Question #1: 共 5 頁

Based on the essay given below, please discuss the implications, in the context of strategic management, for Taiwanese firms engaged in the investment and developments of nano-technology and bio-chips industries. What would be the best policy for the Taiwanese government for the continued growth of its economy, particularly in the sectors of emerging industries? (50%)
R&D Services and Global Production Networks:

A Taiwanese Perspective

Development of high-tech industry is of a prime importance to nation’s economic growth. Within the high-technology industry, sectors such as information technology (IT) are often considered to be high value-added sectors. This can, however, be quite misleading, given that this sector is vulnerable to sharp declines in price and narrowing of profit margins, with its constituent manufacturers easily being caught up in deteriorating terms of trade. This can be particularly significant if one takes into account the formation of global production networks, with the result that manufacturing muscle alone may no longer be deemed a sustainable comparative advantage. Such a perspective highlights the importance of intangible assets and their role in the knowledge-intensification of industry.

The trend towards globalization has resulted in the reshaping of the industrial competitive landscape on a global scale, with one outcome of globalization over the past few decades having been the increasing disintegration, across nations, of production capabilities, and even innovation. Driven by such disintegration, the outreach of multinationals takes the form not only of direct investment, but also of the outsourcing of production, and even knowledge. As a result, industrial rivalry now tends to occur amongst industrial networks comprising of a multiplicity of firms linked up through their knowledge bases. Although well-established firms in the advanced nations – brand marketers in particular – tend to occupy the driving seat in these networks, firms in countries such as Taiwan can also play an important role.

It has been documented elsewhere by the authors that in response to the formation of the global production network, Taiwanese firms in the IT industry have evolved from pure manufacturers towards ‘integrated service providers’, shouldering such functions as supply-chain management, logistics operations and after-sales services, particularly through e-commerce applications.

The current paper aims to go further by examining the role of R&D services in the global production network in an international context. In order to do so, it will be useful, as a starting point, to touch upon the trend towards R&D internationalization and even globalization. Multinationals (MNCs) were traditionally engaged in very little overseas R&D, especially when compared to their cross-border production scales. However, it is evident that technology is becoming increasingly globalized, resulting in the proliferation of offshore R&D by MNCs. Alongside technology transfer, technology sourcing has also become an important issue in the R&D internationalization of firms and in inter-firm partnerships. Within such a process,
firms can build up their sustainable competitive advantages, based on knowledge, by leveraging and aligning both their internal and external networks on an international scale. This will arguably result in the reshaping of the structure of the global innovation system and the global technology landscape. Despite this discernible trend, the substantial body of literature on R&D internationalization remains developed country-centric, with only few exceptions.

We are therefore motivated to explore, from a Taiwanese perspective, the network relationships of R&D in conjunction with the global production network. More specifically, throughout the paper there is a clear focus on the international aspects of Taiwan’s national innovation system. Our aim is to determine in what ways, and to what extent, the R&D facilities of MNCs in Taiwan, and the overseas R&D of Taiwan-based firms, interact with Taiwan’s indigenous innovation capabilities in the broadly-defined IT industry. We also aim to determine what they mean to the global production network.

In empirical terms, the paper draws on two of our earlier research projects. The first concerns the R&D efforts of MNCs in Taiwan, whilst the second addresses the R&D deployment, within China, of Taiwan-based firms. It is worth noting that China is very significant to this study because it has become the major host country for outward investment by Taiwanese IT firms. Although not denying the importance of indigenous innovation capabilities, we will argue that driven by the emergence of the global production network, R&D services have become essential to Taiwan’s economic development, which means more than simply local R&D and innovation capabilities, but in fact, the ability to leverage international R&D networks. naire survey was undertaken to determine the R&D of Taiwan-based IT firms in China. The results showed that 47.56 per cent of respondents had conducted R&D activities in China, implying that China had become the major target for these Taiwanese firms’ offshore R&D in quantitative, though not necessarily qualitative terms.

This seems more likely in the case where the de-linking of R&D and manufacturing is feasible. In addition, global production networks in the IT industry have come to resemble a ‘just-in-time’ system on a global scale which entails the modularization of production across different sites and borders. As a result, concurrent development may become the norm in the industry for the introduction of new products into the marketplace, and this will be facilitated by the application of information and communication technologies. For example, Mitac, a leading PC producer based in Taiwan, has set up a ‘collaborative product commerce’ (CPC) mechanism for online joint product design. This incorporates an intra-link which enables its subsidiaries and partners to use the same design tools for joint product design and development, ranging from product definition to product R&D and
product modularization, and not only helps to reduce the R&D cycle time for Mitac and its partners, but is also essential in the coordination of the production, assembly, delivery and repair and maintenance activities that follow. In light of this, it is not surprising to see that the Taiwan-based IT firms have, to a large extent, mandated their Chinese subsidiaries to undertake certain elements of their R&D.

Gone are the days when the developed countries dominated manufacturing activities, so too are the days when R&D was a developed country-centric phenomenon. This arises not within a historical vacuum, but has something to do with the increasingly obvious trend towards the disintegration of manufacturing and innovation capabilities on an international scale. The IT industry illustrates these points vividly and the areas in which countries like Taiwan are substantially involved. In order to encapsulate these developments, not only has this paper put forward a conceptual framework, it has also presented evidence regarding the interactive R&D flows involving brand marketers, Taiwan-based firms, and their subsidiaries in China. In summary, it can be determined through conceptualization and evidence that based on the heritage of industrialization, Taiwan is able to capitalize on its first-tier supplier advantage to attract MNCs to set up their offshore R&D facilities. In particular, we find that foreign-owned subsidiaries with greater levels of R&D intensity are characterized by a higher propensity for exports and a higher degree of localization, in terms of both the sourcing of production materials and capital goods. In addition, quite a number of MNCs’ subsidiaries in Taiwan are indeed given a regional or even international mandate in R&D. What’s more, it is also evident that quite a number of the Taiwan-based IT firms have given R&D mandates to their subsidiaries in China. In terms of the patterns of their cross-strait R&D portfolios, R&D in Taiwan tends to focus more on product development and new process technology, whilst in China it is more on manufacturing-related R&D.

To conclude this paper we would like to go further, using the ‘smiling curve’ to put forward a ‘holistic’ view of the cross-border innovative network in the IT hardware industry, as presented in Figure 1. The traditional view of the division of labor between the developed and developing countries tends to incorporate the dichotomy between the ‘high-end’ and ‘low-end’ of products and functions; however, we cast doubt on such a linear and core/periphery dichotomy with regard to R&D internationalization across the Taiwan Strait. As discussed above, the cross-strait IT production network is evolving alongside its global counterpart and hence is becoming more complex. There are now new types of division of labor, going beyond horizontal and vertical division in manufacturing, including: (i) technology: upstream vs. downstream; (ii) product: peripherals vs. system-related products; and (iii) market: the international market vs. the Chinese market.
Figure 1  Cross-border innovative network in the IT hardware industry

Within this process, the operations of Taiwan-based firms in China show a rising trend towards localization, moving from the sourcing of parts and components towards verification of manufacturing processes, engineering support and even software development. Moreover, on the other end of the ‘smiling curve’, firms, regardless of their nationality, may be attracted by China’s huge market potential to gain a market foothold through the widening of their value chains. This in turn may call for all firms concerned to strengthen their R&D commitment in China. On balance, when analyzing the trend towards R&D internationalization, the role played by countries such as Taiwan and China can no longer be downplayed.
Please read the article and answer the following questions.

1. What statistics/facts show that McDonald’s is in trouble? (10%)
2. What strategies of CEO Greenberg did not work? (10%)
3. What was CEO Cantalupo’s plan to get McDonald’s back on track? (10%)
4. What are the long-term trends that threaten McDonald’s? (10%)
5. What are your suggestions to McDonald’s? (10%)

Consider the events of just the past three months. On Dec. 5, after watching McDonald’s stock slide 60% in three years, the board ousted Chief Executive Jack M. Greenberg, 60. His tenure was marked by the introduction of 40 new menu items, none of which caught on, and the purchase of a handful of non-burger chains, none of which were rolled out widely enough to make much difference. Indeed, his critics say that by trying so many different things—and executing them poorly—Greenberg let the burger business deteriorate. Consumer surveys show that service and quality now lag far behind those of rivals.

The company’s solution was to bring back retired Vice-Chairman James R. Cantalupo, 59, who had overseen McDonald’s successful international expansion in the ’80s and ’90s. Unfortunately, seven weeks later, the company reported the first quarterly loss in its 47-year history. Then it revealed that January sales at outlets open at least a year skidded 2.4%, after sliding 2.1% in 2002.

Can Cantalupo reverse the long slide at McDonald’s? When he and his new team lay out their plan to analysts in early April, they are expected to concentrate on getting the basics of service and quality right, in part by re-introducing a tough “up or out” grading system that will kick out underperforming franchisees. “We have to rebuild the foundation. It’s fruitless to add growth if the foundation is weak,” says Cantalupo. He gives himself 18 months to do that with help from Australian-bred chief operating officer, Charles Bell, 42, whom Cantalupo has designated his successor, and Mats Lederhausen, a 39-year-old Swede in charge of global strategy.

But the problems at McDonald’s go way beyond cleaning up restaurants and refreshing the menu. The chain is being squeezed by long-term trends that threaten to leave it marginalized. It faces a rapidly fragmenting market, where America’s recent immigrants have made once-exotic foods like sushi and burritos everyday options, and quick meals of all sorts can be found in supermarkets, convenience stores, even vending machines. One of the fastest-growing restaurant categories is the “fast-casual” segment—those places with slightly more expensive menus, such as Cosi, a sandwich shop, or Quizno’s, a gourmet sub sandwich chain, where customers find the food healthier and better-tasting. As Lederhausen succinctly puts it: “We are clearly living through the death of the mass market.”

If so, it may well mark the end of McDonald’s long run as a growth company. Cantalupo seemed to acknowledge as much when he slashed sales growth estimates in the near term to only 2% annually, down from 15%. No one at Oak Brook (Ill.) headquarters blames the strong dollar or mad cow disease anymore for the company’s problems—a big change from the Greenberg era. Perhaps most telling is that the chain plans to add only 250 new outlets in the U.S. this year, 40% fewer than in 2002. Sales in Europe rose only 1%, and the chain this year will add only 200 units to the 6,070 it has there—30% fewer new openings than last year. Meanwhile, it is closing 176 of its 2,800 stores in Japan because of the economic doldrums there.

Up until a few years ago, franchisees clamored to jump on board. But last year, in an exodus that was unheard of in Mickey D’s heyday, 126 franchisees left the system, with 68, representing 169 restaurants, forced out for poor performance. The others left seeking greener pastures. The company buys back franchises if they cannot be sold, so forcing out a franchisee is not cheap. McDonald’s took a pretax charge of $202 million last quarter to close 719 restaurants—200 in 2002 and the rest expected this year.

For their part, investors have already accepted that the growth days are over. Those who remain will happily settle for steady dividends. Last Oct. 22, when McDonald’s announced a 1% hike in its annual dividend, to $3.64, its stock rose 9%, to $18.95—even though the company said third-quarter profits would decline. It was the biggest one-day gain for McDonald’s on the New York Stock Exchange in at least two years. Today, though, the stock is near an eight-year low of $13.50, off 48% in the past year. One of the few money managers willing to give McDonald’s a chance, Wendell L. Perkins at Johnson Asset Management in Racine, Wis., says, “McDonald’s needs
to understand that it is a different company from 10 years ago and increase its dividend to return some of that cash flow to shareholders to reflect its mature market position.”

The company has the cash to boost shareholder payouts. It recently canceled an expensive stock buyback program. Cantalupo won praise on Wall Street for killing an expensive revamp of the company’s technology that would have cost $1 billion. But if increasing the dividend would make Wall Street happy, it would raise problems with its 2,461 franchisees. That would be essentially an admission that McDonald’s is giving up on the kind of growth for which they signed up.

Already, franchisees who see the chain as stuck in a rut are jumping ship to faster-growing rivals. Paul Saber, a McDonald’s franchisee for 17 years, sold his 14 restaurants back to the company in 2000 when he realized that eating habits were shifting away from McDonald’s burgers to fresher, better-tasting food. So he moved to rival Panera Bread Co., a fast-growing national bakery café chain. “The McDonald’s-type fast food isn’t relevant to today’s consumer,” says Saber, who will open 15 Paneras in San Diego.

In the past, owner-operators were McDonald’s evangelists. Prospective franchisees were once so eager to get into the two-year training program that they would wait in line for hours when applications were handed out at the chain’s offices around the country. But there aren’t any lines today, and many existing franchisees feel alienated. They have seen their margins dip to a paltry 4%, from 15% at the peak. Richard Adams, a former franchisee and a food consultant, claims that as many as 20 franchisees are currently leaving McDonald’s every month. Why? “Because it’s so hard to survive these days,” he says.

One of the biggest sore points for franchisees is the top-down manner in which Greenberg and other past CEOs attempted to fix pricing and menu problems. Many owner-operators still grumble over the $18,000 to $100,000 they had to spend in the late 1990s to install company-mandated “Made for You!” kitchen upgrades in each restaurant. The new kitchens were supposed to speed up orders and accommodate new menu items. But in the end, they actually slowed service. Reggie Webb, who operates 11 McDonald’s restaurants in Los Angeles, says his sales have dipped by an average of $50,000 at each of his outlets over the past 15 years. “From my perspective, I am working harder than ever and making less than I ever had on an average-store basis,” says Webb. He’ll have to open his wallet again if McDonald’s includes his units in the next 200 restaurants it selects for refurbishing. Franchisees pay 70% of that $150,000 cost.

Franchisees also bemoan McDonald’s addiction to discounting. When McDonald’s cut prices in a 1997 price war, sales fell over the next four months. The lesson should have been obvious. “Pulling hard on the price lever is dangerous. It risks cheapening the brand,” says Sam Rovit, a partner at Chicago consultant Bain & Co. Yet Cantalupo is sticking with the $1 menu program introduced last year. “We like to wear out our competitors with our price,” he says. Burger King and Wendy’s International Inc. admit that the tactic is squeezing their sales. But in the five months since its debut, the $1 menu has done nothing to improve McDonald’s results.

As a last resort, McDonald’s is getting rid of the weakest franchises. Continuous growth can no longer ball out underperformers, so Cantalupo is enforcing a “tough love” program that Greenberg reinstated last year after the company gave it up in 1996. Owners that flunk the rating and inspection system will get a chance to clean up their act. But if they don’t improve, they’ll be booted.

The decline in McDonald’s once-vaunted service and quality can be traced to its expansion of the 1990s, when headquarters stopped grading franchises for cleanliness, speed, and service. Training declined as restaurants fought for workers in a tight labor market. That led to a falloff in kitchen and counter skills—according to a 2002 survey by Columbus (Ohio) market researcher Global Growth Group, McDonald’s came in third in average service time behind Wendy’s and sandwich shop Chick-fil-A Inc. Wendy’s took an average 127 seconds to place and fill an order, vs. 151 seconds at Chick-fil-A and 163 at McDonald’s. That may not seem like much, but Greenberg has said that saving six seconds at a drive-through brings a 1% increase in sales.

Trouble is, it’s tough to sell franchisees on a new quality gauge at the same time the company is asking them to do everything from offering cheap burgers to shouldering renovation costs. Franchising works best when a market is
expanding and owners can be rewarded for meeting incentives. In the past, franchisees who beat McDonald's national sales average were typically rewarded with the chance to open or buy more stores. The largest franchisees now operate upwards of 50 stores. But with falling sales, those incentives don't cut it. "Any company today has to be very vigilant about their business model and willing to break it, even if it's successful, to make sure they stay on top of the changing trends," says Alan Feldman, CEO of Midas Inc., who was COO for domestic operations at McDonald's until January 2002. "You can't just go on cloning your business into the future."

By the late 1990s, it was clear that the system was losing traction. New menu items like the low-fat McLean Deluxe and Arch Deluxe burgers, meant to appeal to adults, bombed. Non-burger offerings did no better, often because of poor planning. Consultant Michael Seid, who manages a franchise consulting firm in West Hartford, Conn., points out that McDonald's offered a pizza that didn't fit through the drive-through window and salad shakers that were packed so tightly that dressing couldn't flow through them. By 1998, McDonald's posted its first-ever decline in annual earnings and then-CEO Michael R. Quinlan was out, replaced by Greenberg, a 16-year McDonald's veteran.

Greenberg won points for braking the chain's runaway U.S. expansion. He also broadened its portfolio, acquiring Chipotle Mexican Grill and Boston Market Corp. But he was unable to focus on the new ventures while also improving quality, getting the new kitchens rolled out, and developing new menu items. Says Los Angeles franchisee Webb: "We would have been better off trying fewer things and making them work." Greenberg was unable to reverse skidding sales and profits, and after last year's disastrous fourth quarter, he offered his resignation at the Dec. 5 board meeting. There were no angry words from directors. But there were no objections, either.

Insiders say Cantalupo, who had re-tired only a year earlier, was the only candidate seriously considered to take over, despite shareholder sentiment for an outsider. The board felt that it needed someone who knew the company and could move quickly. Cantalupo has chosen to work with younger McDonald's executives, whom he feels will bring energy and fresh ideas to the table. Bell, formerly president of McDonald's Europe, became a store manager in his native Australia at 19 and rose through the ranks. There, he launched a coffeehouse concept called McCafe, which is now being introduced around the globe. He later achieved success in France, where he abandoned McDonald's cookie-cutter orange-and-yellow stores for individualized ones that offer local fare like the ham-and-cheese Croque McDo.

The second top executive Cantalupo has recruited is a bona fide outsider—at least by company standards. Lederhausen holds an MBA from the Stockholm School of Economics and worked with Boston Consulting Group Inc. for two years. However, he jokes that he grew up in a French-Fry vat because his father introduced McDonald's to Sweden in 1973. Lederhausen is in charge of growth and menu development.