Exploring Taiwan’s Competitive Advantages: Present and Future

by Yim-Yu Wong, Thomas E. Maher, James Li-Hsing Wang and Fu Long

The competitive advantage of a nation and the competitive advantage of a company are similar in some respects and different in others. For both, however, competitive advantage is like a moving target. It changes from time to time as market conditions, consumer demand and the availability of resources change. Just as companies compete with each other on the basis of these factors, so do nations among themselves.

Taiwan is a case in point. It not only soared to new heights during the days of Asian economic growth but survived the Southeast Asia economic crisis in extremely good fashion, all factors considered. Now, as its Southeast Asia counterparts near the completion of their economic recovery, Taiwan faces new challenges. Will it be able to sustain its remarkable growth rate on the basis of its current set of competitive advantages, or will it have to develop a new set in order to continue its success? This article examines that issue in the light of Porter’s Diamond model in The Competitive Advantages of Nations (Porter, 1990), and, in so doing, addresses significant changes in the competitive global environment.

Taiwan’s Existing Competitive Advantages

For the past two decades, Taiwan has relied on the techniques of Original Equipment Manufacturing (OEM) and Original Design Manufacturing (ODM) in the production and export of products in the “high tech” area, Taiwan’s specialty. The result has made it the world’s third largest supplier of information products. Taiwan accounts for a third of the world’s laptop computers and 15% of its desktop personal computers (PCs). Its computer industry is surpassed only by such brand name giants as Dell, Compaq and IBM. Underlying this success are a variety of attributes that explain Taiwan’s success. We examine them in the paragraphs that follow, using the components of Porter’s Diamond, namely: (1) factor conditions; (2) demand conditions; (3) related and supporting industries; (4) firm strategy, structure and rivalry; (5) the role of government, and (6) the role of chance.

Factor Conditions. Confucianism has given Taiwan a culture that epitomises diligence, thrift, harmony, loyalty, education and respect for authority. Investing heavily in education, an integral component of its economic plan, Taiwan’s tertiary educational institutes have increased twelve times in just four decades. In addition, these institutes emphasise the hard disciplines of mathematics, science and engineering. The country now has 15,000 new engineers entering the workforce per year (Wang, 1998). It has an additional advantage in being seen as a member of the greater China community, a vast region that has exhibited a remarkable growth rate.

Taiwan is also one of the most cash-rich countries in the world. Although it was the recipient of foreign aid in the 1960s, it recognised the importance of self-help and quickly embarked upon a course of economic independence. Its
personal savings rate of 30% to 40% of income became one of the highest in the world (Wang, 1998; Meyer, 1988). Its financial institutions can now boast of assets in the amount of US$29.3 billion, reflecting its abundant supply of capital (Asian Review of Business and Technology, 1998). With dynamic and fluid capital markets, Taiwan has been able to make funds available to small and medium-size firms, and its export-led national policy has made it one of the largest holders of foreign-exchange reserves.

With regard to its soft infrastructure, Taiwan gradually transformed itself from an agricultural economy to an industrial economy. It provides a stable and democratic social and political environment that people and businesses can pursue to realise their economic objectives. That environment also attracts foreign investors.

Taiwan’s hard infrastructure, the construction of which began in the 1950s, is one of its most impressive achievements. By the 1970s, its “Ten National Construction Projects” programme ranged from transportation to communications, thus providing a sound basis for the development of its “high tech” industry. Through the 1980s and 1990s, it modernised its freeways, railways, harbours and airports, and its Telecommunication Act of 1996 greatly promoted wireless communication.

Taiwan’s emphasis on teaching hard core subjects in its schools has been largely responsible for the transfer of knowledge to many of its successful industries: textiles, machinery, metal products, vehicles, plastic and rubber products, footwear, furniture, chemicals and processed agricultural products. Knowledge acquisition continues to increase as Taiwan encourages science and technology training on the one hand and academia-industry cooperation on the other.

Taiwan is limited in resources due to its size and geological shortcomings, but, because of its favourable location and the convenience it provides, it has become an important air and shipping link between Northeast and Southeast Asia, as well as a hub for North America, Europe and China.

**Demand Conditions.** Taiwan’s domestic market accounts for only a very small portion of its total production. Foreign demand for low-cost manufacturing, particularly from western countries, has caused Taiwan to pursue export-led manufacturing objectives, and this accounts for most of its production, its rapid economic growth, and its rising per capita income with its high level of consumer sophistication.

**Related and Supporting Industries.** The intertwining of Taiwan’s industries has contributed greatly to its success. Intertwining has resulted in a system of production, transportation and distribution processes that has given Taiwan a competitive advantage that other countries cannot now easily duplicate. For example, its production of personal computers now includes a full line of computer hardware products, such as mouses, scanners and cables. Further, Taiwan’s success in chemical manufacturing has made it a world leader in certain plastic products, such as plastic pipe (PVC) (Wang, 1998).

**Firm Strategy, Structure and Rivalry.** Small and medium-size enterprises (SMEs) are the backbone of Taiwan’s economic success. They account for
ninety-five percent of all companies registered in Taiwan and employ eighty percent of its workforce (Searl, 1998). Their total production accounts for half of Taiwan’s exports. Because of their size, Taiwan’s SMEs have the advantages of flexibility and quick response. They also have the ability to accommodate changes in specifications without serious production-line consequences. Because of their size and the competition they face, they regard every order as important to their survival. This promotes manufacturing processes that are streamlined for both complex and simple orders.

In the area of financial management, Taiwan’s companies follow a traditional, conservative Chinese approach and are financed mostly by equity rather than debt (Deveney, 1999).

The Role of Government. Taiwan owes much of its success to the Kuomintang, which controlled its government for several decades. Its economic policies, national education plan and work ethic brought Taiwan from a developing country to one that is now industrialised. It also introduced multiple phases of national reconstruction that revitalised the country’s agricultural and manufacturing industries. Gradually liberalising its strategy, the Kuomintang encouraged the introduction of technology and made the country’s capital available to entrepreneurs. Despite an authoritarian beginning, or perhaps because of it, Taiwan was finally able to reap the benefits of its hard work when the Kuomintang yielded to democratic forces in the late 1990s.

The Role of Chance. Taiwan had a considerable measure of luck during the years when opportunities were critical to its economic development. For example, after World War II, world trade became more liberalised. In addition, western countries, such as the US, were anxious to prevent Communist expansion throughout Asia and were quite willing to provide assistance to Taiwan with its strong anticommunist stance and its strategic location. In doing so, these western nations made themselves export destinations for Taiwan’s products.

Nonetheless, the Taiwan government is often blamed for being corrupt and for maintaining an infrastructure that is inefficient. For example, the Kuomintang has been frequently charged with supporting only successful industries, but it is at least arguable whether that policy, even if true, impeded the country’s economic growth. In any event, final judgement must be reserved because democracy in Taiwan is still in its infancy.

The Evolving Global Environment

China’s increasing political and economic power. It is almost a foregone conclusion that China will become a member of the World Trade Organisation (WTO) in the near future. When that happens, its global influence will increase around the world. This could have either of two divergent results. On the one hand, China might relax its pressure on Taiwan in the short-term feeling that its improved status will allow a gesture of generosity. On the other hand, its increased global power may be seen as an opportunity to strengthen its resolve to return Taiwan to the motherland.

In another dimension, China’s increased global power may make it less reliant on the Greater China community for foreign contact and opportunity. Until
now, the two most important members of that community from China’s viewpoint have been Hong Kong and Taiwan, and both may now be expected to play lesser roles. The consequences could be significant. Hong Kong has traditionally been the door to economic opportunity for China, and China has depended in many important respects on Taiwan’s quite significant investment in it. As Hong Kong’s status prior to its 1997 reversion fades into the past, new generations of Hong Kong youth will seek economic opportunities in China, and lines of demarcation will become blurred. Hong Kong’s own youth, who are being trained more and more in Western style management, will make opportunities in China appear more favourable to the global community and will enhance its trading opportunities accordingly.

Thus, Taiwan’s economic importance to China may be reduced and, as a consequence, its competitive posture globally may follow suit. On the other hand, this may be off-set somewhat by similarities in lineage between the Chinese and the Taiwanese and a natural affinity that results from trust and a common culture. This could conceivably give Taiwan an advantage over other nations that do not share these commonalities. Still, the tension between Taiwan and China was exacerbated by the recent election of the Progressive Party and its mindset that favours at least substantial, if not complete, independence for Taiwan. How this will eventually play out is a matter of significant concern in assessing Taiwan’s future competitive advantage.

Taiwan and the United States. Taiwan is frequently seen as an appendage of the United States (LaPedus & Keliher, 2000), due largely to the common threat that China has posed to both of them since 1949, when the communist party in China acquired complete political power. Their shared concern and the resulting reciprocity in trade have made Taiwan the eighth largest trading partner of the United States (Kaltenheuser, 2000). This relationship has been fed by US reliance on Taiwan’s supply of low-cost, high-tech manufacturing and Taiwan’s dependence on the US high-tech product market, the largest in the world. However, with Internet capability and high-tech product demand growing throughout the world, countries are increasingly resorting to domestic manufacture for their own markets. Thus, the desire to eliminate the “middle-man” may work against Taiwan’s traditional trade advantage with the United States.

Japan and Southeast Asia. Japan’s recession worked against Taiwan because it diminished its considerable power in an advanced, affluent market. But things are beginning to improve. Despite Japan’s slow recovery, Arime, a Taiwan laptop manufacturer, has been able to win a contract from Japan’s NEC to produce 300,000 units next year (Baum, 1999). The opposite has been true in Southeast Asia. Its economic crisis has worked to Taiwan’s advantage by providing it with low-cost manufacturing possibilities and an alternative to manufacturing in China. The latter has been viewed as particularly valuable if Taiwan-China relations deteriorate. However, some authorities argue that the rapid outflow of capital that might result would endanger Taiwan’s cash-rich position and the advantages that it provides. Also, a strong economic presence in Southeast Asia countries could cause Taiwan to be regarded as having imperialistic motives.
Strategies for the Twenty-First Century

Keeping its sights on the moving target of competitive advantage, Taiwan must carefully track the evolving global competitive environment in order to retain and perhaps enhance its current and past competitive advantages. Following are the areas to which it must give serious consideration.

**Core competency focus.** As previously mentioned, Taiwan has built its core competency around low-cost, high-tech manufacturing in an export-led growth strategy. It should continue this strategy in an effort to sustain its dominant position, adjusting it as market conditions dictate. Thus, as the PC market reaches its plateau, Taiwan should strive to introduce new products, particularly cellular phones, digital cameras and hand-held, miniature computers. In the process, it should be careful not to overlook its well-established textile and steel market share that it has established globally.

**Innovation.** Taiwan’s technology is largely based on imitation. It is significantly behind Europe, Japan and the United States in innovation. It is primarily a conduit for low cost manufacturing with an expertise in product quality based upon the talent and dedication of its small firms and local talent. As developing countries elsewhere gradually take over this role, Taiwan will find itself hard pressed to maintain a competitive edge. A differentiation strategy based upon product innovation appears to be the solution. The target should be Taiwan’s high-tech industry, which has been the most important factor in its remarkable success. The new design and application of computer software seem to be the most appropriate at this juncture. Taiwan’s goal should be to become a technology leader in the manufacture of existing products through its own value-added processes and the development of its own proprietary data. Developing simple, low cost computers for specific applications, such as connecting to the Internet, is a possibility worth considering based on today’s global mindset (Searl, 1998).

**Differentiation by brand name.** Taiwan is known for the high quality of products manufactured by its small and medium firms. The differentiation of its products by brand name should grow out of that context. It will not do for Taiwan to emulate Japan and South Korea which have chosen to pursue product differentiation through large cartel-like firms. Taiwan would undoubtedly face the same problems but they would be exacerbated by a lack of experience, excessive investment and over expansion that quickly reach the critical point for small countries. Over expansion has proven to be at least a partial cause of the economic difficulties that both South Korea and Japan have been experiencing for some time. Instead, Taiwan should promote a competitive business environment at the level of its existing small and medium sized firms through an enhanced democratisation process. This would tend to preclude the problems that Japan has had because of its highly protected business environment. Taiwan could encourage its industries to include after-sales services and accentuate its product differentiation through the use of brand names.

**Diversification.** Taiwan is amply supplied with capital, high-skilled labour, and technological know-how. Therefore, it should diversify into areas that do not require large-scale, low-cost manufacturing. The development and engineering of computer software applications are good examples. These go hand-in-hand with developing new computer hardware, as well as expanding the use of exist-
ing hardware. For example, Acer, by the end of the decade, expects to attribute one-third of the company’s profit to the development and manufacture of computer software (Flannery, 1999). Other options consistent with Taiwan’s capability are wireless communication, electronic commerce, multi-media, and high-tech entertainment products (Baum, 1999). Other fast growing areas in which Taiwan could effectively compete are biotechnology, and financial and accounting services, for which there is a rapidly growing demand in Asia, particularly in China.

**Geographic expansion.** As discussed earlier, Southeast Asia and China are still the best manufacturing sites for Taiwan’s expertise in small scale, low-cost manufacturing. However, there are interesting possibilities in Europe, as well. In fact, Taiwan is already engaged in a project with the National Science Council of the European Union and its member countries for science and technology research (Chang, 2000). This not only gives Taiwan better access to advanced technology, but also provides high-tech markets and leadership opportunities in European countries.

**Government.** Taiwan’s democratisation, though not fully mature, has been a major factor in shaping its economic policy and the success it has achieved. In addition, Taiwan took advantage of the 1997 economic crisis in Southeast Asia to cultivate its economic ties with the countries of that region. Further, Taiwan has made significant concessions to China in order to promote trade with that country, as well. For example, as recently as March, 2000, Taiwan’s parliament voted “to end a ban on direct trade, travel and postal links with the mainland” (Searl, 1998). However, Taiwan’s citizens keep a close eye on the interaction between the government and business to ensure that the government does not make resources primarily available to those that it hand-picks. So far, such vigilance has paid off. The government has invested in the training of 30,000 more software engineers and has allocated US$500 million for the development of a high-tech industry site in Nanking Software Park.

**Globalisation and strategic alliances.** Many companies would like to expand globally, but are unwilling to commit their own resources to foreign markets, not only because of the expense involved but also because of problems or uncertainties in the host country. A strategic alliance with another firm experienced in doing business in that country, perhaps even a host country firm, may provide an effective solution. Taiwan has been an ideal place to form such alliances because its firms have proven to be technologically compatible, managerially adaptive, and politically stable. Also, Taiwan has been culturally open to foreign business. Its small, medium-sized enterprises are well developed, resilient, and entrepreneurial. It has acquired a high level of technological capability from its experience with US multinational companies and has supplied them with a talented labour force and management expertise in return. Acer, a well-known Taiwan company, is a case in point. Its US$8 billion alliance with IBM has been close and very successful, to the advantage of both parties (Austin American Statesman, 1999).

**The pivotal role of education.** Taiwan has made education a prime objective, including technology training, and, as a result, Taiwan’s greatest asset is its people. Every indication is that Taiwan will continue its educational goals and that they will work in tandem with its manufacturing strategies. Taiwan has made the
continuous development of hardware a major goal, and the government’s resolve
to train 30,000 new software engineers, as mentioned previously, will enable its
companies to innovate in the field of software technology (Searl, 1998).

Conclusion

In surviving the Southeast Asian economic crisis as well as it has and with its
continually evolving democratic mindset, Taiwan has developed a competitive
advantage that makes it a strong contender on the international scene. This is so
because, as Porter’s Diamond analysis indicates, Taiwan has developed the re-
sources, technologically, educationally and politically, to adapt to global condi-
tions as they emerge or change.

There seems to be only one major factor that can impede that dynamic: Chi-
na’s insistence that Taiwan be returned to its control. Each time China expresses
its anger in this respect, an element of concern creeps into the equation, as for-
eign investors and trading partners question Taiwan’s future reliability. This was
especially true before and immediately after Taiwan’s 1999 presidential election
when China viewed the result as hostile to its interests. However, tensions have
lessened considerably since that time, and this bodes well for Taiwan’s future. In
addition, China will be reluctant to overlook the fact that Taiwan has invested
more of its capital in China than it has anywhere else.

Thus, the application of Porter’s Diamond analysis is favourable to Taiwan,
and foreign investors and trading partners should continue to view commerce
with Taiwan in a positive light.
References

Asian Review of Business and Technology. “Stock markets prices has had a severe impact on much of Asia,” Hong Kong, October 1, 1998.


Taiwan Travelers Elated Over China Travel Easing.
