Cluster Sustainability in the New Zealand Timber Industry
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Four cluster groups in New Zealand’s timber industry are examined to determine the attributes of a sustainable cluster. Two of the four groups have sustained the support of enterprise owners and two have failed to sustain support. Using structured and semi-structured questions, business managers in organisations associated with each cluster group were interviewed. The attributes of the more successful clusters are identified related to: (i) the mix of enterprise types; (ii) managers’ expectations from cluster participation; (iii) the business relationships between cluster participants. These characteristics lead to the development of two models of enterprise activity conducive to cluster formation. Each model has different implications for the potential impact of a cluster on enterprise growth. These findings raise a number of challenges for the advocacy of business clusters as a tool for enhancing business competitiveness.

Encouraging enterprise owners to recognise their existing or potential membership of a business cluster has been one of the most influential business development ideas of the last decade (Isaksen and Hauge, 2002; Raines, 2002; Martin and Sunley, 2003). This is frequently attributed to the influence of Michael Porter and the associated Monitor Consultancy. Together, their ‘missionary’ work has formed the basis of cluster strategies in many countries (Benneworth et al., 2003). As presented by Porter, business clusters provide seemingly perfect conditions for business growth.

A concentration of visible rivals encourages the search for ways of competing that are not head on. Niche opportunities overlooked by others can reveal themselves. Ready access to suppliers and partners provides flexibility to configure the value chain in a variety of ways. A more positive-sum form of competition can result when customer choice is widened and different customers are served most efficiently (Porter, 2000: 265-6).

In contrast to the optimism of cluster advocates, the outcomes of public agency efforts to encourage business participation in cluster groups are frequently disappointing (Kotval and Mullin, 1998; Schmitz, 1999; Huggins, 2000; Perry, 2004; Tarnbunan, 2005). This article examines the contrast between policy ambition and outcome in the context of four cluster groups that have been promoted in New Zealand’s timber industry.

Confusion in the precise interpretation of a cluster partly accounts for the gap between expectation and reality. For Porter (2003) and like-minded researchers, clusters are more a ‘mode of inquiry’ rather than a concern to intervene in entrepreneurial behaviour at any particular spatial scale. An interest in business clusters merely recognises that tight connections can bind certain firms and industries together and that this makes it meaningful to study groups of interconnected activity (Feser and Bergman, 2000; Porter, 2003). Public agencies with responsibility for promoting enterprise development tend to envisage business clusters as tied to a localised geographical area (Perry, 2005: 12). Such intervention can overlook that the mode of inquiry perspective ‘is simply not capable of producing a single right answer about the industries and businesses a region should seek to support or grow’ (Feser and Luger, 2003: 16).
Of course, public agencies have some justification for seeking to foster localised business cluster groups. As well as the influence of cluster gurus, real world examples such as the concentration of the US carpet industry in Dalton, motor sport valley in the southern UK, Italy's industrial districts and the Silicon Valley IT cluster seem to support cluster promotion. In practice, judging the significance of these precedents for cluster policy is not straightforward. ‘Natural’ clusters are self-organising entities rather than being the creation of deliberate cluster promotion and it is frequently wrong to assume that localisation advantages explain the origins of exemplar clusters (Bresnahan et al., 2001; Perry, 2005a).

The present study examined the progress of four cluster groups to identify attributes that encourage business support of such projects. The clusters were linked to a government Cluster Development Programme, administered by New Zealand Trade and Enterprise, and thus all represent attempts to engineer cluster cooperation. The investigation shows how the characteristics of a business population affect the ability to assist enterprise development through cluster promotion. This identifies conditions in which cluster promotion is ineffective and conditions where it may even disadvantage small enterprise. These findings are significant as advocates of the kind of intervention tried in New Zealand, (such as Cluster Navigators, 2001; Sölvell et al, 2003; Ecotech Research and Consulting, 2004) appear to view cluster promotion as applicable to any concentration of business activity.

Survey Design

The timber industry was selected for the study as it has produced separate cluster projects around New Zealand. Interviews were conducted with as many representatives of organisations linked to each cluster as could be located. Organisations were identified typically from a cluster membership list obtained in initial discussions with the facilitator of the individual cluster. As membership does not always involve the payment of subscription fees, this approach still allows for the identification of differences in ‘member’ support for the projects. Consequently, no attempt was made to broaden the investigation to organisations outside the cluster that were engaged in similar activities. In two cases, there would have been few firms in this category to approach. In the other cases, the cluster groups had low membership requirements that enabled firms with low attachment to remain on a current membership list. As one such respondent observed, being excluded from a member list would require more effort than remaining included.

Of 56 organisations approached for an interview, 50 agreed to participate. In three cases, all arising in the relation to the same cluster, people declined stating that they had no interest in the cluster group. In two other cases, the timing of the study was the reason for declining to participate and in the final case no explanation was given. Interviews were conducted using a standardised list of questions and face to face meetings (except in two cases where it was necessary to use a telephone interview or postal response). This format was designed to secure a minimum response in the form of responses to closed option questions while permitting further discussion where respondents were willing to extend the time required for the interview. The closed questions fitted business respondents but were not always relevant to education, training or local authority agencies that were among the respondents in two clusters. Consequently, statistical data can be based on a smaller sample than the full interviews.

The Clusters

The four clusters are of recent origin but differ in the organisational form that they take and the activity that they have given rise to (Table 1). Clusters vary in what the majority of their participants expect the project to achieve and in their assessment of the progress being made. Such differences are of most interest to this study but the common issues are noted first as this enables some interpretations of why projects succeed or struggle to be ruled out.
Table 1 – Profile of the cluster projects in 2004

<table>
<thead>
<tr>
<th></th>
<th>SWC</th>
<th>NWP</th>
<th>WHB</th>
<th>ECW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year started</strong></td>
<td>2001</td>
<td>2002</td>
<td>2001</td>
<td>2002</td>
</tr>
<tr>
<td><strong>Membership</strong></td>
<td>21 fee paying members</td>
<td>14 fee paying members</td>
<td>29 members identified on a 2004 website directory</td>
<td>19 organisations responding to a membership capability survey</td>
</tr>
<tr>
<td><strong>Share of potential membership</strong></td>
<td>High - 2 sawmills have declined to join although they do support some cluster activity</td>
<td>High - 2 large sawmills absent &amp; 3 small mills, all located away from other members</td>
<td>Around 50% - first website directory identified over 60 members</td>
<td>Around 50-75% - over 30 organisations canvassed to join</td>
</tr>
<tr>
<td><strong>Sector representation</strong></td>
<td>Forest owners, sawmillers &amp; timber processors</td>
<td>Sawmillers &amp; timber processors</td>
<td>Sawmillers, timber processors, furniture, joinery &amp; design</td>
<td>Sawmillers, timber processors, furniture, joinery</td>
</tr>
<tr>
<td><strong>Stakeholder participation</strong></td>
<td>Port companies</td>
<td>Local authorities</td>
<td>Government ministry</td>
<td>Port company gives financial sponsorship</td>
</tr>
<tr>
<td><strong>Organisational form</strong></td>
<td>Incorporated Society</td>
<td>Linked to Enterprise Northland</td>
<td>Linked to Hawke’s Bay Economic Development Agency</td>
<td>Linked to Gisborne City Economic Development Unit</td>
</tr>
<tr>
<td><strong>Current activity</strong></td>
<td>Cluster meetings               Annual Forest Industries Profile</td>
<td>Forest open days &amp; training support</td>
<td>Media strategy</td>
<td>Energy efficiency</td>
</tr>
</tbody>
</table>

One possibility is that the starting disposition of firms affects the willingness to contemplate cooperation with other firms. The survey does not support this. The majority of respondents in each group are more inclined to consider that ‘business success is built upon a business’s ability to work closely with other businesses’ than ‘business success is built upon individual businesses’. Reflecting this openness to working with other enterprises, each cluster includes firms that are also members of at least one national industry association. Dual membership exists partly as most firms see that a cluster can perform different roles to an industry association and that both types of group merit government support (if there is to be any).

In each cluster it was more likely that the benefits obtained would be in respect of
information or advice (‘information on new equipment, raw material or other purchases’, ‘assistance to comply with regulation or quality/market standards’, ‘advice particular to this business’ or ‘obtained industry intelligence’). Direct business benefits (in the form of a ‘new business partner’, ‘new customer’, ‘new supplier’ or ‘training’) were less frequently claimed although the balance between the various potential outcomes does vary between groups.

**Cluster Differences**

Across the range of issues on which cluster participants were questioned, differences were more apparent than similarities. The following discussion focuses on three areas of difference: a full discussion of the survey findings is given in Perry (2005b).

**Cluster Support and Participant Profile**

The Southern Wood Council was the only cluster where all respondents claimed to be active participants (Table 2). Northland had the next highest level of participation. These two clusters had a comparatively high density of business relationships between their cluster participants (Table 3). In other clusters, business links tended to be based on several firms using the same supplier. The Southern Wood Council had the most similarity in firm size among its members and the largest concentration of firms with over 50 employees. In all other clusters there were either one or two large enterprises alongside firms of much smaller size. Most firms linked to Wood Hawke's Bay and East Coast Wood had fewer than 21 employees but with a mix of self employed, micro and small enterprises.

<table>
<thead>
<tr>
<th>Number of respondents in each category of participation in the cluster</th>
<th>SWC</th>
<th>NWP</th>
<th>WHB</th>
<th>ECW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>9</td>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Moderate</td>
<td>-</td>
<td>6</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Inactive</td>
<td>-</td>
<td>1</td>
<td>8</td>
<td>6</td>
</tr>
</tbody>
</table>

**Table 2 – Support for the Cluster**

<table>
<thead>
<tr>
<th>Number of respondents with each type of business relationship with another cluster participant:</th>
<th>SWC</th>
<th>NWP</th>
<th>WHB</th>
<th>EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>- customers</td>
<td>6</td>
<td>8</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>- suppliers</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>- associates</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

If required to select between staying in the cluster or an industry association, four of the seven industry association members in the Southern Wood Council indicated that cluster membership would be retained and two said they were uncertain what their priority would be. The Northland group was the only other one where a majority of participants suggest that the cluster would have priority over industry association membership.
Motive for Participation

Respondents were asked to select which of seven specified motives for joining a cluster most applied to their organisation. Southern Wood Council members gave the greatest range of motivations for joining the group (Table 4). One potential motive had no support (the ‘chance to form new business contacts (supplier, customer or partner) among other members’ but otherwise each motive was relevant to at least four respondents. This is the only cluster where firms did not expect the cluster to promote new business relationships among cluster members. In contrast, the motive ‘keep in touch with existing business contacts (supplier, customer or partner)’ was particularly frequent.

Table 4 – Motive for Participation

<table>
<thead>
<tr>
<th>Motive for Participation</th>
<th>SWC</th>
<th>NWP</th>
<th>WHB</th>
<th>EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stay informed about what other businesses are doing</td>
<td>8</td>
<td>10</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Chance to form new business contacts (supplier, customer or partner) among other members</td>
<td>-</td>
<td>5</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Keep in touch with existing business contacts (supplier, customer or partner)</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Access to advice/information from the network coordinator/staff</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Activities organised by the network (for example marketing trips, seminars)</td>
<td>4</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Support the industry</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Help ensure everyone is working in the same direction</td>
<td>5</td>
<td>4</td>
<td>-</td>
<td>6</td>
</tr>
</tbody>
</table>

Preferred Cluster Attributes

The Southern Wood Council responses are distinctive because of the high frequency with which respondents’ value:

- ‘Ability to influence what the network does’
- ‘Other members are firms like your own’
- ‘Other members include businesses you know and trust’

The desire to influence group activity supports the impression already given of a cluster attracting active engagement, itself partly the product of prior association among the cluster participants.

Respondents were asked to identify how a change in the balance of large and small firm participants and the range of activities represented would affect their support of the cluster. Northland and Southern Wood Council respondents overwhelmingly favoured staying as they were. Increased participation from small firms was not opposed in itself but for the potential risk of bringing firms into the group without the same concerns or willingness to commit resources as existing participants. Similarly, diversification of member activity to include timber users is not desired as it is doubted that there are common issues to address. These preferences were in line with the perceived effectiveness of the current scope of the cluster’s membership. Similarly, there was overwhelming agreement that ‘the present membership size needs little change’ rather than ‘the cluster should aim to grow its membership’. Likewise the proposition ‘clusters work best when confined to a small group of businesses that know each other’ was supported rather than ‘clusters work best when they help businesses get to know businesses that are new to them’. Both these preferences are shared with Northland, although they are slightly less
frequently selected in the case of Northland. In contrast, East Coast and Hawke’s Bay respondents are predominantly inclined to want membership growth and introduction to new businesses.

**Discussion of Cluster Differences**

The survey responses made it easy to distinguish between cluster groups that were sustaining participation (Southern Wood Council and Northland Wood Processing) from those that were not (East Coast Wood and Wood Hawke’s Bay). In 2005, both the less successful clusters lost the support of a facilitator and this effectively brought these projects to a close. As well as the difference between surviving and non surviving projects, differences between the Southern Wood Council and Northland Wood Processing are apparent. In summary, the three experiences encountered in the study can be summarised as examples of a balanced cluster, an unbalanced cluster and an unconnected cluster.

**Southern Wood Council as a Balanced Cluster**

Seven medium-sized forestry companies have been the main drivers of the Southern Wood Council. These companies span forest ownership and sawmilling, either within an individual organisation or through ownership ties across specialist operations. Nationally, these activities have tended to be affiliated to different industry associations that have had divergent development priorities. The Southern Wood Council has avoided the need to manage this split and this has helped it address common forest industry development issues with the combined resources of forest owners, managers and timber processors. Although the regional industry comprises New Zealand and foreign owned enterprises, this has not weakened the cluster as it frequently might be expected to. Five of the original Southern Wood Council participants are New Zealand branches of international organisations. All are managed locally with present owners having tended to acquire established assets rather than ‘greenfield’ operations. Long established operational ties have survived changes in company ownership.

These characteristics mean that the cluster commenced with a high degree of familiarity among participants and relative certainty that there was going to be some value in setting up a group. A representative of one company had confidence that other potential participants were the ‘right’ ones, in the sense of having some issues in common, and of them being able to make a contribution to what they saw to be the group’s role. Even then a significant local issue was needed to bring the group together. This was the preparation of the forestry resource profile to be used to inform the scope for new investment opportunities in the region. This proved to be an unusually effective starting point partly as it required firms to share proprietary information and because the product was something that all participants valued.

Beyond the immediate stimulus for the group, it has gained from other shared motives connected with the sense of the region’s forest industry being a distinctive part of the industry nationally. Added to this is the compatibility of the cluster organisation with the expectations of managers. As one respondent expressed it, the group operates with business like efficiency. Group meetings are attended by decision makers. All the issues that are discussed are not of equal concern but extended discussion is generally not required to gain agreement to progress individual matters.

The outcome is a group that has undertaken a range of significant projects, sustained and strengthened its membership and developed an ongoing programme of activity. Nonetheless, it is important to recognise that the group is not about business development in the sense of seeking to influence competitive strategies, the allocation of investment between individual companies or marketing strategies. Facilitating access to resources and changing how others perceive the region’s forestry industry are the focus of activity. As well, some collective activity, that it was thought
would provide a role for the group, has on further investigation not proved viable. This includes the development of some form of regional brand and the opportunity to pool purchasing of transport services and insurance. A range of activity has gained support and up to now participants have continued to support the group, even where some of its activity has been directed to issues that are not of benefit to their organisation. Participants currently indicate that they take a long term view of the outcomes, although two respondents indicate that their ongoing involvement will be influenced by the nature of projects taken on by the group. It should also be noted that group membership has grown, although not all the companies approached to join the group have done so.

Northland Wood Processing as an Unbalanced Cluster

The operation of Northland Wood Processing is influenced by the differences in enterprise scale and the extent to which firms are reliant on other cluster firms. The cluster includes two large operations. One of these, a relatively self contained branch of a corporate group that has been a comparatively passive participant, is focussed on specialised product and relies on timber obtained mainly from its own forest estate. The other is an independently owned saw milling operation that produces construction timber for the New Zealand and export markets. This mill currently processes around five times the volume of timber of any other independent operation in Northland and has development plans to quadruple its capacity in the region. The activities of this firm are of great significance for the opportunities existing for smaller companies in the region. The volume of timber it purchases can influence the volume of timber available to other buyers and the investment decisions it makes can determine the production niches left for smaller and more specialised operations. Consequently, how other firms experience the group is affected by their relationship with this dominant participant in the Northland cluster.

In addition to the single large active participant in the group, respondents could be grouped into three categories:

- Firms that have business relationships, directly or indirectly, with the large firm but that are predominantly dependent on their own marketing.
- Firms that rely predominantly on the large firm for their main business activity.
- Firms with no business connection to other cluster participants.

Firms in the first category are most likely to report positively on the cluster. These firms can be working in a synergistic relationship with the dominant enterprise, purchasing services or material from it and selling material or services of its own back to the company. This offers mutual advantages and provides a context in which the opportunity provided by the cluster group to discuss business issues informally is valued. Smaller firms have benefited from the success of the large firm as well as retaining their own business development capacity. As well, the cluster has addressed shared issues such as promoting the industry as a source of employment to job entrants and seeking to encourage a positive attitude toward the industry among local politicians.

The second group, which are less frequently encountered, have a significant dependence on the large firm and have limited capacity to seek additional markets. If this type of firm has development aspiration beyond its current market base, the cluster can be viewed as something that reinforces their present dependency. Activity pursued by the cluster tends to rely on it fitting the priorities of all members, but with particular influence exerted by the large firm given its influence over business opportunities for small firms. Consequently, an enterprise seeking to reduce its dependence on the large firm can perceive the cluster as something that adds to its difficulty breaking away.
Firms in the third group vary in their perception of the cluster. Some have reacted against what they see as a group dominated by big business concerns and have withdrawn from participation. Some value the opportunity to participate in a group where there is the possibility of gaining industry insight from its most successful participant as well as other companies. Others are uncommitted; they see potential benefits in the initiative, especially if it is able to attract activities such as engineering support to the region. At the same time, to date they see little direct outcome from the cluster.

This cluster is vulnerable to any change in commitment to the cluster by its central participant. Should this firm withdraw from being associated with cluster, the usefulness of the cluster to other existing participants would decline.

Hawke’s Bay and East Coast as Unconnected Clusters

The Hawke’s Bay and East Coast clusters lack a core of enterprises motivated to participate in their group. Like Northland, these localities have a dominant enterprise. Even where this enterprise has been a supporter of its cluster it does not generate the same motivation among other businesses to join the group. The dominant enterprises in Hawke’s Bay and East Coast are like the corporate operation in Northland that has similarly had little influence on neighbouring firm orientation to the cluster group. These companies are overseas owned and operate with a high degree of self containment. They source raw material from their own forest and have a focus on export markets. Interconnection with other firms exists, as in supplying sub standard product as a raw material for remanufacture, but the investment activity of the large firm is not influenced by resources that other firms may have to offer. The major indicator of this is the absence of a significant wood processing sector outside of the large firm.

The character of the ‘big firm’ in the unsuccessful clusters varies. One has a desire to be respected in the community and operate as a good corporate citizen. It has supported the cluster in its locality but as a contribution to neighbouring industry rather than because it perceives direct business benefit to itself. The big firm in the other cluster does not share this outlook and has a poor reputation in the community. Nonetheless, neither outlook explains the cluster’s lack of progress. In both cases, the absence of business interaction is the critical constraint.

Without sufficient support from the wood processing sector alone, both unconnected clusters have tried to diversify membership and draw in any activity with a connection to timber. This approach fits the advocacy of clusters as something that can help integrate value chains but overlooks the limited connection existing between timber processors and timber users. New Zealand’s wood processing sector is focussed on supplying the pulp industry and minimally processed timber. The furniture and joinery industries, the main other activities in the cluster, are small sources of demand and exert no influence over the growing or processing of plantation timber. As a result timber processors tend either to be indifferent to the presence of these downstream users or deterred by the perception that unconnected businesses add an unhelpful burden to the cluster.

Conclusion

Discussions of business clusters can encourage a view that firms outside a cluster operate in a starkly different environment to those within a cluster. They risk being bereft of opportunities to engage in cooperation with other businesses, enmeshed in distrustful business relationships, constrained in their choice of competitive strategy and disadvantaged by their lack of access to collective resources such as training and technology learning opportunities. This type of presentation is challenged by this investigation. One of the less successful clusters had, for example, sought to include the construction and joinery sector in its cluster. One reaction from these potential members was that in a small town mutual support exists making a formal group redundant. Among other reasons for this, longer established firms tend to be the former employers of newer
entrants. Individual firms use their personal connections to help each other out when machine breakdowns occur or when they over commit themselves.

Clusters are not automatically a win-win opportunity for all participants. A balanced cluster gets close to this ideal outcome but this context is unusual in a world that has seen the growing importance of multinational enterprise alongside the survival of small scale enterprise. As clusters get unbalanced so the distribution of advantage is likely to reflect the underlying structure of business relationships, including some who see the cluster as wholly to their disadvantage. Further reason for disputing the claims of significant advantage in clustering is that the most coherent balanced clusters can set tighter limits to the use of the cluster than the expected impact across all areas of business activity. This is particularly apparent in export focussed clusters that, as with the Southern Wood Council, include businesses some with many decades of experience. Such enterprises have multiple connections and differentiated opportunities from their neighbours. To protect established competitive advantages, individual enterprises prefer to retain an individual approach to their business’s development. At present, cluster promotion policy proceeds with too little recognition of the constraints on inter-firm cooperation.

References


