ABSTRACT

This paper considers the accuracy of a perception that there is a ‘knowledge gap’ in Australian business incubator research. A review of the extant literature suggests that this ‘gap’ relates to a failure to consider the goals, benefits and costs accruing to, or being borne by Australian business incubator stakeholders, especially those involved in management boards. This analysis reports on the findings of a survey which endeavoured to determine whether members of each of the three Australian incubator stakeholder groups (board members, managers and tenants) are achieving their goals in being involved in business incubation. The research study found that entrepreneurial goals, through involvement in business incubation, may be subject to a process of institutional isomorphism. Further, this study identifies a link between institutional and stakeholder theory in the context of Australian business incubation.

KEYWORDS

business incubation, Australia, stakeholders, institutional forces
INTRODUCTION – RATIONALE OF THE SURVEY

Support for business incubators in Australia has been based upon the widespread application, and apparent international success, of the concept in promoting business start-ups. Australian business incubator stakeholders have been presented with the incubator concept as a ‘fait accompli’ rather than as a well researched economic development option.

In Australia, since the late 1980’s, programmes designed to promote entrepreneurial business ‘start ups’ have been launched with business incubators as a key element of business development policy.

Academic comment has consistently criticised the lack of analysis relating to the purposes and nature of business incubators, identifying a need to undertake holistic studies of the initial goals of the incubators’ stakeholders, and to consider whether the multiplicity of incubator stakeholders are satisfied with the state of this sector (Aerts et al. 2005, p. 21; Bearse 1993, p. 51; Bergek et al. 2008, p. 26; N B I A 1998, p. 1). In summary, this paper seeks to identify the goals of Australian business incubator stakeholders and to assess, through consideration of the responses to questions raised, whether those goals are being satisfied.

There have been a limited number of studies of incubator development in Australia, research usually being funded and supervised by governments, as part of a follow-up process associated with earlier funding of incubator facilities. Australia’s first national study was commissioned by the Commonwealth Office of Local Government (Office of Local Government 1992, p. 1). At that time there were 40 incubators operating throughout Australia. Respondents were asked to rate the importance of various incubator objectives. The predominant goals were: employment creation, regional economic diversification, sponsor income (especially rental income), commercialisation of research and opportunities for minorities (Office of Local Government 1992, p. 10).

Mian (1996) argued that incubators articulate objectives differently, depending upon their sponsor’s interests, or at least make different priorities within the same basic goals (Mian 1996, p. 194). Considering the validity of Mian’s observation, this paper has articulated and analysed the ‘goal achievement’ ambitions of Australian incubator stakeholders. The group includes board members, managers and tenants. The analysis considered the ‘goal achievement’ through a broad range of independent variables. Further discussion considers whether stakeholder and institutional theoretical concepts might influence future Australian business incubator goal achievement.

The key issue, as identified in the literature review, contended that the goals of the broad range of business incubator stakeholders have been overlooked in current incubator industry research. Business incubator
establishment and operation depend upon the support of a diverse
group of stakeholders, their roles embodying a wide range of necessary
inputs, including provision of funding, governance, mentoring and
ongoing business advice. The need for a holistic study of business
stakeholder ‘goal achievement’ issues represents, according to the
literature, a significant knowledge gap in the Australian business
incubator research (Bhabra-Remedios et al. 2003, p. 14).

LITERATURE REVIEW

The origin of business incubation funding frequently has the potential
to “… determine the incubators’ strategic focus …” (Chandra 2007, p.
20) to the extent that stakeholders exhibit multiple goals, such goals
also changing over time (Hansen et al. 2000, p. 82). The primary goals
of incubator stakeholders often closely relate to the type of incubator
involved and include business start-up targets, regional development
plans, support of entrepreneurial development, research
commercialisation and achievement of social development initiatives

The term ‘incubator’ relates to the manner in which a business
incubation programme seeks to keep ‘infant’ entrepreneurial
enterprises ‘warm and safe’, through provision of appropriate support,
until they have reached a stage of maturity which allows them to
graduate from the incubator and to thrive on their own (Maital et al.
2008, p. 2).

Considering the limited value of definitions which attempt to ‘say it
all’ by creating voluminous definitions, there is enhanced value in the
application of brevity to this issue. As a result, in this study, the term,
‘business incubator’, was interpreted as relating to a form of agency
that had been set up to provide a nurturing environment for start-up and
fledgling enterprises (Trewartha et al. 2008).

In a business start-up environment in which incubators are being
funded and supported by a range of stakeholders, each group with
varied goals, it would be appropriate to expect that each of the
constituent elements of this scenario had been subjected to significant
research analysis before the process of establishing business incubators
in the region commenced. In reality, in Australia, incubators have been
established through significant investment of public and private
stakeholder resources to facilitate business start-ups with very little
theoretical content to support these actions (Bhabra-Remedios et al.
2003, p. 3).

One of the earliest academic treatments of the incubator ‘goal’ issue
was presented by Allan et al.(1990). The study, in discussing incubator
development in the USA, accurately forecasted a shift from a focus on
real-estate to a stakeholder emphasis on enterprise development (Allen
et al. 1990, p. 64), the concept being a major contribution in
development of an understanding of the goals of incubators. Albert, et
al. (2002), in a study of incubator sectors in America, United Kingdom,
Germany and France, identified generational ‘waves’ in the processes
of creation of incubators in the four countries. Incubators of the first generation emphasized job creation and real-estate appreciation, wherein prospective tenants were offered office space and a variety of shared facilities at sub-market prices. In the nineties these services were expanded to include consultancy services, training sessions, network access and venture capital – this, in the incubator literature, usually being referred to as the second incubator generation. The third generation of incubator development was generally identified as having started in the late nineties, being concentrated on provision of incubation assistance to promising start-ups in the ICT and high technology sectors (Albert et al. 2002, p. 14).

One of the central elements of the current international discussion on incubator development applies to the principle of best practice, best practice being defined as “… a process that is better at delivering a particular result than any other process” (Bergek et al. 2008, p. 22). If there is confusion over incubator goals or ‘particular results’ then how can this much lauded incubator development principle be implemented? Goal satisfaction, in relation to this basic definition of best practice, may be the means of achieving incubator success.

In a recent paper, Bergek et al. (2008) hypothesised that the level of emphasis about each incubator feature varies over time, seeing identified business support as the most important business incubator feature and arguing that the use of shared localities is an important advantage, providing opportunities for knowledge transfer and experience sharing between incubator tenants (Bergek et al. 2008, p. 21).

The current call for identification of best practice incubator models means that there is a need to describe and distinguish between different incubator models and to measure outcomes in relation to goals. Earlier studies (Bearse 1998; Sherman et al. 1998) tended to assume that all incubators have the same outcome objectives, very few studies having examined outcome criteria, the exceptions to this generalization including Bhabra-Remedios (2003) and Bergek (2008). Mian changed the paradigm by arguing that incubators identify objectives differently, depending upon their stakeholder’s interests, or they have different priorities within the same basic goals (Mian 1996, p. 194). This point of view parallels Albert’s previously considered contention that the goals of stakeholders are the pivotal issue in incubator development and outcomes (Albert et al. 2002, p. 16).

Stakeholder goal satisfaction represented the central aspect of the conduct of this study, the basic theoretical propositions considering issues about the processes of goal attainment in Australian business incubators. The study was designed to provide answers to the questions raised by Lalkala (2001) when he asserted that the “... pre-dilections of leading sponsors exert a major influence upon incubator goals ...” (Lalkala 2001, p. 5). Existence of multiple sponsors has the potential to bring a variety of concerns and strengths (and conflicting goals) into the incubator environment.

Stakeholder theory assumes that, to remain competitive, an organisation must actively support its stakeholders’ legitimate interests. Specific questions were incorporated within the study questionnaire to test whether incubator stakeholders, in seeking to
satisfy their goals in being involved in business incubation, were utilizing management options which would be considered appropriate in terms of the concept of stakeholder theory. Elements of Freeman’s programme of ‘seven techniques’ (Freeman et al. 2007, p. 103), intended to better manage stakeholder relationships, was taken into consideration in designing the study questionnaire. Techniques related, in the context of their application to incubation, to usage of various management programmes specifically designed to highlight an awareness of the needs of all incubator stakeholders.

Theorists involved in the study of institutional theory have pointed out that nascent start-up businesses lack access to social networks and subsequently need to prove themselves so that they gain “legitimacy”.

The literature acknowledges that the nature of a start-up business idea may change over time as it adopts, and adapts, input from external parties in an attempt to become more viable, this process often leading to amendment of the initial goals of the entrepreneur in establishing the business (Karlsson et al. 2005, p. 2). This is similar to what institutional theorists call competitive isomorphism, a process in which firms tend to become similar. This study investigated the aspect that entrepreneurial goals, through involvement in business incubation, may be subject to a process of institutional isomorphism.

Options available to organisations confronting institutional pressures include not only conformance and resistance, but also compromise, avoidance and manipulation (Oliver 1991, p. 174). In this type of environment might the operation of these processes cause incubators to become similar to one another? Bigelow et al. argued that organisational passivity and conformity will occur, in the face of institutional pressures while Oliver (1991) had asserted that there can be up to five different types of entrepreneur response to institutional pressure, ranging from compliance to aggression (Bigelow et al. 1995, p. 191; Oliver 1991, p. 152). Clemens and Douglas’s study (2005) evaluated Oliver’s thesis. The results of the study supported much of Oliver’s conceptual model, relating to institutional influences on organisational behaviour (Clemens et al. 2005, p. 1205). In particular, their findings associated the institutional factor of ‘content’ (relating to economic incentives and goal congruity between regulators and firms) with ‘manipulation’ as the most active positive correlation in their analysis, suggesting that respondents chose to make active strategic responses to institutional pressures.

RESEARCH METHODOLOGY

The research involved an online survey to incubator stakeholders across Australia. A preliminary stage of the research involved a series of interviews with incubator managers to firstly develop a thorough understanding of incubator issues and secondly to seek support from the managers in the distribution of the survey to stakeholders such as board members and tenants who could not be contacted directly by email.
The questionnaire was developed following the interviews with the incubator managers and it was pilot tested and minor adjustments were made before it was distributed. The survey was e-mailed to the managers of 45 Australian business incubators for completion and further distribution to other stakeholders, including board members and tenants. The questionnaire was available online for a period of three months from September to November 2009, with two reminders e-mailed to incubator managers during that time. The two main questions related firstly to specific areas of incubator goal achievement, and secondly to particular examples of incubator ‘success’ factors which the literature had suggested are key elements in justifying investment in business incubator projects. A wide range of additional variables with the potential to influence business incubator goal attainment were also included among the questions. These issues included incubator service provision, capital funding, ‘for profit’ legal status and stakeholder gender. The questions in the survey were designed to evaluate stakeholder opinions on the relative importance of these issues in stakeholder goal attainment.

Interpretation of survey responses initially involved a descriptive investigation, followed by a chi-square analysis of the non-parametric data. A series of statistically significant relationships were identified in the results.

**FINDINGS**

**Specific Elements of Goal Achievement**

There were 71 useable responses to the survey made up the three stakeholder groups as follows: 22 board members, 22 incubator managers, and 27 tenants. The gender spread of the respondents was 60% male and 40% female. Responses indicated that national government grants were the most important category of initial capital funding provision for the incubators with municipal council provisions playing a slightly less important role. Local government provided both grants and ‘in-kind’ support such as land, buildings, and/or services for Australian incubators.

The main question in the survey covered ten specific items of incubator goal achievement based around the literature. Respondents were asked to indicate whether they were satisfied or dis-satisfied with each of these elements of goal achievement. The responses were analysed according to two groups management and tenants, with the management group combining the board members and incubator manager together.

Four of the ten items of goal achievement indicated that both groups (management and tenants) of incubator stakeholders were in approximate agreement. Two of the items - high occupancy rates in the incubator and the incubator’s record of success in assisting local employment creation were identified as activities in which the stakeholder groups agreed they were satisfying their goal achievement targets.
Promotion of a particular technology was reported, by management and tenant respondents alike, as an area in which stakeholder goal achievement outcomes were dissatisfied. The issue of ‘full use of incubator services’ did not indicate significant differences between the two groups of respondents, however tenants were ambivalent concerning their levels of goal satisfaction relating to this issue while the management group indicated that their levels of satisfaction were indicative of a medium level of goal satisfaction. Responses to each of these four areas of goal satisfaction indicated that all respondents were in general agreement relating to their experience of goal achievement with these issues.

Responses to the remaining six questions, after Chi square analysis, resulted in significance level values which suggested that, within the three stakeholder groups, there were significantly varied opinions. Survey responses relating to respondent gender, incubator organisational structures and availability of public funding were the basis of extended analysis. The results of this analysis are discussed in the concluding sections of this paper.

Incubator Success Factors

A second question assessed the views of respondents about several likely advantages from business incubator tenancy. Responses from incubator management strongly supported the proposition that incubation brings benefits. A significant group of tenant respondents suggested that the issues of positive business image, shortened enterprise learning curves, provision of essential infrastructure and existence of a vibrant business network were not considered advantages, according to their incubator experience. Further analysis of the data identified that male tenant respondents did not believe that incubation created a positive business image.

Tenants expressed agreement with management respondents in relation to four identified ‘advantages’ of incubator tenancy. The advantages where there was agreement were having provided tenants with a credible business address, that their business skills had been enhanced, that incubation reduced start-up business costs and that tenancy had enhanced start-up business financial performance.

Finally both groups rejected two supposed incubator tenancy ‘advantages’ - that incubator tenancy arrangements have assisted specific social groups and that incubators help create export opportunities.

Provision of quality services

Recent literature has emphasised the point that, in incubators, there is an ongoing need for provision of a full range of support services, additional to provision of accommodation space. Researchers have suggested that effective service provision relates both to the nature of such services, requiring additional emphasis on how they are supplied (Bergek et al. 2008, p. 24). This study addressed the issue of incubator
service provision on the basis that it represents the essential operational medium justifying existence of these business support organizations. The findings of this research exercise suggested that the process of business incubator service delivery is complex in nature, one that changes as an incubator develops and tenant requirements evolve.

Email responses allowed for a review of stakeholder goal achievement issues with services currently available to Australian incubators and provided insights into how service provision may improve. The data analysis indicated that for all except three services (high-speed internet, counselling/mentoring and internal networking), there was a similar level of satisfaction between the incubator management and tenants in what is being provided for tenants and what they believed they needed.

For the remaining three services (high-speed internet, counselling/mentoring and internal networking), the analysis suggested that tenants do not necessarily demand those services while management stakeholders (particularly board members) perceive them to be very important service items.

**Funding Issues**

Incubators have typically been established using government grant funding (or provision of real estate under favourable arrangements) without provision for ongoing recurrent or developmental funding. This process has usually been implemented in an environment where incubators have been expected to offer ‘incubation’ facilities at sub-market rates for start-up enterprises as an element of government economic development programmes.

Public funding is vital in the early years of incubator operation. Often, a number of years may elapse before an incubator can generate sufficient income from other sources, to cover operating costs. This study assessed the degree of involvement, in Australian incubators, of public sector funding for establishment and recurrent expenditures. Analysis also considered the issue of the degree of longevity, relating to public sector financial support for incubators.

The results found unsurprisingly that there was support for public funding for extended periods, with 98.6% of respondents indicating that they supported an element of government funding for business incubators.

Board member respondents listed revenue from Government sources (including Councils) as the most important (63% of the ratings) source while managers viewed income sources from rentals and provision of services to external clients (virtual incubation and other methods of revenue raising) as the most important recurrent funding sources. Cross-tabulation analysis suggested that the difference of opinion, on the question of the most important incubator funding source (public funding versus rentals), is relevant to goal achievement in Australian incubators.
Analysis of stakeholder responses examined the question as to whether Australian incubators should be structured on a ‘for profit’ basis. Survey responses provided an indication that board members and managers exhibited ambivalent opinions on the matter. Incubator tenant respondents showed a clear disagreement with the creation of ‘for profit’ incubators, possibly due to a perception that the only way in which profit could be generated would be through rental increases or service provision reductions. Each of these choices potentially represented elements of disadvantage to tenants.

**Gender and Goal Achievement**

Earlier studies of the Australian business incubator sector had identified a gender ratio whereby approximately three quarters of the incubator population were male (Abduh 2003, p. 140; Gardner et al. 1994, p. 3). Analysis of the data in this study indicated that female involvement in incubators is higher than the earlier studies indicate, especially in tenant businesses, and as managers. However, the role of women, as incubator board members in this study, was one of minimal involvement, with only 18.2% of board stakeholder respondents being female.

The following potentially significant relationships, relating to gender, were identified in this study. Female incubator managers significantly opposed the concept of Australian business incubators becoming ‘for profit’ organisations. Also, male tenants expressed a significantly strong level of disagreement with the concept that business incubation has not shortened the learning curve for tenant start-up enterprises while each of the remaining respondents (including females) supported the proposal.

Incubator financial independence was identified as an important goal to all stakeholders, except for male tenant respondents. Other respondents, including female tenants, strongly supported their level of satisfaction in financial independence being a key goal satisfaction issue. All other respondents, including female tenants, viewed success with this measure as a positive goal achievement issue. Finally, female tenant respondents, along with almost all management respondents, expressed strong support for the need for boards to operate in an amicable manner. Male tenants significantly viewed the concept as one in which they were not satisfied (or maybe, not interested?), as applied to goal achievement.
Other Issues

There were significant differences in the opinions of the two stakeholder groups when they were questioned about their views on a range of issues relevant to the operation of an incubator. The issues included their role in job creation, tenant board membership, the rating of incubator investors as the most important stakeholders and the value of business plans at the tenant selection stage.

Further analysis indicated that the opinion of managers regarding the value of a formal business plan at the time of tenancy application differed significantly. While incubator managers were sceptical of any value in business plans, there was strong support for the process among board members and tenants. This questioning of the merits of a business plan goes somewhat against the ‘established faith’ in the processes involved in seeking tenancy in an Australian business incubator.

This finding gave rise to the suggestion that institutional pressures may have been playing an important role in the homogenization of nascent organizations, with respect to presentation of a written business plan. The output of this study suggests that, if managers should choose to exert stronger influences against the mandatory formulation of a business plan at the ‘entry’ stage, then the level of institutional impact when entering incubators may be lessening.

Options available to organisations confronting institutional pressures include not only conformance and resistance, but also compromise, avoidance and manipulation. In the Australian incubator environment it is possible that the operation of incubators would become similar to one another.

In the United States, as has been the case in Australia, government involvement has been manifested through incubator funding at federal, state and local government levels, public funds having been provided to incubators as a social investment. The downside of this approach is a high level of dependence on government, which is a common feature of incubators across countries. The irony of ‘incubation’ is that incubators are usually set up as intervention tools to address market failure (Maital et al. 2008, p. 3), yet most of them operate as non-profit organisations and have difficulty meeting self-sustainability goals. Australian incubators, almost all of which are non-profit organisations, closely follow this pattern of dependence upon government.

Responses to the survey suggested that each of the interviewees did not feel that their organisations were being exposed to institutional pressures, because government financial involvement in their organisations is minimal, at present. However, all of the incubators, to varying degrees, had worked with (and were still doing so) at least one arm of government at a commonwealth, state or local level, during their period of operation.
Institutional outcomes reflect the effect of the institutional process, the commonly discussed outcomes in institutional theory being legitimacy and efficiency. Doh (2006) described institutional theory as being concerned with “… how organizations seek legitimacy within a given environment and attempt to become isomorphic within these environments”. He also asserted that, within any institutional setting, organizations form to advance collective interests, often with the objective of having these interests codified as informal practices, formal rules, or both (Doh et al. 2006, p. 49).

In this study, respondents were invited to ‘assume that a regulator decides to introduce new techniques in your incubator’, and to provide an indication of their ‘appropriate’ response to this circumstance, from a selection of choices ranging from acquiescence to policies aimed at manipulation, in an effort to advantageously amend the regulator’s new strategy. Three quarters of respondents chose the compromise option. In terms of Oliver (1991) and Clemens’ (2005) definitions this type of ‘compromise’ response involved development of placatory strategies as an amended method of policy implementation in response to isomorphic pressure.

These results may suggest that Australian incubator stakeholders are not willing to take things ‘for granted’ but, since most appear to have chosen a ‘compromise’ strategy in this survey, there appeared to be an element of homogenisation in the result, as theorized by many institutionalists as they have described the processes of isomorphism. The result of this section of the study suggested that respondents, in choosing to take the ‘compromise’ option had reacted to institutional pressures in an isomorphic manner.

Although only two, of seventy one, potential respondents, indicated that the appropriate policy stance for an incubator involved in a relationship with an institutional regulator should be one of acquiescence, the vast majority of the group chose to adopt the second, compromise, option as the appropriate response in that environment.

This finding supported data gathered during the interview processes of the study whereby some incubator managers are still expected, by their boards of management, to prepare internal progress reports, according to the previous external timetable and formulae of federal government funding guidelines, as set down in the 1990’s. Some of the boards still send these reports on to the national capital even though any requirement to complete such reports has long since elapsed.

The result has relevance in the context of an incubator’s management seeking to attain a state of institutional ‘legitimacy’. Incubator managers may be gaining comfort (or legitimacy) by believing that the process of reporting to someone, even if the need is no longer applicable, provides evidence that the incubator, is operating by established standards. The observation serves as an example of a mimetic policy stance in which incubator boards, while operating in a lonely operational environment, without any national incubation structure, feel a need to indicate their legitimacy.
Freeman argued that the term ‘stakeholder’ gives an indication to managers and theorists that these stakeholder groups have a ‘stake’ in the business and so the term denotes legitimacy. The term is especially applicable, as applied to the business strategies of managers, in allowing for the legitimacy of these groups to affect the direction of the firm (Freeman 1984, p. 46).

This study has identified a link between institutional and stakeholder theory. This area of study observing that firms face varying levels of institutional pressures through various stakeholders, so that management interprets and acts upon these pressures differently (Delmas et al. 2004, p. 231). In a recent analysis Dickson (2008) argued persuasively that institutional forces affect the strategic choices made by firms, reasoning that firms must choose actions from a defined set of legitimate options, these options being determined by institutional forces within an industry or country (Dickson et al. 2008, p. 481). The consistently collaborative responses of incubator stakeholders to the strategic choices, as identified in this study, support the merit of Dickson’s argument.

IMPLICATIONS OF THE RESEARCH TO THE AUSTRALIAN INCUBATOR SECTOR

The findings indicate that for some issues incubator stakeholders are satisfied that they have achieved their goals. However, for other issues there are significant variations in the level of achievement of goals between the various stakeholders which would justify further research in this field.

This research exercise identified a ‘knowledge gap’, in the Australian context, suggesting that the goals of business incubator stakeholders have been overlooked in research exercises relating to development of Australian business incubators. Business incubators depend upon a very wide range of stakeholders for their initial establishment and subsequently in their ongoing operation. Particular stakeholders provide funding support for incubators while others provide ongoing governance, mentoring, business advice and other services, usually without recompense. The need for a holistic study of Australian business stakeholder issues represented a significant knowledge gap in incubator theory.

Australia’s business incubator sector comprises only forty-five incubators, which is a small cohort by international standards. The findings of this study have lent support to a steadily expanding body of analysis which contends that business plans represent an over-emphasised area of business preparation. In the results of this study manager respondents tended to express the opinion that business plans receive very little attention, once they have served their purpose at the selection stage of incubator tenancy. Findings from this study have suggested that confidence in this business development activity may be misplaced. Any future role of business planning, in support of start-up and ongoing business development, is an area requiring analysis. Future research also needs to take account of the expanding role of local government in supporting the establishment and on-going
development of Australia’s business incubators given the finding of this research that indicated that local council support was perceived to be the most important contemporary source of support for this industry.

Research reported in this study has made a contribution to the incubator literature, suggesting that the level of goal attainment of Australian business incubator board members and managers is generally being satisfied. However, some issues that are seen differently by tenant respondents, have to date been overlooked by incubator boards and managers.

For example a number of factors have been identified, in the study, as being important management ‘goal achievement’ outcomes and yet tenants expressed clear indications that the issues were not high priority ‘goal achievement’ items, from their point of view. The need for management to recognise the needs of all stakeholders is apparent, considering that the goals of the tenant groups must represent the essential justification for existence of the incubator movement.
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