

The picture of large corporations that emerges is one of companies employing the three Ss of success - large size, vertically-integrated structure and aggressive development strategy. Size is seen as essential since large companies have or can gain access to the huge amounts of funding needed in capital-intensive businesses like microelectronics. The synergism created by the vertically-integrated corporate structure is held as essential to surviving in the new-technology marketplace. Without this structure there would be less R&D, smaller new investment, reduced product advantage and decreased capacity to introduce full-fledged product lines into the market seemingly overnight. Finally, these companies employ an aggressive strategy of world-wide coverage in given commodities (such as semiconductors and custom or semi-custom microelectronics products) that can foster the above-average growth needed to combat difficulties in the market place such as unexpected changes in currency values or market slumps.

In addition to these giant multi-national corporations, Japan has thousands of small and medium-sized companies engaged in high technology fields. The relationship that exists between the large companies and the smaller player is often one of "mother" company to sub-contractor. For example, 66 per cent of manufacturers in Japan are sub-contractors; 85 per cent of assemblers supply the top 8 companies. As well, to secure supplies, large corporations often invest in strategic small companies.

While there may be positive points in this situation for both parties, there are also drawbacks. Small operations often come to depend on one big company for their survival. At the same time, the intense competition in Japan creates great pressure on the large companies to cut costs, increase quality and introduce innovations. The impetus for change comes from the large corporations, but because of their large size and their maturing structures, they are often less flexible and less capable of meeting the need for change. Accordingly, they increase pressure on sub-contractors to meet new demands and reduce prices. Continued technological innovation by small and medium-sized companies is becoming more and more important to the health of the large firms, a situation recognized by both government and industry. Both have in place policies to encourage diversification and independence by small and medium-scale firms as a key to Japan's successful attainment of its goals in technological innovation and change in new technology and new materials fields.