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## **An Analysis of Administrative “Best Practices” in the Administration of Business Incubators**

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## An Analysis of Administrative “Best Practices” in the Administration of Business Incubators

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### Abstract

A large body of scholarly work has been published on “best practices” in the administration of business incubators. These strategies for the operation of the facilities outline ideal administrative policies and procedures that are not always practical for the operation of all business incubators. Using data acquired from a nationwide survey of business incubators this paper investigates the use of the “best practices” identified by scholars in the management of operating business incubators. This research uses frequency analysis and cross tabulation to analysis the “best practices” variables of the survey. The analysis illustrates compliance and use of these “best practices” is not uniform in the administration of business incubators. Compliance with these administrative “best practices” is selective. There are variances in the utilization of each of the policies and procedures set forth by “best practices” for administration of business incubators. These variances are reflected in not only practices of each incubator but there are also variances in compliance by size of the community.

## **An Analysis of Administrative “Best Practices” in the Administration of Business Incubators**

As the traditional pools for economic development, corporate expansions and relocations, has retrenched, state and local economic development programs have sought to enter new business sectors in order to expand employment opportunities. Small business and business start-ups that at one time were considered insignificant because their size to command the attention of development programs, other than central business district development programs, are now.... The opportunities for job creation, investment opportunities and innovation that small business development represents have become the stamina for economic development programs. Small businesses and the creation of new businesses provide prosperous opportunities for returns on economic development investments. Though the returns on the investment can be lofty, small businesses have a high rate of failure with half failing within the first five years (Bates & Nucci, 1989; Birch, 1987).

In order to mitigate the risk associated with small business failure, state and local economic development agencies have implemented programs intended to enhance the success rate for startup and small business development. Among the programs that have been developed are entrepreneurial development programs and small business development centers. Business incubators are one of the more highly visible of the business development programs, because of their investment in physical structures these facilities are monuments within a community's commitment to economic development.

Business incubators are intended to assist small businesses during early stages of development by providing a nurturing physical environment. No two business incubators are alike. They are products of the local and/or regional community in which they are located as well

as the ownership structure of the facility. Privately sponsored facilities are primarily concerned with property development and transfer of new technologies and investment opportunities in tenant firms. Public sector and non-profit local facilities are more concerned with employment creation and diversification of local economies. The educational institution related business related incubators have an interest in training opportunities for students and the communization of faculty related research (Albert, Bernasconi, & Gaynor, 2004; Allen & McCluskey, 1990; Allen & Rahman, 1985; Grimaldi & Grandi, 2005).

While the sponsors of business incubators have diverse goals in their rationale for establishing a business incubator, there are four fundamentals components of service that have been identified in the literature (Allen & McCluskey, 1990; Bergek & Norrman, 2008; Blair, 1995; Hackett & Dilts, 2004).

- 1.) Shared space within a facility at rented at a favorable market rate.
- 2.) Shared business support services that can reduce overhead for the fledgling company.
- 3.) Access to professional business activities.
- 4.) Opportunities for networking with other fledgling business enterprises to facilitate knowledge transfer.

The prominence of each of these components varies with specific incubators but each of these components can be found as relevant with regularity as a mechanism of a business incubator.

The first business incubator appeared in Batavia, New York in 1959 as the Batavia Industrial Center (Adkins, 2001; Hackett & Dilts, 2004; Lewis, 2002). The incubator movement grew slowly in the 60's and 70's. A body of literature began to develop during this period that consisted of non-academic guides on incubator development and articles on current and potential for incubator development (Hackett & Dilts, 2004). By the 1980's the incubator movement

began to surge and academics began to research the field. Much of this research defined an incubator and the administration of the facilities. In 1984 the first national survey of 55 business incubators was published (Temali & Campbell, 1984). This survey data was descriptive data that provided a foundation from which succeeding business incubator research is based upon.

Business incubator literature began to move toward evaluation of business in the 90's. This was largely due to the fact that local, state and federal authorities had made and were making major investments in the incubator process. Academic researchers began to write on setting up criteria for the goals and objectives for an operating business incubator. There was also an interest in the evaluation of business incubators to ensure that the programs were meeting the needs and expectations of stakeholders. To this end the National Business Incubator Association published a series of work books designed for the evaluation of business incubators (Albert, et al., 2004; Cammarata, 2003; Wolfe, Adkins, & Sherman, 2001). These guides are designed to highlight "best practices" in administration of business incubators, and are designed for evaluation of incubators by boards, staff and other stakeholders in incubators.

### **Research Methodology**

Identifying the population and the obtaining associated locational information are among the prerequisites for building an accurate geographic overview of U.S. business incubators. The National Business Incubation Association (NBIA, 2009) has provided a list of 1,115 incubators. While this list provided a foundation for identifying operating business incubators it fell short of an accurate approximation of the active incubator population. Examining the database revealed first that NBIA's calculation of the incubator number is primarily based upon a membership count that includes individuals, groups and organizations other than business incubators and, additionally, excludes incubators that had not registered, and second, virtual incubators, which

do not have physical addresses and provide only professional services but no office space and function just like business consulting firms, were also counted as regular incubators in the NBIA list. Researchers needed to verify the NBIA list and supplement the short comings by integrating relevant information from additional sources to construct a more representative and accurate database.

Accordingly, business incubator information publicly available through state incubation associations and relevant government agencies were used to supplement and extend the existing NBIA list. A web search of news articles on business incubators also found additional entries that were not found in the listings of other sources. This augmented list was then reviewed for duplicate entries as well as entries of agencies that did not actually operate business incubator facilities. These entries were expunged from the final list. Each entry on the data base list for remaining incubator facilities was confirmed by reviewing their internet web sites or telephoning the agency to determine if the entry was a valid business incubator offering both office space and featured professional services such as business counselling and training. In January of 2010, the final compiled data base list contained 719 operating business incubators complete with their mailing address information. Even with this effort to identify operating business incubators, a small number of newly formed business incubators has since been identified that were not previously included in the database, and certain business incubators that are no longer receiving funding have since gone out of business.

In the November of 2009 West Virginia University's Regional Research Institute, as part of a Department of Agriculture research grant on rural business incubators, launched a web-based survey designed to characterize and determine "best practices" that were being deployed by U.S. business incubators. The survey questions were based on a review of the literature to

determine what previous researchers had determined as “best practices” for the administration of business incubators. The final survey consisted of 78 questions designed to provide information on the organizational structures, funding, administrative practices, evaluation of incubators, and evaluation of tenants of business incubators. To inform the target population on the existence of this survey and to encourage participation, a survey letter was sent to each of the 719 business incubators previously identified. The letter and the survey were circulated in November 2009. The letter asked the identified business incubators for their cooperation, explained the purpose of the survey and asked for their participation in the survey. Participants were directed to the website where the survey could be found and provided with instructions to complete the survey. A follow up postcard reminder to complete the survey were sent to those entities that had not completed the survey in January and February of 2010.

The survey period ended February 2010. Of the 719 business incubators listed in the database, 210 (29.2%) participated in the survey. Of those completing the survey only one of the surveys was partially completed, meaning that 209 of the participants answered all of the questions that applied to the operation of their business incubator. The survey has a 94% confidence level. At a 95% confidence level for the 209 of the 719 business incubators participating in the survey there is a 5.7% survey error rate.

The data was also analyzed by the Office of Budget and Management’s Urban/Rural continuum for counties in the United States. Under this continuum a Metropolitan counties has a Core Base Statistical Area (CBSA) above 50,000 persons. Micropolitan counties have a CBSA between 10,000 and 49,999 population area. Areas with 9,999 core population area are classified as Outside Core Base Statistical Areas (OCBSA) meaning that the largest community within the county is relatively small. The Metro, Micro and OCBSA cohorts have a similar distribution in



the survey sample to that of the population of business incubator in the United States (see Table 1). The representation within the total population differs with a difference for metropolitan counties by a little fewer than 3 percent. There is an over representation of Micropolitan and OCBSA county incubators. This stratified sample is over 2.5 percent for micropolitan and less than .3 for OCBSA county incubators. The error in the cohort sampling rate is 6.7 percent for metropolitan counties, one percent more than the general population error rate in the survey. Because of the incubator population is smaller for micropolitan and OCBSA and these cohorts were not been stratified in the survey their error rate are higher. The micropolitan error rate is 13.1 percent and the OCBSA error rate is 20.7 percent.

Table 1.

Survey Participation Rates

	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
All Business Incubators	558	77.60	108	15.02	53	7.37	161	22.39	719	100
Surveyed Incubators	156	74.64	37	17.70	16	7.66	53	25.36	209	100

Table 2.

OMB Sampling Error at 95%

Metro	Micro	OCBSA	Micro & OCBSA	Total
% Err	% Err	% Err	% Err	% Err
6.7	13.1	20.7	11	5.7

**Frequency Analysis of “Best Practice”**

Of the respondents 62.38 percent had an organization structured as a private non-profit (see Table 3.). When viewed as county cohorts 61.78 percent of metropolitan business incubators are private non-profits, 67.57 percent of micropolitan county incubator are non-profits

and 56.25 percent of OCBSA counties. With each of these cohorts over 50 percent of business incubators are managed as private non-profit incubators.

The second highest ranking of organization structure is for business incubators managed by government agencies. There is a similar percentage distribution of between the three county cohorts. OCBSA counties have the highest percentage, with 4 of the 16 or 25 percent, of the ownership as publicly owned business incubators. The ownership of metropolitan and micropolitan counties is similar with 23.57 percent of metropolitan and 21.62 of micropolitan business incubators having public ownership.

A detailed analysis of the other variable, when combined with other data variables, shows that the majority of “Other” in this category are organized a business incubators controlled by a university, college or technical school. Since universities, colleges and technical school tend to be located in metropolitan areas it is expected that metropolitan areas have the highest percent of business incubators in category and the lowest in OCBSA has the lowest number.

The percentage of privately owned business incubators is 4.29 percent. Most of this ownership patter can be seen in the metropolitan counties. The number of privately owned business incubators is small accounting for only 9 of the 209 business incubators in the survey, so further analysis by cohorts is below the confidence level for each of the categories.

Table 3.

Legal Organization of Incubator	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
	Public	37	23.57	8	21.62	4	25.00	12	22.64	49
Private for profit	6	3.82	1	2.70	2	12.50	3	5.66	9	4.29
Private non profit	97	61.78	25	67.57	9	56.25	34	64.15	131	62.38
Other	17	10.83	3	8.11	1	6.25	4	7.55	21	10.00
Total	157	100	37	100	16	100	53	100	210	100

When business incubator organizational structure is compared to financial support from any level of government agency we find that over 80 percent of county business incubators receive some form of government funding. (see Table 4.). These percentages remain high though out the cross tabulation table. The percentage of publicly held business incubators structures receiving government funds is lowest for OCBSA counties. This number however represents three out of the four incubators OCBSA /Publicly owned incubators. Out of the 37 public owned incubators in metropolitan areas 31 of these receive government funding. The largest numbers of incubators receiving public funding are private non-profit organizations. This support level tends to point to these agencies acting as proxies for government stakeholder in the incubators.

Table 4.

Receiving Financial Support from Any Level of Government by Legal Organization of Incubator

	Public		Private for Profit		Private Non-profit		Other		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Metro	31	86.11	2	33.33	79	84.95	11	68.75	123	81.46
Micro	7	87.50	1	100	19	79.17	3	100	30	83.33
OCBSA	3	75.00	0	0	9	100	1	100	13	81.25

Chi < .05

Incubator associations provide incubator professionals with information, education, advocacy and networking, as well as access to resources to assist clients. Membership in state or national incubator associations is 82.78 percent of the population of business incubators. Only 17.22 percent of the respondents to the survey were not members of any state or national business incubator association. Twenty five percent of OCBSA incubators were not member of an association at the state or national level. While only 15.38 percent of metropolitan business incubators were not members (see Table 5.). Membership in the National Business incubator association represents 75.60 percent of county level incubators. Membership is much higher in

the metropolitan and micropolitan areas (78.21 and 72.97). The membership rate in the National Incubator Association is much lower in rural counties in OCBSA counties. Because of the limited number of business incubators in many states, not all states have formed business incubator association. The membership in State business incubators is 44.98 percent, which is 30.62 percent than membership in national business association.

Table 5.

Member of Incubator Association										
	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Not Member	24	15.38	8	21.62	4	25.00	12	22.64	36	17.22
State Incubator Ass.	76	48.72	12	32.43	6	37.50	18	33.96	94	44.98
National Incubator Ass.	122	78.21	27	72.97	9	56.25	36	67.92	158	75.60
Membership in Both	66	42.31	10	27.03	3	18.75	13	24.53	79	37.80

The strategic plan is considered fundamental to the operation of a business incubator. The plan should outline how the incubator is managed (Albert, et al., 2004; Cammarata, 2003; Wolfe, et al., 2001). Contained within this document are the goals and objectives of the incubator which are used for the evaluation of the effectiveness of the program (Bergek & Norrman, 2008). Less than one-third of the business incubators surveyed, 37.37 percent, have a strategic plan. There is little variation between the rural/urban continuums for having a strategic plan. Metropolitan incubators without a strategic plan represent 38.36 percent of that population. OCBSA business incubators are seven percent less with 31.25 percent not having a strategic plan.

Table 6.

Does Incubator have a Strategic Plan										
	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
No	56	38.36	13	36.11	5	31.25	18	34.62	74	37.37
Yes	90	61.64	23	63.89	11	68.75	34	65.38	124	62.63
Total	146	100	36	100	16	100	52	100	198	100

Evaluation of the operations of a business incubator is considered basic to “Best Practice” for the management of the incubator program (Wolfe, et al., 2001). The practice of evaluating the programs is seen as necessary to improving program effectiveness to meet the tenant needs. Because of governmental investment in business incubators, there has been a special concern for evaluation from governmental stakeholders (Bears, 1998). Even with the emphasis that government stakeholder place on evaluation of business incubator programs and with 81.77 percent of the business incubators receiving some form of governmental aid only 56.28 percent of the business incubators in the program conduct regular self-evaluations. Those business incubators not conducting regular evaluation represent 43.72 percent of the business incubator population. This percent are is similar for all of the rural/urban continuum cohorts. Metropolitan incubators have 43.54 percent not conducting regular self-evaluations and OCBSA incubators have one half or 50 percent not conducting self evaluation.

Table 7.

Perform Regular Self-Evaluation										
	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
No	64	43.54	15	41.67	8	50.00	23	44.23	87	43.72
Yes	83	56.46	21	58.33	8	50.00	29	55.77	112	56.28
Total	147	100	36	100	16	100	52	100	199	100

The literature on business incubators identifies them as facilities for development of new business. The largest single focus of business incubators is startup up firms. This represents 37.1 percent of the business incubators (see Table 8.). In metropolitan areas forty percent of the business incubators have the single focus of startup businesses. In OCBSA counties focus on startup businesses diminishes to only 12.5 percent of the business incubators. The variables “Established Firms with little or no record” and “Established Firms with history in accelerating sector” together represent 7.1 percent of the focus of business incubators. A combination of the “startups”, “Established Firms with little or no record” and “Established Firms with history in accelerating sector” represents 51.8 percent of business incubator focus. In metropolitan areas 49.7 percent have a combination of business incubator focus. This goes up slightly to 50 percent in micropolitan areas. In OCBSA counties this increases to 75 percent of the business incubator focus. The combination of focus for OCBSA incubators may be due to the limited size of the market in rural areas. In order for business incubators in rural areas to be viable enterprises it may be necessary admit non-startup firms to the incubator(Weinberg, 1987). This may account for the high level of combination of focus for rural business incubators.

Table 8.

Focus of Incubator	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
No Focus	4	2.8	1	2.8	2	12.5	3	5.8	7	3.6
Startups	58	40	13	36.1	2	12.5	15	28.8	73	37.1
Established Firms with little or no record	10	6.9	3	8.3	0	0	3	5.8	13	6.6
Established Firms with history in accelerating sector	1	0.7	1	2.8	0	0	1	1.9	2	1
Combination of Above	72	49.7	18	50	12	75	30	57.7	102	51.8
Total	145	100	36	100	16	100	52	100	197	100

One of the four fundamental components of business incubators is shared space within a facility rented for a favorable market rate. The ability to attract clients to the business incubator facility is a measurement of effectiveness. It is vital that a business incubator be a viable real estate venture by filling the space in a facility. Seventy-one of the business incubators in the study have experienced a waiting list. This represents 35.32 percent of the business incubators. The metropolitan cohorts, at 40.94 percent, have had a waiting list for entry into the business incubators. The waiting list data for micropolitan and OCBSA counties are less than half those metropolitan areas. Only 19.44 percent of micropolitan incubators and 18.75 percent of OCBSA incubators have a waiting list for entry. The lower percentage of business incubators on a waiting list for entry into a business incubator is an indicator that the size of a community affects the market for incubators.

Table 9.

Have had a Waiting List of Suitable Tenants

	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
No	88	59.06	29	80.56	13	81.25	42	80.77	130	64.68
Yes	61	40.94	7	19.44	3	18.75	10	19.23	71	35.32
Total	149	100	36	100	16	100	52	100	201	100

Limiting the stay in a business incubator is considered a best practice in business incubators. It is recommended by the National Business Incubator Association that the length of time for a stay in the incubator reflect the time needed by a business for “accelerated growth” (Wolfe, et al., 2001). Fifty-seven percent of the business incubators in the study have limits on the length of stay. OCBSA business incubators, 43.75 percent of the business incubators, have time limits. Two-thirds of the micropolitan business incubators have time limits. When the total number of business incubators is reviewed for the waiting list question, cross tabulated with limit

to length of stay in the incubator, the chi square is not significant at .063. This indicates that the demands for incubator services are not influencing the length of stay in the business incubator.

Table 10.

Limit on the Length of Tenant Firms' stay										
	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
No	65	43.92	12	33.33	9	56.25	21	40.38	86	43.00
Yes	83	56.08	24	66.67	7	43.75	31	59.62	114	57.00
Total	148	100	36	100	16	100	52	100	200	100

For incubators that limit the stay time in the incubator two lengths of stay are dominated. Both the three year stay and the greater than four year stay each account for the length of stay that accounts for nearly seventy-seven percent of the business incubators. These two time stay variables are similar with 38.94 percent of business incubators having a three year length of stay and 38.05 percent having greater than four year limits. The three year time limit for length of stay is a midpoint in the five year survival rate of small business (Bates & Nucci, 1989; Birch, 1987). OCBSA incubators have the highest number of business incubators, 57.14 percent, using the three year limit of stay remain in the incubator. Only 28.57 percent of business incubators have a time limit greater than four years. Metropolitan areas, 36.59 percent, rely the least on the three year period. Micropolitan incubators are just as likely with 42.67 percent of the incubators stating that the length of stay in their incubator is greater than four years.



Table 11.

How long is the length of the stay limit										
	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
<=2 years	7	8.54	1	4.17	0	0.00	1	3.23	8	7.08
3 years	30	36.59	10	41.67	4	57.14	14	45.16	44	38.94
4 years	15	18.29	2	8.33	1	14.29	3	9.68	18	15.93
>4 years	30	36.59	11	45.83	2	28.57	13	41.94	43	38.05
Total	82	100	24	100	7	100	31	100	113	100

Formal requirements for admission to a business incubator are in place for 75.1 percent of the business incubators. The formal requirement for admission helps to eliminate those businesses that are not ready or cannot be assisted by the business incubator. Metropolitan and micropolitan areas have similar percentages of incubators having formal admission requirements. OCBSA incubators having formal requirements for admission is 62.5 percent of this incubator cohort. This is over 10 percent less than metropolitan and micropolitan business incubators (see Table 12.).

Table 12.

Business Incubator has formal admission requirement										
	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
No	35	24.1	8	22.2	6	37.5	14	26.9	49	24.9
Yes	110	75.9	28	77.8	10	62.5	38	73.1	148	75.1
Total	145	100	36	100	16	100	52	100	197	100

The National Business Incubator Association recommends that that business incubators maintain graduation requirements for tenants leaving the incubator (Wolfe, et al., 2001). Over half or 57.87 percent of business incubators do not maintain requirements for graduation.

Metropolitan and micropolitan incubators have rates for specific graduation which is similar to the total for all business incubators (see Table 13.). OCBSA counties that do not have specific graduation have an extreme divergence for meeting this “best practice” from metropolitan and micropolitan counties. OCBSA counties that do not have specific graduation requirements are 87.5 percent of the business incubators for this cohort. This is 30 percent higher than the other cohorts.

Table 13.

Business Incubator Maintains Specific Graduation Requirement										
	Metro		Micro		OCBSA		Micro & OCBSA		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
No	79	54.48	21	58.33	14	87.50	35	67.31	114	57.87
Yes	66	45.52	15	41.67	2	12.50	17	32.69	83	42.13
Total	145	100	36	100	16	100	52	100	197	100

## Conclusion

Over eighty percent of those participating in the West Virginia University survey of business incubators have received funding from a government program. As a stake holder in business incubators government agencies are concerned with the efficient management of these facilities. The National Business Incubator Association and other have developed guideline for the administration of these facilities using what has been labeled as “best practices” for management. These guidelines were developed to create highly effective business incubator.

This analysis examines a few of the major elements of “best practices” to determine their use in the operation of business incubators. The survey data shows that while these practices are used by business incubators their use is not universal. Such basic practices as a business incubator having a strategic plan which is fundamental to most organization is not widespread

with 37 percent of business incubators not having a plan. Government agencies have. The practice of conducting self-evaluation like having a strategic plan is fundamental to most agencies. Around forty-four percent of the business incubators do not conduct regular self-evaluation. Other “best practices” analyzed showed similar results to these two fundamental practices in administrating incubator programs.

The frequency analysis conducted on data reveal much about the operation of business incubators. Future analysis of this survey data should concentrate on more advanced survey research methods. This is much to be learned from this survey on the operations of business incubators.

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