounts of debt relative to their larger counterparts. So the cost and availability of loan funds from institutional lenders is an issue of importance to policymakers who are committed to encouraging the formation of new businesses, especially among economic core firms which, among other things, regularly spawn ambitious firms.

Equity Capital

New businesses, especially those with considerable growth potential, need patient money. Patient investors understand that such businesses typically do not earn profits in excess of their internal cash needs for 7-10 years. Although the returns the investor eventually reaps may more than justify the wait, the investor must be patient.

Typically, these patient investors are not venture capital firms but individuals who invest $25,000 to $50,000 and patiently wait for the long-term payback. Such individuals play a vital role in the formation and early stage development of glamorous and ambitious small businesses. It is essential that entrepreneurs have access to patient investors, investors who have been characterized as informal investors.27 There are good reasons why patient investors are needed for firms that pursue high-growth objectives. Growth, especially high growth, consumes much capital. Thus, ambitious and glamorous firms rarely generate cash equal to their internal needs. They have little or no ability to repay investors for many years even when profit margins are high. This means that ambitious and glamorous firms cannot depend on debt as a major source of financing because debt to financial institutions brings an obligation to repay within 5 years or less.28 Typically, principal and
interest payments begin in the first period after the loan is made. Debt repayment is a cash outflow that can constrain the firm’s rate of growth, thereby decreasing the ability to produce economic growth.

Too often entrepreneurs seek and obtain debt capital only to discover that debt repayment exhausts their initial success and drains their firms' ability to grow. Thus, an economic core firm is formed, grows to a limited size, and then stabilizes as it services its debt. The constrained growth firm is formed and then exhausts its capital in debt repayment while it is still in the early innovation stage of development. It then struggles to obtain more debt, never realizing that it is the debt capital that is constraining its rate of growth.

Exceptions to these general observations exist but there are many reasons why informal investors are often referred to as investor angels. A viable economic development policy should address the informal investor issue. Without patient money, many potentially ambitious businesses will remain in the economic core and many potential glamorous businesses will never break free of constrained growth.

Eventually, as the entrepreneur begins to reap profits, the firm develops the need for large sums of capital (millions of dollars). With good planning (and a little luck), the firm will become sufficiently attractive so that it can obtain financing from venture capital firms. Venture capital is widely available in the United States and, although only two somewhat limited venture capital firms operate in Nebraska today, there are several regional firms that are constantly searching the Midlands for potential investments.

Another opportunity for capital acquisition is the public issue of stock. Although somewhat more expensive, a public issue can raise large sums of capital while avoiding taking on a significant single owner who may attempt to control the firm.

Anecdotal evidence suggests that Nebraska has not provided adequate venture capital for its growing firms. Many Nebraska growth firms have found it desirable or necessary to sell themselves to large corporations to meet their growth needs. First Data Resources sold itself to American Express. Behlen Manufacturing of Columbus sold itself to Wickes.29 Swanson Foods sold itself to Campbell Soup after many years of success. Norton Laboratories, Skinner Macaroni Company, the list goes on and on. One cannot help wondering if these sales resulted in more economic growth in the home state of the acquiring firm rather than in Nebraska.
Public policy needs to address the issues of informal venture capital for economic core and constrained growth firms and venture capital for ambitious and glamorous firms.

Summary of Resource Needs

This review of the character of the required resources and the limitations on these resources shows how the formation and growth of small businesses can be constrained and makes it evident that the primary assistance needs lie among the economic core and constrained growth firms. Firms from these sectors that aspire to enter the glamorous and ambitious sectors are faced with major inefficiencies in availability of resources through the private sector. Information and capital are not readily available. The business and scientific knowledge needed may be prohibitively expensive if it is purchased from private consultants. While debt capital is expensive and difficult to obtain for most small firms, debt capital is not available from lending institutions at any cost for newly formed firms, unless the entrepreneurs have personal assets to pledge.

Many business formations fail at the outset for lack of capital and knowledge. If formation is successful, debt capital eventually becomes available, but then the small business must seriously question whether debt is appropriate for the firm's growth objectives. Private sector business and scientific assistance continue to be expensive relative to the firm's revenues, and the entrepreneurs somehow must possess the knowledge necessary to define what assistance they need before an expert consultant can be requested. Growth requires patient investment capital. Yet, finding an investing angel is far from easy in Nebraska.

Once firms grow into ambitious or glamorous status, their technical assistance and debt capital needs are addressed adequately within the private sector. They are capable of purchasing both business and scientific expertise, either by hiring employees or by paying consultants. And, they have greater access to debt capital markets simply because they have histories of strong financial performance. However, acquisition of large sums of venture capital may be constrained in Nebraska, so many firms have sought and obtained acquisition by wealthier firms headquartered outside of Nebraska.

These are the issues which Nebraska policymakers need to address to promote economic development. The formation and growth of small businesses will contribute greatly to economic development within the state.
Public Policies to Address Small Businesses’ Needs

Before describing policies which will address the problems of formation and growth of small businesses, there are several caveats about popular economic development myths which must be addressed. Numerous, simple broad-brush policies are frequently mentioned in the popular press, political campaign rhetoric, and even among economic development specialists. Recruiting new plants with tax reductions, employee training programs, and tax-free property remain popular. Assisting high-technology start-ups with state equity investment capital, technology incubators, and innovation centers are equally newsworthy. But, caution must be exercised before leaping into popular programs without carefully assessing Nebraska’s unique business environment.

Problems with Recruiting Big Businesses’ Plants

There are no quick and easy solutions to Nebraska’s problems. Emphasizing publicly visible, front-page newsworthy, flashy solutions to economic development is a futile exercise, perhaps even publicly irresponsible. Spending large sums of money to recruit a major manufacturing plant from a large corporation is a high-risk adventure. If one wins, it can be politically rewarding, but a loss may exhaust the limited resources of the state.

Even if a new plant comes to Nebraska, it may take years for the plant to generate spin-off businesses, that is, new small firms formed from the technology base of the large firm, either as suppliers or competitors of the large firm. Or spin-offs may never occur. Where are the spin-offs from New Holland’s combine plant in Lexington? There are none because New Holland did not bring any technology base with this plant. This is not uncommon with large corporation assembly plants.30 Not surprisingly, there are no spin-offs from Kawasaki’s motorcycle plant in Lincoln. There are assembly jobs in Lincoln but the technology base is in Japan.

Unless an expansion or relocated plant brings a complete core of technology and business experts with it, spin-offs are unlikely. An environment conducive to new technology-based business formations requires a core, a critical mass of technology. Such a core of technology fueled Silicon Valley around San Jose, California.
Technologically Based Economic Development Experiences

It is doubtful that any state can duplicate the exact experience of Silicon Valley, or Route 128 around Boston, or Bionic Valley in Salt Lake City. A look at the reality of these examples may help explain why.

Every state wants its own Silicon Valley like California. But, reality is somewhat different. Researchers at Stanford Research International found that Silicon Valley had its roots in the founding of Hewlett-Packard Corporation in a garage in San Mateo during the late 1930s. Later, Stanford University was pressed for money to modernize its research laboratories, so it began cooperative research with Hewlett-Packard in the 1950's. Attracted by these researchers, the developer of the transistor left Bell Laboratories, moved to Silicon Valley and started a new transistor manufacturing operation. Growth was slow but continuous as new electronics firms began as spin-offs from Hewlett-Packard and Stanford University. Silicon Valley, as we know it today, took 30 to 40 years to develop.31

Route 128 in Boston is another model often recommended in Nebraska. Published research by Bennett Harrison documents the decline of the New England textile and shoe industries beginning around the turn of the century and culminating in high rates of unemployment during the 1960s and early 1970s. This high unemployment laid the foundation for Boston's rejuvenation by preparing workers for radical changes in careers, from stitching shoes to programming computers. Even as late as 1973-75, Boston had one of the highest unemployment rates in the nation. The Boston area's economy became really bad before it began to get better.32

Utah's Bionic Valley, teamed the University of Utah with entrepreneurs and a federally funded innovation center. This spawned a bevy of high-tech medical companies that are producing mechanical hearts, artificial kidneys, and bionic human arms. Again, careful research shows that Bionic Valley has its roots in a major commitment to science made by the President of the University of Utah 20 years ago. And, Bionic Valley is only now beginning to pay off for Utah.33 Just as Utah's economic development had a long-term horizon, it also had an arduous journey. The University of Utah maintained its commitment to medical research in spite of the state legislature's reduction of its budget during the 1970s (measured in deflated dollars) and the cancellation of federal funding for its innovation center after only 4 years.
These stories show the special nature of economic development. There are few, if any, commonalities to the way economic success came to these three areas. Each state must carve its own story, its own special way of achieving growth.

Nebraska’s Limited Resources

Nebraska has special problems, not the least of which is severe limits on public revenues. The people of Nebraska have decided to reduce proportionally the property tax on agriculture, and, by computing income tax as a percentage of the federal income tax, Nebraska has decided to draw proportionately smaller income taxes from agricultural operations. Essentially, Nebraska has decided to reduce taxes on its largest industry, thereby reducing its revenue generating capacity. Although Nebraska has high tax rates, the base is narrow, so it collects relatively low revenues.

Furthermore, in Nebraska the major business and population center (Omaha) and the university’s technology center (Lincoln) are geographically separated. The three examples cited above had universities located within their geographic areas, and they were part of the economic development stories. The Board of Regents of the University of Nebraska merged the University of Nebraska at Omaha engineering school into the University of Nebraska-Lincoln to avoid program duplication and to conserve scarce financial resources. But, the long-term result was a geographical barrier to building a technology core in Omaha.

Policy Recommendations

Given these caveats, there are some specific policy recommendations which are essential to the economic development of Nebraska. Each of the following requires action by Nebraska’s state government so that the four needs of economic core and constrained growth businesses can be better met, thereby fostering increased formation and growth of businesses.

Two areas cry out for immediate short-run attention: assistance with business knowledge and availability of informal venture capital. In the longer run, assistance with scientific knowledge is also needed.
Maintain and Improve Business Assistance

There are three reasons why the state should target business assistance above all other policies. First, most economic core and constrained growth businesses in the state are not users of high technology and, therefore, they are unlikely to spawn science-based ambitious or glamorous businesses. Most are service businesses; those that are in manufacturing use relatively little advanced technology. Thus, knowledge constraints on these businesses are likely to be business knowledge.

Second, Nebraska’s post-secondary educational system does not have a reputation for state-of-the-art technology in any applied high-technology field. Simply stated, currently the critical mass technology does not exist in this state’s higher education system. Thus, building a state-of-the-art technical base will require a long-term commitment, such as the University of Utah’s 20-year commitment to bionic medical research. Little can be done in the short run.

Third, the technology base in Nebraska resides among private sector businesses and, as such, is amenable to business knowledge assistance rather than technical assistance. For example, computer software for financial transactions has become a major business in Omaha. First Data Resources, Inc., and Applied Communications, Inc., serve as the core of a growing field in which many small firms now operate. Another example exists in central Nebraska where many electronics manufacturing firms are located, for example, Reach Electronics in Lexington and Dale Electronics in Columbus. Facilitating technology transfer among similar firms requires business assistance rather than scientific consulting. Thus, business assistance is the major priority in Nebraska for encouraging increased formation and growth of small businesses.

Maintain the Current Level of Business Assistance

Maintenance of business assistance programs is first among policy prescriptions because the federal government is reducing its commitment to funding such assistance in Nebraska. The state must act to replace this funding or the level of business assistance will decline. For example, the Nebraska Business Development Center (NBDC) is about to lose half of its federal funds. NBDC provided consultations to 1,165
Nebraska businesses in 1985. This activity will be cut in half in 1987 unless the federal funding is properly replaced and matched, a decision the Legislature must make in early 1987.

**Expand Business Consulting Activities**

Because no one can predict which economic core or constrained growth businesses will succeed, the proper policy is to help all small businesses. However, those that appear to have the potential for high growth should be identified during the consulting process and moved into a more intensive assistance program.

Nebraska should develop a two-tiered business assistance program. The first tier should be designed to provide consulting to all economic core and constrained growth businesses. Additionally, business consultants should be trained to screen these businesses to identify those with high-growth potential. Businesses with high-growth potential should be passed on to a second-tier business assistance program.

This second tier of management assistance should reduce significantly the resource constraints these businesses experience. The second tier of consulting programs should contain science and technology consultants as well as more specialized business consultants. For example, businesses should be able to obtain technical advice on designing plants and procuring scientific materials. Management assistance should include specialized knowledge, such as legal assistance on franchising, accounting assistance on financing schemes, broker advice on stock issues, and introductions to informal venture capitalists.

This program could be designed so that each firm in the assistance program would be assigned to a lead consultant. The lead consultant would follow the monthly progress of the firm and direct technical specialists to consult with the firm as needs develop. Such an arrangement would ensure the firm of technical assistance and also assistance in identifying problems. The lead consultant could match the state sponsored assistance resources to the client’s needs.

This second tier of intensive consulting is very important to removing constraints on potential ambitious and glamorous businesses. Yet, it is very risky because useful guidelines for identifying successful businesses have not been developed. Many of the assisted firms will fail, others will struggle along with little or no growth, but, a few will
succeed. The few will have to be the total measure of success of the effort and expense expended.

The two-tier system of consulting allows for some reduction in the number of clients served by the more intensive and expensive second tier. The first tier could use NBDC's faculty and student consultants. These consultants could weed out the many entrepreneurs with underdeveloped plans and those with fantasies, not dreams. Most venture capitalists yearn for such a screening system and acknowledge that they typically read a lot of fantasy business plans before they see a realistic dream.

A separate organization for the second tier of consulting is not necessary; it is only necessary to organize and operate the consulting service differently. It may be desirable to house the second-tier lead consultants in the NBDC because it currently has the broadest geographic coverage of the state. However, under its current federally funded programs, NBDC cannot provide more than three consultancies to a firm within a 2 year period. Thus, state funding would be required to fund this second-tier consulting program.

**Promote Networks Among Technologically Based Firms**

Substantial technical assistance is available through networking among technologically based firms. For example, a recently started computer manufacturing firm in Spalding, Goldenrod Research, Inc., interacts with Farrall Electronics, Inc., in Grand Island to exchange information. Such networking should become more organized for the benefit of more electronics firms, especially the newly formed and developing firms.

Other technologically based businesses should have Nebraska networks. Formal network linkages should be created among such firms. For example, a network of interaction and communication among the electronic manufacturing firms in central Nebraska may reduce constraints on growth and allow the firms to grow more rapidly, thereby creating more jobs.

Such networks could be developed by the second-tier consultants suggested in the first policy recommendation. The lead consultants could be assigned by industry so that they could organize and facilitate these networks.
Provide Informal Venture Capital

As noted earlier, the informal investor is needed to provide equity capital to economic core and constrained growth firms that are struggling to grow. But, informal investors are few and far between. They are in Nebraska, but they are not organized into an accessible group.

Other states have formed venture capital clubs to serve as focal points for developing a network of informal investors. Such a club has been formed in Omaha and now has 38 full-time members. Efforts to form a club in Grand Island have begun with some success. However, the State Banking Department believes that these venture capital clubs violate Nebraska's securities laws. Their view is that presentation of an investment plan at a venture capital club meeting is equivalent to offering to sell stock to everyone in attendance. Using this interpretation, the presentation at Grand Island's first venture capital club meeting, attended by 200 to 300 individuals, was a gross violation of Nebraska's securities laws which limit unregistered stock offerings to a maximum of 35 persons.

The State Banking Department should be requested to draw up appropriate legislation to allow entrepreneurs to make presentations at venture capital club meetings without violating securities laws. Thus, venture capital clubs could be organized statewide to facilitate economic development throughout the state. Funds should be appropriated to promote and advise communities in the formation of venture capital clubs. Coordination among these clubs should be a necessity as well. Again, these assistance and coordination activities should be assumed by existing state organizations.

Develop Business and Scientific Assistance and an Innovation Center

Entrepreneurs seldom perceive the clear separation between business and scientific assistance. They have an innovation and want it to become a business. Thus, entrepreneurs need assistance in separating problems into business and scientific categories. Nebraska should establish an innovation center with the primary purpose of consulting with entrepreneurs to define their problems and to guide them into proper consulting relationships.

The innovation center should be a joint effort combining management and scientific assistance. It should function as a clearinghouse for
Entrepreneurs with innovative ideas. The ideas should be presented to a panel of technical and business experts for evaluation and recommendations. In this way, entrepreneurs would receive an overall evaluation of their businesses and the requirements for development and growth.

This innovation center need only have a small staff because it could draw its business and scientific experts from the universities and business communities of Nebraska. But, it needs a large budget for consulting expenses and promotion expenses, unless the state implements the two-tier management assistance (consulting) program recommended earlier. The two-tier management assistance program would screen businesses; move them up to the second tier, as dictated by an assessment of their potential for growth; and, once in the second tier, direct them to the innovation center for assessment. The innovation center should be publicized within Nebraska so that budding entrepreneurs know where to obtain help.

The two-tiered management assistance system, combined with the innovation center, could provide a coordinated assistance program that would serve all of Nebraska's small businesses that seek assistance. It could also identify those firms that have significant economic development potential and provide high-potential firms with specialized management and scientific assistance designed to release them from their constraints.

**Build a Long-range Technology Base**

Most areas of the United States have drawn their economic development from a few related industries. In the late nineteenth century, New England grew through the development and expansion of textile and shoe industries. In the first half of this century, Detroit, Pittsburgh, and Cleveland grew with the steel and automobile industries. After World War II, Houston grew with oil and natural gas. Even Nebraska grew, slowly but steadily, throughout the post-World War II period with agriculture and food products. Now, like Detroit, Cleveland, and Houston, Nebraska is looking for a new economic base.

It is difficult to have the technological foresight to identify the growth technology of the 1990s. Such foresight is the focus of thousands of financial analysts who study industry after industry and product after product trying to identify the best investment opportunities. Among the
three economic success stories described earlier, only one resulted from an overt decision by a public official to choose a specific technology; the President of the University of Utah chose biotechnology. However, assuming that Nebraska’s government can somehow match the value of this guess is foolhardy.

A scatter gun approach to research and development may yield some results, but Nebraska does not have enough resources to shoot at the problem. The $2 million authorized by the last legislature for the Research and Development Authority is miniscule compared with spending by major corporations to find new industries and products.

For Nebraska, the proper policy is to ask the university to pick a few scientifically talented individuals who possess the characteristics of entrepreneurship. The legislature should provide special appropriations to the university to fund research professorships for scientists who have the ability to create innovations and the potential to commercialize their innovations. These people should be supported for at least 10 years before any core of new firms can be expected in Nebraska’s high-technology center, Cornhusker Plain.

After 10 years, another long-term investment in the future must be made; several more people with various technological specialties should be brought into the university so that when the new technology of Cornhusker Plain runs its course and begins to fade another core of technology will emerge to vitalize the state. The Boston experience of 30 to 50 years of decline prior to renewed economic growth need not be repeated in Nebraska.

Recommendations on the Research and Development Authority

The 89th Legislature gave Nebraska the ubiquitous Nebraska Research and Development Authority (NRDA). NRDA has been assigned the responsibility of resolving the legislature’s indecision about what is best for Nebraska’s economic development. The legislature assigned all activities to NRDA: for example, identify technological problems, provide financial investment, advise universities, recommend legislation, coordinate efforts to attract new technology businesses, establish research and development centers, establish incubator facilities, coordinate information development, and distribute and develop a communications network.
Advantages of NRDA. The advantages of NRDA are many. First, it places money in the hands of an appointed group of professionals who are partially shielded from the day-to-day pressures of politics. Second, NRDA has few legal constraints on how it can allocate its resources. Third, NRDA has no tradition, no established pattern of procedures and expenditures which it must defend as it tries to develop a new approach to economic development. Fourth, and most important, it provides a program that could take the form of the innovation center recommended above, that is, a program to review business and innovative ideas of entrepreneurs, to provide definitions of the kind of assistance required, and to direct the entrepreneurs to the assistance. In this way, NRDA could significantly improve the chances for an early flowering of entrepreneurship in Nebraska.

There does not seem to be any reason why the NRDA could not support the second tier of management assistance programs recommended above. So, perhaps with an administrative decision, the NRDA could resolve the current weaknesses of management and scientific assistance within the state. Given the impending decline in federal funding, NRDA should act quickly to replenish the supply of funds needed to maintain the current management assistance programs.

Weaknesses of NRDA. NRDA has several significant weaknesses. First, and foremost, the legislation does not target formation and growth of small businesses. Thus, NRDA’s resources can be sought actively by large businesses. And, large businesses will be more effective in acquiring such resources.

Experience with federal agencies shows that there is a big business bias in federal procurement of research and development, although procurement policies are supposed to treat all suppliers equally. Congress specifically identified and countered this bias in 1982 by passing the Small Business Innovation Development Act (SBIDA). This act requires most federal agencies to spend a prescribed percentage of their extramural research and development funds with small businesses.85

Unless the Nebraska Legislature amends Bill 850 (the NRDA authorizing legislation) large businesses will exert their economic influence to usurp the resources that should be dedicated for small businesses. The 90th Legislature should make it a priority to amend Legislative Bill 850 to specify that NRDA’s purpose is to assist small businesses primarily. Without this change, even the managerial and scientific assistance that is
possible through NRDA’s funding activities may be misdirected to large businesses. If this happens, Nebraska’s entrepreneurial development will be delayed and perhaps seriously threatened.

Second, NRDA’s investment and lending role draws on public funds and is, therefore, legitimately subject to public scrutiny. Such public scrutiny assures that NRDA’s expectations for risk and timeliness of return will be similar to those of a bank, not an informal venture investor. But, informal investment funds and patient investment funds are what Nebraska’s constrained growth businesses need most.

NRDA will behave conservatively for simple reasons. NRDA will realize that it cannot justify (to the taxpayers) investment decisions which provide patient money to risky, innovative small businesses. If such businesses fail to repay or delay repayment for long periods of time, criticism by taxpayers will be vigorous. Informal investment cannot be made with public funds. The directors will risk the existence of the NRDA if they make the kind of patient equity investments that Nebraska’s small business communities need. Other states have established publicly funded venture capital organizations, but no state has successfully installed a publicly funded patient investment organization.

The 90th Legislature should amend the NRDA Act to exclude equity financing from NRDA’s charter. The resources will be used more effectively if, instead, NRDA encourages the formation of venture capital clubs and pushes for the legalization of their activities. Furthermore, NRDA can encourage the formation of private venture capital firms. This effort could be part of the innovation center or the second-tier management assistance program recommended earlier.

NRDA’s mandate is sufficiently broad to provide opportunities for developing technical assistance for the long-term technology base recommended. However, it will be better if the legislature deals directly with the University of Nebraska in establishing funding for research professorships to develop a core of science and technology.

On balance, NRDA can be a significant factor in establishing an environment for the promotion of small businesses in Nebraska. But, the legislature must amend its authorization to focus its activities on small businesses.

**Business Recruitment Versus Business Development**

Throughout this chapter I have argued that Nebraska should invest in developing businesses and encourage formation and growth of small
The argument has been advanced that recruiting branch plants of big businesses is not cost effective in establishing economic development. Both the theory of Schumpeter and the economic research findings of the last 10 years support this view.

Yet, the question arises persistently whether the state should divide its efforts between recruiting big businesses and developing small businesses. The question arises because it is difficult to break with tradition. Furthermore, although big business plant expansions are insignificant contributors to national growth, they can contribute significantly to local or regional growth.

The reality remains, however, that Nebraska is one of 50 states that advertise, promote, and beg for plants from large firms. Nebraska has a high tax rate and no outstanding physical or population characteristics. Every advantage that Nebraska cites in its advertising and promotional literature is claimed by at least ten other states.

But, Nebraska cannot turn its back on firms that are locating new plants or offices. Instead, it must provide information that will allow them to assess Nebraska along with their other alternatives. It probably also needs to continue offering tax incentives, such as reduced property taxes, to meet the competitive pressures of other states.

The governor should direct the Department of Economic Development to maintain an information center that will promote the virtues of various communities throughout the state to large corporations that are considering new plant locations in Nebraska. This information should be supplied to every business that requests it. However, the aggressive activities of recruitment, such as advertising, promotional visits to large businesses, and gubernatorial visits to corporate executive suites, should be discontinued. Such activities are very expensive and the money can be better invested in Nebraska’s small businesses. A passive program of responding to firms’ requests for information about Nebraska is recommended. Substantial money can be saved by assuming a cooperative but passive approach to business recruitment.

Conclusions

Nebraska should recognize that Schumpeter described the future as an entrepreneurial economy. Given this model, I recommend a grassroots effort to coax Nebraska’s current entrepreneurial potential into
flowering to produce new firms and new jobs in the next 10 years. The core of this grass roots effort is creating an economic environment that is conducive to providing assistance to help new businesses overcome their constraints so that they can grow and prosper. Their successes will, in turn, create more new firms from spin-offs.

Pooling the state's resources to provide management assistance to each economic core and constrained growth business will stimulate economic activity. Facilitating capital acquisition through venture capital clubs in all major cities will assure patient capital for the stimulated entrepreneurial activity. Establishing a small business innovation center through NRDA will help entrepreneurs define their opportunities and needs. And, developing several core technologies through selected university professorships will assure a revitalization of economic growth in future generations.

Although all of these actions seem expensive in a state with severely limited resources, some of the costs have already been allocated to economic development through the NRDA. And, some costs can be paid by transferring funds from business recruitment activities.

Endnotes


Antitrust legislation and court actions make overt price agreements illegal. However, implicit and, therefore, legal price agreements are the rule among large businesses in many U.S. industries.


Several Hinky Dinky stores remain in Omaha, but these stores are independently owned and operated. Hinky Dinky Corporation agreed to allow these stores to use its name.


Interestingly, another Nebraska firm, ConAgra, has benefited from innovations in chicken production and marketing.


I am grateful to Warren McCoy of Valmont Industries, Inc., for providing the information needed to prepare this brief summary of Valmont’s history.


28. As noted earlier, small firms do not have access to bond markets wherein principal repayment can be postponed for 20 years or more. Op. cit., Kirchhoff, *Policy Studies Journal*.

29. In 1985, Behlen’s managers found it advantageous to buy Behlen back from Wickes because Wickes fell into financial difficulty.

30. Orthman Manufacturing Company was making farm equipment in Lexington before New Holland came to town and it is still there.


34. Agriculture is an exception, of course. Because I have excluded agriculture from this discussion, I have not included it here.

35. The act was passed not as a subsidy to small firms but because Congress realized that small firms create more jobs and are more innovative than large firms.