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Technology-based Business Incubators as a Means of Commercialization and Technology Transfer

Kathleen F. Harer

Abstract

The United States funds research and development of technology in many areas. Some of this R&D has narrow application but some also has commercial application. The Government has developed a number of innovative methods of transferring technology from government laboratories and uses to the commercial arena. One of those approaches, the technology-based incubator, currently is being implemented at Kennedy Space Center. Small businesses and entrepreneurs who become tenants of incubators receive business management assistance in developing their technologies for market. The Florida/NASA Business Incubation Center (FNBIC) is co-sponsored by NASA, the State of Florida and Brevard Community College. FNBIC provides unique help to its tenants by giving them access to NASA technology, either for licensing a NASA technology for further development as a commercial product, or by assisting the tenants in obtaining information from NASA experts in developing the tenants' technologies.

Background

An engineer or scientist with a good technical idea often meets obstacles in developing the technology into a viable, marketable product, not because of deficiencies in the technical side of the but rather because of lack of understanding or appreciation of the business side required for a successful commercialization. Technical people often do not understand all the business aspects that must be addressed by an entrepreneur. A common statistic in the United States is that 80% of new businesses will fail within their first five (5) years, typically because of business factors.

Business incubators are a relatively recent but growing phenomenon in the United States. Incubators, as the agricultural root of the name implies, help nurture start-up businesses and ease them past their first few critical years of existence and help them grow into independent organizations. Companies that actively participate in an incubator typically experience a reverse of the failure factor described above, in that 80% of these companies are found to be successful after five (5) years. Currently, there are approximately 600 incubators throughout the country, and more are being established in other countries as well.

Incubators

There is a broad range of types of incubators. Some are for-profit organizations that primarily provide rental space with limited business support services. Others, many of which are not-for-profit incubators, provide more direct support to their tenants in terms of business and technical support provided. Regardless of the type of incubator, however, the major reason for the success

of entrepreneurs and start-up companies in incubators is they are not only provided with low-cost rental space and access to reasonably priced business services, but they are also given the mentoring and business advice that helps them over the obstacles experienced by almost all new companies.

Because start-up companies are so small, they usually cannot afford full-time assistance on their staffs to cover various administrative support functions. Incubators can provide these types of business services which are also shared with other tenant companies in the incubator. For example, most incubators will have a receptionist whose services are part of the tenants' rent. Tenants pay for special services, such as copying and faxing, on a use basis. This means they do not have to invest in the equipment or the staff for these functions. Since capitalization is a significant issue for start-up companies, it is critical that they do not expend funds for support that they have no major need for. This becomes even more important for specialized support that can be expensive, such as graphics, that is needed only periodically by a company.

Florida/NASA Business Incubation Center

The Florida/NASA Business Incubation Center is a business incubator serving the location needs of early-stage technology-based small business formation, growth, and success. The Incubator's mission is to increase the number of successful technology-based small companies originating in, developing in, or relocating to Brevard County in the State of Florida. Currently, it is managed by an Executive Director, with policy decisions made by an Executive Committee made up of representatives from the three Incubator partners.

The Incubator opened its doors for the first tenants to occupy office space in early June 1996. A formal opening of the Incubator was held August 4, 1996, with government, business and local officials in attendance to celebrate the opening. Eight companies have been approved as tenants since that time. One of these graduated last summer and a second one graduated in January of this year. Marketing efforts are continuing to fill the available space in the Incubator with qualified technology-based companies.

Incubator Partners

Three partners co-sponsor the Incubator. The National Aeronautics and Space Administration (NASA) is the federal agency charged with administering the civilian space program in the United States. The NASA Kennedy Space Center, located in Brevard County, in central Florida, is the field organization that is implementing the Incubator program for NASA. NASA will provide some technical expertise to the Incubator tenants through its Outreach Program. Also, on a non-interference basis, NASA will allow tenant access to some of its specialized facilities as part of its support for the Incubator.

The State of Florida is another partner, through its Technological Research and Development Authority (TRDA). TRDA was chartered in 1987 by the Florida Legislature to sponsor programs that significantly benefit Florida education, space research, and economic development. NASA and TRDA have teamed previously on several projects that meet the goals of both organizations. The Incubator is just the latest collaboration between the two organizations.

The third partner in the incubator program is Brevard Community College (BCC). The Incubator is physically located on BCC's Titusville, FL campus. The College is providing the facility as well as the maintenance, security, etc. that goes along with the facility. In addition, BCC is allowing the Incubator tenants access to some of the College's laboratories and shops, on a non-interference basis.

Although NASA sponsors or co-sponsors incubators at other field centers throughout the country, the partnership in the Florida/NASA Business Incubation Center is unique in the involvement of a federal agency, a state agency and a community college.

As mentioned earlier, the Florida/NASA Business Incubation Center is located on BCC Titusville campus. It is a 10,000 square-foot facility available for short-term leasing. Offices average about 110 square feet and come furnished. Flexible space suitable for prototype development and light manufacturing is also available, depending upon tenant needs.

Tenant Services

Tenants have ready access to a variety of support services to help them in their business operation. Some of these, such as the receptionist and access to conference rooms, are included in the rent. Other services, such as copying and faxing, are readily available onsite for a nominal charge. Other services that can only be provided outside the Incubator facility will be arranged for by the Incubator staff and charged to the tenant. All offices are wired for both voice and data lines. Internet access is provided for all tenants through the College's network. A library of current technical journals and business publications is located within the Incubator. In addition, the College provides access to its library facilities for other tenant needs.

Incubator Staff

Probably the most important service provided to tenants in the Incubator is the management oversight and support provided by the Incubator staff and the volunteer mentors and advisors. The Executive Director is the primary focus of this support. A new tenant in the Incubator is encouraged to have a detailed business plan written before it comes into the Incubator. However, if a plan has not yet been prepared, which is common for start-up companies, one of the terms of the tenant's lease agreement is that one be written within 90 days of entering the Incubator. The Executive Director will help the company write its plan and review the final product, with assistance from a network of mentors and advisors from the local business community.

The Incubator offers on-site seminars with topics that are directly related to small businesses and the special problems they face. These are organized by the Incubator staff, and are sometimes presented by them. Shorter seminars (1-2 hours) are held in the evening, while the longer ones planned (4-8 hours) are sometimes planned for the weekends to allow maximum participation among the tenants.

The Incubator also has an Administrative Assistant to help the tenants with their clerical needs. Brevard Community College provides additional support through their clerical coop program, which benefits both the Incubator and the program since the students are given real business experience when they do their intern work in the Incubator.

Off-Site Clients

Not all start-up companies can be accommodated in the Incubator facility itself. Some companies already have too many employees or require manufacturing facilities not available in the Incubator. Some are already established in locations that are not within easy commuting distance to the Incubator facility in Titusville. However, many of these companies would like to participate in some of the activities of the Incubator, such as the networking among the tenants, the monthly seminars, and access to the incubator facilities and the special facilities at BCC and NASA. For an annual fee, technology-based companies can become clients of the Incubator and have access to the Incubator's shared common areas, such as its conference rooms and library, and the activities listed above. Already, companies from other parts of Brevard County and some from outside the County have expressed interest in becoming clients.

Conclusion

Through offering affordable space and shared office equipment and services, the Florida/NASA Business Incubation Center will make it possible to reduce many of the costs associated with establishing and operating a business. Support facilities and programs to train and nurture the new entrepreneurs in the establishment and operation of their companies will help new technology-based ventures to have the best possible chance of success. Plans are underway to expand this concept to other areas of Brevard County and the State.