

Refereed Paper

Helping small companies with a light hand: Strategies for tertiary education institutions

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Abstract

New Zealand companies are predominantly small or medium sized enterprises. Clusters models are included in economic development strategies in many regions. Many clusters have an underlying layer of very small companies that are not yet involved formally in the cluster, although personal and other connections may be present.

New Zealand tertiary education organisations (TEOs) are linked with industry and business through a wide range of activities including networking, curriculum consultation, student projects and post-graduate research and development. Many organisations have direct connections and working arrangements with clusters and cluster companies. The challenge for clusters and TEOs is the initiation and management of interaction with very small companies that are pre-cluster but that have been identified as having high potential to add more value to existing cluster groupings.

Some strategies to support and mentor very small companies “with a light hand”, without impacting on their productivity or growth, can be identified in some linkage and support models being used in institutes of technology and polytechnics (ITPs) in New Zealand in the business and information technology area. The initiatives are based around programme advisory committees and other connections with business and industry, particularly focused around student undergraduate projects. A crucial feature of the model is that the ITP leads and sustains the contact but that the identified needs of the companies drive the interaction. Future developments include a proposed project to integrate arrangements for undergraduate student projects in the Wellington region and research on the value of such projects to the New Zealand economy.

Key words: undergraduate student projects, applied degrees.

Introduction

Like many other countries New Zealand is a nation of small businesses. According to a Ministry of Economic Development 2004 report, 97% of companies in New Zealand are small or medium sized enterprises (SMEs). 86% of enterprises employ 5 or fewer full-time equivalents (FTEs), 96.8% of enterprises employ 19 or fewer FTEs and 20.3% of enterprises employ 0 FTEs.

The contribution and importance of clusters to innovation, competitiveness and economic development has been argued and analysed in many studies worldwide. Cluster building is accepted as an economic development tool in many countries. In New Zealand, cluster models are implemented in economic development strategies for many areas and various positive results are reported, although accurate hard data overall are still harder to access. New Zealand Trade & Enterprise (2005) has produced a comprehensive list of clusters in New Zealand, last updated in May 2005. The list includes clusters and incubators with a sectoral specialisation, is divided geographically and defines a cluster as a group of related firms that are attracting export income to a region. Many clusters in New Zealand consist of a relatively small number of small companies.

A further dimension of many New Zealand clusters is an underlying layer of very small companies that are not yet involved formally in the cluster, although personal and other connections may be present. These companies have formed around innovative products and services but so far may involve only one or two people. They often have difficulty surviving and growing.

A wide range of activities including networking, curriculum consultation, student projects and post-graduate research and development already links New Zealand tertiary education organisations (TEOs) with business and industry. TEOs include universities, institutes of technology, polytechnics and private training establishments. A number of these institutions already have direct connections and working arrangements with clusters and cluster companies. As discussed in many studies, the support infrastructure provided through TEOs is a key ingredient for successful clusters. A challenge for clusters and TEOs is the initiation and management of interaction with the very small companies that are pre-cluster but that have been identified as having high potential to expand and deepen existing cluster groupings and add more value.

This paper considers some strategies to support and mentor very small companies “with a light hand”, without impacting on their productivity or growth, that can be identified in some linkage and support models being used in institutes of technology and polytechnics (ITPs) in New Zealand. The models described have a focus on the business and information technology area and the Wellington region but should provide some insights for other areas.

Current Situation and Issues

A big issue for small, emerging companies is growth and how to manage it. The Ministry of Economic Development reported (2004) that survival rates are significantly lower for smaller enterprises. Of all small businesses started in 1995, 55.0 percent were still active in 1997, 46.2 percent in 1998. By 2002, only 27.4 percent of these businesses were still active. The report also indicated that only a few companies graduate into larger size brackets each year.

A challenge for those who seek to support these companies is how growth and development can be facilitated without impeding direction and without providing too much support and weakening competitiveness.

There are various business support and development schemes for SMEs run through government and economic development agencies. Examples include the BIZ scheme (Business Information Zone n.d.) set up by New Zealand Trade & Enterprise and the Business Enterprise Centres (BEC Australia Incorporated n.d.) in Australia. These schemes offer practical assistance and advice for people operating, or thinking of starting, small businesses. There is also a wide range of funding available through various agencies to support business growth. Very small companies may have no awareness of such schemes, lack the ability to provide the documentation required, and have difficulty making time to attend learning seminars or meeting the criteria for funding so relationship networks and information sharing is important.

For some start up companies, incubator schemes provide support during early, critical stages of development. There are many examples in New Zealand and Australia, often within or attached to TEOs. In general, incubators provide business services, resources and facilities, encourage networking and aim to foster entrepreneurial growth and development. However these may not be appropriate for all small companies and are not available everywhere.

An examination of clusters often reveals a related, underlying layer of individuals and very small companies that are not formal members of the cluster although personal and other connections may be present. These very small companies have formed around innovative products and services but so far may involve only one or two people. They may be spin-offs from existing companies or completely new start ups.

One factor for non-involvement in the cluster in a formal sense is the size of the company. A small company of one or two people, focused on sales, has a lack of time for involvement in too many activities that may appear to have no immediate return. Another factor is the desire to protect their intellectual capital. Close contact with those seen as competitors is viewed as a risk rather than potential benefit to be gained from synergies and collaboration.

Clusters have to work out how to continually identify new companies, recognise potential and have strategies for encouraging connections and promoting membership. A related issue is how to initiate and manage interaction with the very small companies discussed above, particularly those that have been identified as having high potential to expand and deepen existing cluster groupings and add more value to the cluster.

In Wellington region, New Zealand, there are a number of clusters operating with support from the regional economic development agency, Positively Wellington Business. These clusters are grouped around areas of expertise and critical mass that were identified in the region. An Education Cluster was also formed around the six public tertiary education organisations in the region to create more opportunities for strategic discussion and foster connections and networking directly with the other clusters. Members are the Chief Executives and Vice Chancellors of the institutions concerned. Cross-institution project teams have been created to work on areas identified as of strategic importance. These arrangements and the collaborative space created have resulted in closer alignment and more willingness to consider various issues jointly, and with a regional strategic approach.

ITPs: Creating Effective Models for Engagement with Small Companies

For New Zealand TEOs, links with industry and business are present at various levels and many include connections and working arrangements with clusters and cluster companies. Universities tend to focus more on post-graduate levels and connections with larger companies, and these include graduate programmes, internships and research and development projects for Masters and PhD students. Academic demands and timeframes can restrict the ability to work closely with small companies. ITPs focus more on applied degrees, diplomas and certificates and the majority do not have programmes at post-graduate level. For ITPs already involved with clusters, contact and ongoing interaction with very small companies is an area in which they can add value to cluster development through various strategies as a part of their vocational focus.

Strategies to support and mentor very small companies “with a light hand”, without impacting on their productivity or growth, can be identified in some linkage and support models being used by ITPs in the business and information technology area. These include interaction and interventions that appear to be small and at a low level, however feedback from companies indicates they have a significant effect in terms of support and knowledge sharing.

ITPs were established to provide vocational education and training and have a long history of involvement with various industry groups and companies. Their teaching staff are primarily industry practitioners who combine practical experience with academic knowledge. Most staff retain extensive networks with colleagues in industry roles. The strength at the heart of ITP programmes is the assertion that they are not only academically sound, but have been developed in close consultation with industry and reflect current market standards and requirements. Recent government signals in New Zealand have re-emphasised the role of ITPs to deliver education and training that industry needs.

A survey (Brimblecombe, 2002) identified connections with industry in computing and information technology (IT) departments in New Zealand ITPs and two universities that were formerly ITPs (22 institutions in total). The survey found that all institutions but one had programme advisory committees with industry representation. This structure leverages existing connections and relationships between ITP staff and local companies and provides a two-way mechanism for support and advice. Industry members from local companies were involved in a range of activities including input to curriculum and strategic direction, marketing advice, guest lectures, mentoring of students, approval and assessment of undergraduate student projects, advice about commercialising projects and assistance with work experience.

The survey also reported on other practices indicating involvement and connections with industry, other than those undertaken formally with advisory committees. A high number of institutions reported staff consultancy with companies, the provision of customised training for companies and staff involvement as guest speakers at industry workshops and seminars. Over half arranged short-term teaching contracts for industry professionals and were involved in collaborative research projects involving staff and industry. Just over a third were involved in hosting and promotion of specialist IT user groups.

The models ITPs use for more effective engagement with companies have evolved over time. In terms of programme advisory committees, these are part of ITPs' quality management systems and have terms of reference and set procedures. These generally include specifying a minimum number of meetings each year and having standing agenda items to ensure interaction covers the range of activities expected. ITPs report anecdotally that feedback from industry representatives has modified practice and resulted in more effective use of the time spent. For example, comments from industry members of one committee that they found it tedious to attend meetings to listen to ITP staff read reports led to change. The simple practice of sending written reports to committee members well before the meeting date altered the dynamics and content of the meeting. Standing agenda items relating to reporting on student progress and other quality measures are dealt with more efficiently and allow time for a more strategic view and more significant interactions between industry members from small companies and the ITP. While the ITP initiates and coordinates the meetings, the real agenda is kept business-focused by ensuring that industry representation is always in the majority and the committee chairperson is from industry. Willingness to consult with companies and arrange meetings around their time availability, often in the evenings, is another strategy. Encouraging all relevant staff to attend advisory meetings and facilitating connections between staff and industry members has also led to joint activities benefiting both the ITP and the company involved. Linking the advisory committee with the relevant sector manager from the local economic development agency provides a further dimension.

All ITPs in New Zealand offer applied IT degrees. A number of studies Wieck (2003), Bridgeman (2003), Chard, Lloyd, Strode & Wempe (2004) have reported on the industry project model which is incorporated within IT degrees. For students, this undergraduate project experience provides a supported transition to work or the opportunity to consider whether the product or service which is developed has some commercial viability. For companies, particularly very small companies, it can be a way to gain increased capacity and capability with support to manage the process. In most cases there is no or low monetary cost to the company. Some available grant schemes may also provide small amounts of funding to cover project expenses. However, small companies cannot survive too much disruption even if the intention is benevolent. For very small companies of one or two people, gaining a student or students to work on a project is a time consuming process that will impact negatively on productivity and progress, unless they get extensive help to manage the engagement.

At one ITP an improved supervision model has been developed based on feedback from previous companies with whom projects were undertaken. The model includes: allocating part of one staff member's time to overall project coordination; allocating academic staff teaching time for supervision of projects; ensuring supervisors are both practitioners and academics to provide an informed and experienced bridge between the company and the student(s); accurate scoping of projects and mentoring of companies embarking on this path; adequate pre-planning and skillset analysis to provide a better match between specific students and specific projects; evaluation of skills present in the partner company and identification of any gaps the institution will need to cover; ensuring the proposal identifies both the academic and business imperatives; and ensuring monitoring processes are followed and that any variances and concerns are dealt with promptly.

Companies who have been involved reported more satisfaction with the process and outcomes. They also reported they had the opportunity to evaluate soft skills such as

communication and teamwork as well as technical skills, and see how the student fitted into their environment before committing to employing them. Other feedback was that graduates became commercially productive more quickly through the project experience. These are all factors that could help small companies build capacity and capability and survive the process. A survey of graduates indicated that about a quarter gained employment with the company with whom a project was undertaken. Others indicated that the project experience enhanced their knowledge and skills and was a factor in gaining employment elsewhere.

These initiatives originate from the ITP striving to understand each specific small company's needs. They are aimed to provide just enough support to help, but not distract with too much information, or hinder growth with too many additional activities and expectation of involvement. The activities undertaken support long-term relationship building, formation of extensive networks, and the development of social capital. These practices are congruent with the associated cluster's objectives to build trust through formal and informal social networks.

Although the research reported above was limited to computing and IT departments, other areas would be likely to have similar findings. ITPs are required to have strong, interactive relationships with business and industry to ensure programmes are relevant, appropriate and up to date, and lead to employment outcomes. The expectation is that all programmes will have advisory committees with relevant industry representation and a range of connections will be developed. The business area has applied degrees that also incorporate undergraduate student projects in marketing and small business management. ITP staff in these areas already provide mentoring and support for small companies.

Some features of the engagement model could be adopted by universities with undergraduate degrees that incorporate student placement and projects as part of course requirements. Many examples of cooperative education models can be identified throughout the world that include student work experience, internship or projects. In some countries where government policy on strategic direction takes a more directive approach, interactions between industry and TEOs are framed around this imperative.

A proposed project for the Wellington Education Cluster is the development of a model for undergraduate student projects that takes a regional approach. This would assist with building capacity and capability in specified sectors identified as part of strategic economic development for the region. These projects are already incorporated within business, IT and design areas at the universities and ITPs concerned but are initiated and managed individually using different procedures. The aim is to develop a model of collaboration with companies, particularly cluster companies, and the protocols around this. The project is linked with proposed research on the development of models to measure the value of industry projects incorporated in applied IT degrees and the contribution they make to the New Zealand economy.

Conclusion

Many TEOs in New Zealand are already working with various clusters in various ways. For universities the main focus is on post graduate research and development activities and there is more emphasis on large projects. The initiation and management of interaction with very small companies that are pre-cluster but that have been identified as having high potential to add more value to existing cluster groupings is a challenge

for both clusters and TEOs. ITPs are more suited to meet the needs of these companies. They are required to work closely with business and industry and as a result have forged effective linkage and support models. The primary characteristics of these models are that the ITP facilitates the connection and sustains contact but that the needs of the industry companies drive the interaction. Universities could adopt some features of the model.

Relationships built over time are a key factor. Feedback so far indicates that what appear to be small interventions at a low level of detail and importance can have a significant effect on the quality of the interaction. A willingness to listen and engage at the company's pace is also important. These interactions can be aligned with activities the ITP is already required to undertake. Undergraduate projects incorporated into applied degrees at ITPs provide another mechanism for engagement. Supervision models can be developed that provide enough support for successful outcomes without swamping very small companies. ITPs that are part of cluster soft infrastructure can help to broker appropriate involvement with the cluster for the small company.

The models described are mainly focused on business and IT in the Wellington region of New Zealand, however they could be applied more widely. Further planned developments include a proposed project to integrate arrangements for undergraduate student projects in the Wellington region and a research project on the value of such projects to the New Zealand economy.

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