Absorbing Innovation by Australian enterprises:
The role of Absorptive Capacity

RECOMMENDATIONS

Recommendation 1
Develop an Absorptive Capacity benchmarking and diagnostic program for firms operating in selected sectors to enable firms to assess themselves against high performers and develop strategies for capability development.

Recommendation 2
Undertake a survey of a representative sample of companies across a range of sectors, particularly of the more innovative Small to Medium sized Enterprises (SMEs), in Australia to identify any weaknesses in Absorptive Capacity and other barriers to innovation and strategic change.

Recommendation 3
Assess and adjust existing innovation programs to better target strengthening of Absorptive Capacity and assistance with external knowledge acquisition for Australian firms.

Recommendation 4
Consider introducing a specific program to strengthen Absorptive Capacity in SMEs based on the criteria suggested in Key Finding 16 (see below).

Recommendation 5
Support the work of Standards Australia's Knowledge Management Committee and promote and leverage off the outcomes of its work.

KEY FINDINGS

1. Innovation is becoming increasingly important as a driver of competitiveness. At the same time firms are becoming more specialized as industries move away from vertical integration towards networks of production. As a result of this specialisation, firms are less likely to hold knowledge and capabilities required for innovation in-house, and must increasingly look outside for new knowledge.

2. Just as firms are building production networks (or systems) involving close cooperative links with other firms, so also are they building new innovation systems involving more external links. Building relationships to access distributed knowledge and capabilities is a key issue for firm managers. New knowledge often comes from interactions and collaboration with other firms, especially customers and suppliers. Research organizations are another source of new knowledge, although they interact with firms less frequently.

3. Absorptive Capacity involves a firm's intent and ability to recognise opportunities presented by new knowledge. Firms need a foundation of in-house knowledge that allows them to recognise and evaluate new knowledge. But recognition alone is not enough; it needs to be allied with an effective strategy/capability for exploitation/implementation.
4. Firms may develop Absorptive Capacity through explicit measures, such as hiring trained staff, R&D activities or establishing strategic alliances. Absorptive Capacity may also develop as the by-product of other business activities, for example through learning associated with problem solving, innovation, and collaboration for other purposes.

5. Firms can more easily add to knowledge and diversify in areas in which they already have a knowledge base. Firms also learn from other firms most effectively when the partners are similar in terms of structure, human resource policies and knowledge bases. Thus a firm's capacity to absorb new knowledge evolves over time within a specific organisational and knowledge context. For that reason scientific knowledge should not be considered as a 'public good' in any simple sense, as only some individuals and organisations are capable of using it.

6. Firms face particular challenges in external knowledge acquisition where:
   - they have few linkages with the firms or organisations from which they seek to acquire knowledge;
   - the fields of knowledge and innovation are new to the firm; and
   - the pace of change in technology is rapid and unpredictable.

7. The more firms face such challenges the greater the need to strengthen Absorptive Capacity with purposeful strategies and sustained investments, and often organisational and managerial innovations, to raise the capacity to learn and innovate. It is worth noting that firms with more highly qualified managers tend to invest more in training and establish more external links.

8. Knowledge that is relevant for innovation includes both codified knowledge (know what) and tacit knowledge (know how), with the former becoming relatively more important. Mechanisms that are suitable for acquiring one of these types of knowledge may not be as effective for the other. Codified knowledge is easier to transfer than tacit knowledge, which is generally embodied in people.

9. There is a substantial overlap between the literature concerned with Absorptive Capacity and that concerned innovation more generally. Innovation research extensively covers the issues of identification and assessment of new knowledge, its acquisition and integration with existing knowledge, and the development of capabilities for managing these processes within firms. Absorptive Capacity is an important part of a firm's innovation capabilities and hence its development is a dimension of innovation management.

10. Absorptive Capacity is largely situation-specific. It is a function of the relationship between capabilities, structures, routines and policies particular to a firm. For this reason it is not possible to develop a set of reliable standard indicators of Absorptive Capacity.

11. Only a small proportion of SMEs are dynamic (i.e. constantly adapting and changing) in terms of innovation and growth.

12. Although clusters are sometimes suggested as a means of stimulating innovation in SMEs, without the capabilities to absorb and use knowledge,
membership of a network is of little value. Thus cluster-based inter-firm links do not guarantee knowledge acquisition.

13. Internationally, there is an extensive and increasing range of programs aimed at reducing barriers to capability development, innovation and growth in SMEs. These initiatives are influenced by the perception that SMEs can play a vital role in innovation systems but that significant market failures limit their development.

14. There is increasing interest in evaluating these programs and in developing international initiatives to share experience in SME program design and implementation.

15. SMEs tend not to see government agencies as credible assistance delivery mechanisms.

16. Our review of selected successful programs suggests a set of functional criteria for a program focused on strengthening Absorptive Capacity in SMEs:
   - be focused on the more innovation-active SMEs committed to growth;
   - be located near to firms, be linked into local networks, and be integrated into national information and support networks;
   - have a strong emphasis on developing innovation capabilities, along with technological and market knowledge, but in association with a specific development objective, usually linked to an innovation project;
   - have a requirement that the SMEs contribute a significant share of overall costs;
   - provide access to a broad spectrum of credible experienced professional advisory services;
   - facilitate the development of linkages to local, national, and international information sources, service providers, potential business partners and research organisations;
   - have a broad portfolio of services (e.g., advice, finance, networking) but a flexible delivery customised to the needs of the SME; and
   - delivery through capable experts who work with the firm to develop an effective and sustained combination of objective performance assessment and flexible delivery of services.