The Role of Incubator Industries in the Local Economy: The Westfield, Massachusetts Experience

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Abstract

This study offers an analysis of the role of incubator industries in the local economy of Westfield, Massachusetts. It presents the results of a survey of 25 owners of small firms which have been in business for less than 10 years, have fewer than 20 employees, manufacture a product, and are registered as doing business in Westfield. The sample size represents approximately 90 percent of all firms in the City which fit the criteria noted above. It is recognized that the sample is quite small and that great care must be used in applying the recommendations to other communities. Yet, while this is simply a case study, it nevertheless serves to identify critical problems and to show how institutional and governmental actions can help to correct these problems. In terms of a contribution toward helping smaller municipalities to understand the needs of small businesses, this must be considered as a first step.

*Incubator Industries Data Base Project and University of Massachusetts Regional Planning Program, respectively. Special thanks for assistance must be given to Sam Seskin, Director of the University of Massachusetts Center for Economic Development; Patrick Condon, Director of the City of Westfield’s Office of Community Development; Robert LeDoux, Director of Westfield’s Chamber of Commerce; and Robert Bennett, our staff researcher.

There is no formal definition of the term “incubator industry.” It is defined herein as an industry that manufactures a product, is less than 10 years old, has less than 20 employees, and has a likelihood of growth.

The study was jointly funded by the City of Westfield, Office of Community Development, and the Center for Economic Development at the University of Massachusetts at Amherst. The survey was undertaken for several reasons. First, the Director of Community Development of the City of Westfield wanted to know what the City could do to promote the development of small business. More specifically, he was very concerned that industrial space was becoming so scarce that small firms would leave the City. Second, the Greater Westfield Chamber of Commerce also wanted specific information about the problems and needs of local small businesses. Third, the Incubator Industry Data Base Project wished to document the role played by incubators in the stabilization and/or reinvigoration of the local economic base [1].

There is substantial evidence to support the view that the nurturing and enhancing of incubator industries in particular, and small firms in general, is critical to New England’s economy [2, 9]. For a summary see [11, pp. 53-4].
I. Introduction

Information was generated through an on-site, face-to-face interview with the owner of each small firm. A questionnaire with 75 open-ended questions was used, and each interview lasted approximately 45 minutes. Following is a summary of findings that can be of value to local chambers of commerce, industrial development promoters, and city planning/community development officials. Part II of the study is an overview of the City of Westfield. Part III presents the findings of the survey, focusing on the most important features of small business development in Westfield. A summary chart completes this third part. Part IV has recommendations that were developed for the City of Westfield.

II. City of Westfield

The City of Westfield is located in the foothills of the Berkshire Mountains approximately 11 miles from Springfield. It has easy access to Interstate Routes 90 and 91. The City has been steadily expanding throughout the last 40 years, and its current population is approximately 36,400. The community's character is closely identified with its history as a center for manufacturing. In the 19th century it served as a home for cigar making, ship manufacturing, paper producing, and machinery-making firms, and at one time was known as the "whip manufacturing capital of the world." Westfield has retained its manufacturing base: more than 50 percent of its workforce are employed as tool-makers, wheelwrights, tap and die makers, and machinists. The largest local firms manufacture computers (Digital Equipment Corporation), firearms (Savage Arms), bicycles (Columbia), paper (Strathmore), machinery (H. B. Smith), and household products (Stanley Home).

At present, Westfield is faced with one of the highest unemployment rates in the Commonwealth. Indeed, over the last 4 years, the City has experienced a 45 percent increase in unemployment and moved from having one of the lowest to one of the highest unemployment rates in Massachusetts for Cities with a population of between 25,000 and 40,000. Between mid-1982 and mid-1983 more than 300 blue-collar jobs were eliminated. These losses stemmed from the national recession, the slow release of Federal funds for defense contracts, and a lack of demand for consumer goods. Leaders in both the public and private sectors of Westfield are working to mobilize economic development efforts that will build on the City's existing and potential strengths. The Incubator Industry Survey was undertaken so that these strategies could be keyed into the contributions and needs of the local incubator firms who are one crucial element in the processes of job generation and industrial growth.

III. Key Findings

How do incubator industries start? In Westfield, they were largely spin-offs from larger firms. The spin-offs occurred for two reasons: either the parent firm dropped a product line and the future incubator industry owner was fired, or the future owner, after gaining much experience on the job, wanted to work for himself and thought he (never she in Westfield) would find a niche of his own in the market. Only one industry developed from the bottom up with a new product to sell. The skills of the owners and

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3This data was extracted from material prepared by Marie Burkart, Director of Westfield's Community Development Office, in defense of the City's application for a Community Development Block Grant [12].
managers at the time of start-up were heavily oriented toward the technical trades. Indeed, approximately 80 percent of those surveyed see themselves as skilled machinists, above all else. There were few who had had formal training or previous experience in business management and few who have had any college experience.

On Financing

To obtain financing at the start was a significant problem. The local banks were generally not supportive, since the founders had little managerial or sales experience and, as will be noted later, did not use formal planning. Twenty-four percent of the owners were able to get bank financing with minimum equity participation. These owners had built up a reputation and were able to gain financial help for this reason. The remaining 76 percent were required to remortgage homes, borrow from family or friends, or use their own funds to finance their ventures. During the start-up period, none of the firms used any of the governmental assistance programs such as Small Business Administration (SBA), Massachusetts Industrial Financial Agency (MIFA), or Urban Development Action Grants (UDAG). To varying degrees, they all have a natural distrust of government and would only use government help as a last resort. As one owner stated, "You have to be big business to go to the Small Business Administration. You have to be healthy to go to SBA, but if you're healthy you don't need SBA, and the others all require tremendous paper work. Who is going to do it?" Another commented, "I spent a lot of time filling out forms for MIFA, but I wasn't asking for enough money for them to be interested, so I dropped it."

Over time, there was a shift to increased nonequity participation loans. In fact, from the time the firm started (less than 10 years ago at maximum) to the present, the percentage of firms obtaining nonequity loans increased from 24 to 50 percent. The key reasons for this increase were that the firms had survived the crucial first 2 years and that they now had a "track record." In Westfield there are 10 banks; yet it is one bank and one banker who was reported to have been the most helpful to these firms. Most of the firms started out as sole proprietorships or partnerships. These forms were selected because they did not require filing or attorneys fees. Also, interviewers sensed from the responses that some owners were initially operating on a strictly cash basis (in all of its manifestations). After several years, the firms showed a tendency to shift toward incorporation and thus take advantage of the taxation and limited liability provisions that this form of ownership provides. The members of the corporation tend to be family members. In fact, several of the firms operate as family businesses with sons in the shop, mothers keeping books, and fathers serving as managers and sales representatives.

On Customers

The owners had targeted their first customers before they started operations and used these first customers as a base from which to expand. In some instances, the attracting of the customer was easy: if the "parent firm" was going out of business or dropping a product line, the owner merely made contact with the customer and agreed to provide the material at a competitive price. Sometimes the process was a bit more difficult and involved "pirating" a customer away from the parent. Here the new owners went to the customer and stated that he could make the product quicker, better, and less expensively. Equally often, the founder spotted a part of the market that the parent firm was not serving, and he moved into the void.

The problems of gaining capital are succinctly summarized in [4, pp. 4-5].
Current customers tend to be far from Westfield; only 20 percent of the firms listed have major customers within the City of Westfield. Most customers are located in Greater Hartford (i.e., Pratt and Whitney, Hamilton Standard) or Greater Boston (i.e., General Electric, Ratheon, Digital). Stated another way, the major customers for the majority of businesses are located approximately 50 miles to the south or 100 miles to the east.

The study also focused upon the relationship between the manufacturer's choice of location and his market. Westfield is located close to two interstate highways (I-90 and I-91), which means easy access. At the same time, the City is not centrally located in relation to customers. Furthermore, only a few of the firms still market locally, despite the fact that Westfield is a large industrial city. For example, only one of the firms does any business with Stanley Home Products, a company that has both large manufacturing facilities in a nearby town and its world headquarters located within the City. None reported sales to Savage Arms, Columbia Bicycles, or Strathmore Paper. Several of the small business owners are quite bitter about this state of affairs because they feel that these larger firms have need of their products and that the smaller firms could deliver competitively priced, high quality items in a timely manner. Owners reported that they stay in Westfield despite the location of their market because they like Westfield as a place to live and work.

At no time did the team find a climate in which small firms bought from and sold to other small firms. As well, at no time did the research team find these firms to have a strong sense of independence from national or international trends. Rather, it was found that these firms are highly dependent upon the success of high technology, defense-related firms and other large firms. If high technology is prospering, the firms will market themselves to this element; if defense is expanding, they will move in this direction. In Westfield, there is a symbiotic relationship between the small firms studied and large industrial firms located well beyond the City's borders.

**On Products and Innovation**

In general, the firms surveyed did not sell highly innovative nor inventive products. Each marketed itself based on the typical attributes of rapid, high quality, competitive service. When asked about innovation, several owners stated that they had ideas about product innovation, but that they did not have the time or funds to develop them. The response was usually concluded with "someday ...." The lack of product innovation was also reinforced by the fact that there are no staff people designated as having responsibility for research and development. When asked why there were no efforts to create innovative products, the owners stated that they were "service" firms and that they responded to the needs of their clients. These customers normally give them exact specifications to follow, and the firms merely follow these directions. The key innovative element in the production of these firms found by the research team was the rebuilding and redesigning of equipment. These firms often purchased second or third hand machines, rebuilt them, made them more efficient, and sometimes redesigned them for added capacity or special functions. The respect of the owners for the machinery could be clearly noted; most of these firms are located in semi-Dickensian like structures. Among the dirt and grease, however, the machines shine and sparkle.

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5This relationship between big and small firms is clearly noted in [3, pp. 94-5].
6The owners also noted that there was no incentive to develop new ideas. They realized that start-up costs would be prohibitive. They also have no idea of how to "access" research funds. These problems have been noted on a national scale [6, Table IV-1, p. 52].
As a group, the 25 firms have purchased approximately $2.5 million in equipment over the past decade. In short, the small firms displayed innovation in their retooling of equipment and in the initial identification of a niche in the market. The owners believe that the requirements of keeping their businesses afloat preclude their involvement in anything beyond the most rudimentary research and development efforts to produce new products. The key to their survival is simply reacting to the needs of their customers—no more, no less.

On Working Conditions

In Westfield, there has been very little recent construction of industrial buildings for speculative purposes that could be rented by small firms. This means that those firms with a need for cheap, rentable space have had to settle for leftover space that commonly had the atmosphere of the proverbial 19th Century “sweat shop.”

The firms are generally located in basements, back rooms, and converted stores—raw, poorly heated/vented spaces. In most cases the firm is still in its original quarters, a place chosen for its low rent. Several appear to be in violation of the City's zoning ordinance and few could pass a detailed inspection by the Occupational Safety and Health Administration (OSHA). Yet none of the owners complained because rents are below the average prevailing rates in the City. As long as workers are not being harmed and there is enough space to work, they feel there is no reason to move unless the rent is raised.

There is great interest in property ownership. The business owners feel that under the “right” conditions (low interest rates, long-term pay backs, space to expand, and a good location) they would like to purchase their own buildings. They are interested in both the ownership of their own building or an industrial condominium.

It is clear that there is a potential for an aggressive entrepreneur or the City's industrial development agency to meet the needs of these small firms.

On Labor

There is an informal chain of command in these small industries. The owner/manager sets policy and provides day-to-day supervision much like a foreman. His staff usually consists of his spouse or a family member who serves as the secretary/bookkeeper. The remainder of the employees are usually all dedicated to production.

The majority of the workers are young, semitrained machinists. They come from technical schools and receive specialty training from the owner. A review of the labor force characteristics points out several interesting factors. First, the owners very much like to attract the type of worker they are now hiring. A worker who is already a master machinist is too expensive and often less willing to follow the owner's personal quirks. Secondly, the hiring practices show the need for technical training in the high schools. The technical high schools are a major source of employees. At the same time, the

OSHA's regulatory impact upon small businesses in New England has been noted as being disproportionately high in comparison with larger businesses. See Alvin N. Puryear and Catherine Wiggins, "The Impact of Federal Regulations," as summarized in [11, pp. 50-1].

Many communities have recognized the need to meet the spatial requirements of these businesses and have helped to promote the conversion of old mills into incubator spaces. For a series of case studies, see [7, p. 23].
owners are quick to point out that the recent graduates are not as well-trained as past graduates. (Whether this is a “knee jerk” grip of an older generation or a legitimate critique was not determined.) Thirdly, the hiring practices point out the need for a mechanically inclined worker but not one who has mastered his craft. That is, the work that is being undertaken is not so sophisticated as to require “perfection.” This, coupled with the fact that there is a ceiling on wages that these owners are willing to pay, means that there is a steady turnover of workers. This turnover is built into the process of doing business. The owners know that they do not need master machinists, that they cannot afford the competitive rates that a sophisticated machinist can attract, and that it is easier and more profitable to obtain young, semitrained workers who have the attitude and incentive to work and learn. This natural turnover of workers will continue as long as the high technology and defense-related firms continue to prosper. More specifically, using Hamilton Standard as an example, the newly trained worker at the small firm can leave his $6.78 per hour nonunion job and obtain $11.50 per hour plus a strong, union-backed benefits package. The turnover is understandable.  

How recession-proof are the labor patterns? The answer is unclear. For example, between 1978 and 1983, approximately 40 percent of the firms showed no change, 30 percent had a declining work force and 24 percent increased the number of workers. In absolute numbers, there was minimal increase in the aggregate work force. During the recession of 1982-1983 there was a slight decline in the work force, as 6 firms (24 percent) cut their work force, 4 companies (16 percent) hired workers, and the rest remained constant. Conversations with the owners make clear that the decision to hire is carefully analyzed and only taken as a last step. They would sooner work their machinists 60 hours per week and pay the overtime than hire a new person. At present, many of the owners are waiting for both the high technology and the defense industries to “pick up.” Firms such as the Digital Equipment Corporation are “going slow.” Also, the Pratt and Whitney Company is currently operating well below capacity. Until these companies begin to prosper, it is unlikely that the small firms will expand.

It may be that during periods of recession the more experienced workers tend to stay on with the small firms because their next step, employment at a larger firm, is blocked by the larger firms’ freezes or layoffs. With these workers staying on, small firms would not be replacing them with inexperienced workers as is the normal sequence. Thus, during recessions the smaller firms’ training function could be significantly lessened.

On Management

As previously stated, the firms are run with a high degree of informality. The managers neither have a formal table of organization nor think they are necessary. What is most striking is that the manager is responsible for sales, research and development, and regularly takes a turn on the machines.

The high degree of informality could also be observed in the lack of a business or marketing plan. Only 20 percent had any formal plans whatsoever (written or “in the mind” of the manager). Owners tended to think that a plan would cut down on their ability to react to market changes and that it would force them into a preconceived direction. The lack of attention to management and sales planning correlates strongly with the fact that these men see themselves first and foremost as machinists (several mentioned that they are happiest while working on the drill presses). They feel uncomfortable working on “front office” matters. Ironically, many of the problems noted by the managers as being critical to their operations would be addressed in

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*This same phenomena has been noted in small manufacturing firms in Maine [10, p. 23].*
normal business and marketing plans. These include 1) how to expand, 2) how to adjust to a changing economy, and 3) how to change a product line.10

That the firms' owners had not received their training in a formal business school environment is clearly demonstrated by their responses to a question on profitability. They were asked the ambiguous question "Are you making a profit?" Sixteen percent stated that they were operating at a loss. The remainder responded "yes." They were then pressed about what they considered the word "profit" to mean. To the majority, profit is simply the amount of money remaining in the till after the bills are paid but before a manager's salary is taken out.

It is clear that the majority of the managers see themselves as "rugged individuals" who want the maximum independence in their operations. Above all, these managers are "street smart" survivalists who are happy with their lives, their tinkering, their independence, and their working environment. Business growth will occur through response to a perceived opportunity rather than by planning to create such an opportunity.

On the Role of the City Government and Chamber of Commerce

The owner/managers are somewhat critical of City government in general. They know that the City has active committees on economic, community and industrial development. They also know that the City has the ability to "hustle" grants, leverage investment, and provide tax breaks.11 Yet, at no previous time had a City official contacted them to ascertain their needs and to examine ways in which the City government could be of service. It should be noted that the sentiment toward the City government is not one of anger or even frustration; it is acceptance of the "fact" that "government has never helped the little guy in the past and will never help tomorrow."

There is some anger against the Chamber of Commerce. The Westfield Chamber is active and has been quite successful in its various programs. Unfortunately, according to the small machine shop owners surveyed, the Chamber is solely oriented toward the larger industrialist and retail outlets in the City. Despite the fact that the Chamber does give seminars for small businesses, it is felt that the Chamber's programs are not applicable to small industries. At no time had Chamber personnel visited their facilities. The belief was expressed that the Chamber did not need them or want them.

Summary of Findings

In point form, the following chart summarizes the experiences of the aforementioned firms.

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10It is clear that these owners have an intuitive sense of what is required to survive and prosper. How this translates into a planning function is difficult to determine. In many ways, it is close to what Shaw and Shuman call the "entrepreneurial form of management planning [8, pp. 1-6]."

11The State of Massachusetts has several organizations designed to help small firms. These include, among others, the Massachusetts Technology Development Corporation, the Massachusetts Community Development Corporation, and the Massachusetts Industrial Finance Agency. For a complete list see [5].
A Summary of the Incubator Industry Experience in Westfield

1. How did the firm start?
   - It was a spin-off from a larger firm.

2. What formal training did the owner have?
   - Very little beyond being a skilled machinist.

3. Are there formal business or management plans developed?
   - No. The owners are intuitive and/or reactive short-term planners only.

4. Are government programs helpful?
   - No. They are viewed with disdain.

5. Was the owner able to gain financial assistance at the time of start-up?
   - Some gained help, most did not.

6. Did the owner have a customer waiting when he started up?
   - Most had a customer waiting. Almost all had a client in mind.

7. Was (and is) there a dependence on larger firms?
   - Yes. There is a strong linkage with the high technology and defense plants in New England.

8. What is the relationship between smaller firms and larger, more mature firms?
   - The small firm’s founder learned his trade while working for a large firm; now he provides essential parts and services and trains young machinists who will move on to larger companies.

9. Does the firm sell to other small or local firms?
   - There is very little evidence of this.

10. What signs of innovation were found?
    - It was evident in the redesign of old machines for current needs.

11. Are the physical conditions satisfactory?
    - No. They are almost “Dickensian.”

12. Are the firms owners or renters of space?
    - They are renters who are interested in buying.

13. What type of people does the firm hire?
    - The young, trainable workers who are expected to leave after mastering their craft.

14. Is the City government or Chamber of Commerce helpful?
    - Not very. They are perceived as helping big industry only.

15. Why is the firm located in Westfield?
    - Mainly because of the owner’s personal preference for the community. It is not because of market focus.

IV. Recommendations to the City and the Chamber

The study team was asked to develop recommendations that would help the City and Chamber to improve their relationships with, and helpfulness to, the small business owners. At the time of the study cost limitations for implementing these recommendations were not specified; however, the study team attempted to develop recommendations that were achievable in an era of shrinking governmental funds. Indeed, none of the recommendations would necessarily require capital outlays from
the City. All are at least partially fundable through the Community Development Block Grant Program and the Urban Development Action Grant Program or would require a reallocation of City or Chamber resources to new priorities. The recommendations are summarized below.

The first recommendation centered upon the role of the Chamber of Commerce. The small business owners often expressed a feeling that the Chamber was focusing too much of its efforts on the larger firms. And yet, it was the small business person who could most benefit from Chamber-sponsored management programs. Therefore, it was recommended that the Chamber develop specific business, marketing, and management training programs for the small industrialist.

The second recommendation was to have the Chamber serve as a promoter of the incubator industries' products and services to local large firms. The study found that the large businesses do not buy from local small firms. The Chamber, by serving as a broker, could greatly facilitate the connection between the products and services of the incubator firms and the big companies.

Thirdly, it was recommended that the Chamber, City, and local banks prepare materials that explain the various financial options and assistance programs available to small businesses. The survey showed that few of the owners are knowledgeable about public programs or alternative private bank loan programs. They have, in general, relied on the "good old boy" network, whether good or bad, for their financing needs. With further information and practical assistance in understanding regulations and filling out applications, Westfield's small firms could make use of financial assistance programs.

The fourth recommendation was that the City of Westfield develop a monitoring system to review and assess the problems and prospects of incubator industries. The operators feel that the local government either ignores them or does not understand their needs. On the other hand, the City often does not know of their problems until the business moves or liquidates. The fact that this need not happen was demonstrated during the survey itself; alerted to zoning problems that were keeping two firms from expanding, City officials were able to meet with owners and resolve the problems. (A program of regular visits and phone calls could identify many problems before they get too severe.)

Lastly, it was recommended that the City of Westfield use its own resources to develop flexible, low cost "incubator industry space." The operators expressed a strong desire to own their own facilities. At the same time, the operators know that facilities of the size, flexibility, and cost that will meet their needs are at a premium. Through tax write-downs and governmental assistance programs the City can provide incentives to build such facilities or renovate existing buildings for this use. Making available low cost space that can be jointly or cooperatively purchased would respond to the strong desire expressed by incubator firms to achieve the stability and financial advantages of ownership.

Economic development leaders should also examine the advantages that low cost, flexible rental space would provide to incubator firms. The issues and practicalities of public versus private ownership of such rental space also require close study. Whatever the ownership and management structure of rental incubator industry space, the City can play a very positive role in promoting the development of that rental space.
References


