Abstract

This study examines the strategic choices made by firms in the Hong Kong watch manufacturing industry. It pays particular attention to two issues. The first concerns the extent to which the adoption of 'up-grading' strategies yields superior performance when compared with the more traditional strategies associated with Hong Kong firms. The second concerns the relationship between the characteristics which define the Chinese Family Business and the strategies firms adopt. The thesis may be divided into three sections.

The first section is concerned with the setting for the study. Chapter 1 outlines four broad aims and locates the work within the literature on business strategy and performance. A conceptual framework is identified to guide the work. Chapter 2 first examines the history of Hong Kong's manufacturing sector, paying particular attention to the pressures under which it developed, the impact of those pressures on the nature of the industries which emerged, and their stereotypical ways of doing business. The Chapter then goes on to outline the debate which has taken place over the perceived need for Hong Kong firms to adopt 'up-grading' strategies. Three research questions are identified, namely: does the adoption of 'up-grading' strategies lead to higher performance?; do Hong Kong manufacturing firms conform to the stereotype of the Chinese Family Business (CFB)?; are there significant relationships between the characteristics which define the (CFB) and key dimensions of business strategy?.

Chapter 3 places the study in the specific setting of the Hong Kong watch manufacturing industry. It explains why that industry is an appropriate context in which to answer the research questions and then goes on to examine its history, its overall performance in international trade and its place in the broader debate over business strategies in Hong Kong.

The second section of the thesis contains three chapters which address the first two research questions, concerning the nature of the business strategies adopted by Hong Kong firms and the relationship between 'up-grading' strategies and performance. Chapter 4 identifies a set of variables representing strategy and performance and explains how questionnaire items were generated in order to measure those constructs. Chapter 5 reports on the survey carried out, the characteristics of the sample and the measurement properties of the constructs. Having shown that the strategy and performance constructs are properly measured, Chapter 6 addresses the first research question. Both 'comparative' and 'configurational' methodologies are adopted in order to test for links between 'up-grading' strategies and superior performance. Some slight support is found for the 'up-grading' prescription in that some of the strategy dimensions are significantly positively associated with one dimension of performance. However, the overall results cast doubt on the validity of the 'up-grading' prescription.

The next section of the thesis addresses the second and third research questions, concerning the relationship between strategic choice and the nature of the Chinese

Family Business. It also introduces the mainland China dimension by extending the set of strategy constructs to include variables representing the extent to which Hong Kong firms use China as a source of resources and as a potential market. Chapter 7 elucidates the concept of the Chinese Family Business (CFB) and reports on the measurement properties of the variables included. It then goes on to examine the extent to which Hong Kong watchmaking firms conform to the stereotype of the CFB and relationships amongst the strategy variables and the CFB variables. This is carried out in two ways. First, simple correlations are examined amongst the latent variables and factor-based scales representing strategy and the CFB characteristics. Then a second-order factor model is hypothesized in which "CFB-ness" is a broad second-level construct determining a set of first-order factors, having positive relationships with those representing CFB characteristics and with strategy variables representing the traditional Hong Kong approach to competition but negative relationships with strategy variables representing 'up-grading' strategies. The results are mixed but provide overall support for the proposition that the nature of the Chinese Family Business is supportive of 'traditional' strategies and inhibitive of 'up-grading'.

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Catherine, Ma Suk-Ling

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Chapter 1 Introduction

1.1 Introduction and Broad Aims

Hong Kong's manufacturing sector (which includes the operations which it controls on the Chinese mainland) presents a particularly fruitful setting for the analysis of business strategy, for a number of reasons.

First, Hong Kong is one of the 'high-performing Asian economies' (World Bank, 1993). While the performance of these 'Asian dragons' has been the object of much analysis, both before and after the financial crisis of 1997-8, studies have tended to focus almost entirely on macro-economic issues, policy regimes and institutional under-development. Very few studies have dealt with the business strategies adopted by the firms who have been the major actors in what remains an Asian 'miracle'. There is, therefore, a significant gap in our understanding of business strategy in the Asian setting, to the point where even the validity, reliability and applicability of Western-based concepts is unknown. The first broad aim of this study is therefore to examine whether conceptual frameworks and constructs drawn from the established literature on strategy can be used to explain relationships between strategy and performance in the Asian setting.

Second, the sector contains a number of industries that have a continuous record of success in the distant 'triad' markets of the USA, Europe and Japan. Despite intense competition from companies located in those markets, and in the face of significant

disadvantages (Carney and Davies, 1999) industries made up of small family firms have been able to meet and beat competition from much larger rivals. Understanding the business strategies which have under-pinned that success is the second broad aim for this study in the expectation that such an understanding may provide useful insights into the nature of competition on the global scale.

Third, research on Asian business in general and Hong Kong firms in particular has consistently pointed to the existence and importance of a unique form of business organization, usually referred to as the 'Chinese Family Business' (CFB). The CFB has been widely analyzed from a sociological and anthropological perspective, it has been seen as the institutional foundation upon which the Asian economies are built and as a major factor in their success. Nevertheless, the characteristics of the CFB have hardly ever been subjected to quantitative examination (*pace* Harjani, 1999), and the strategic choice perspective has never been applied to examine the relationships between those characteristics, the strategies adopted and the performance outcomes. The third broad aim for this study is therefore to measure the key characteristics of the CFB and to test for such relationships, thereby introducing one aspect of the 'China dimension' into the analysis of their strategic choices.

Finally, there is another aspect to the 'China dimension' which impacts on the strategic behaviour of Hong Kong firms. These firms face an almost unique situation in that the opening of the Chinese mainland to trade and foreign investment in the years following the radical policy shift of 1979 faced them with what might be termed

a 'dual environment'. On the one hand, they are located in the high-wage, high-rent setting of the Hong Kong SAR with its well-developed legal and institutional infra-structure and its wealthy, highly skilled and intensely motivated population. That setting provided the environment in which Hong Kong manufacturing was formed and determined many of its salient characteristics (Carney and Davies, 1999) which have proved remarkably durable, remaining in place for more than 30 years. On the other hand, commonalities of language, culture and family history give them easy access to the Chinese mainland where rents, incomes and wages are low, institutions are under-developed and the average skill level is low. Perhaps more than any other group of firms in the world, and certainly more than other small firms, Hong Kong manufacturers are able to draw upon and choose between these two very different environments, both as sources of resources and as potential markets. The fourth broad aim of this study, therefore, is to examine the role of mainland China in the strategies of Hong Kong firms.

1.2 Conceptual Framework: The Location of This Study in the Literature on Business Strategy

The literature on the links between business strategy, structure, environment and performance is diverse and unwieldy, drawing as it does upon conceptual frameworks derived from widely different academic disciplines, and lacking the tradition of replication which might lend it coherence. It is important, therefore, to fix the location of any study within that varied discourse and to identify the broad conceptual

framework which structures the investigation. Capon, Farley and Hoenig (1996, p.31) draw on Pfeffer (1982) and Astley and Van De Ven (1983) to identify two broad dimensions along which perspectives differ. The first of these dimensions concerns whether the dominant influence on firms' performance lies in their environment (an approach which is often associated with cross-industry analyses on the assumption that firms in a single industry share a common environment) or whether it lies in the strategies and structures adopted by the individual firm. The second dimension concerns whether performance is seen as largely resulting from deterministic events or largely resulting from voluntaristic behaviour. Cross-referencing these two dimensions gives a 2x2 classification matrix which identifies four broad approaches to understanding the links between strategy, structure, environment and performance. These are shown in Table 1 below, along with a fifth approach which suggests that performance bears no systematic relationship to environment, strategy or structure, but is simply randomly determined.

Table 1 Alternative Views and Perspectives on Strategy, Structure, Environment and Performance

	Performance resulting from deterministic events	Performance resulting from voluntaristic behaviour	Performance is largely random
Performance determined primarily by the environment	NATURAL SELECTION VIEW *Perspectives* **Industrial organization** Organizational ecology Economic history	COLLECTIVE-ACTION VIEW *Perspectives* Human ecology Political economy Pluralism	RANDOM PROCESS
Performance determined primarily by strategy and structure	SYSTEM-STRUCTURAL VIEW *Perspectives* Systems theory Structural functionalism Contingency theory	STRATEGIC CHOICE VIEW *Perspectives* Action theory Contemporary decision theory **Strategic management**	

Source: adapted from Capon, Farley and Hoenig (1996) p.31

Of the twelve perspectives identified in Table 1 those which have been most thoroughly researched and received the most empirical support are the industrial organization perspective within the natural selection view and the strategic management perspective within the strategic choice view (Capon, Farley and Hoenig, 1996,pp.31, 35). Those two approaches therefore form the starting point for the current analysis.

The industrial organization approach has its roots in that stream of the Economics literature which sees an external (and largely uncontrollable) environment determining the performance of firms. In the simplest version, the environment is a

direct determinant of business performance, as in the dozens of studies which examine the impact of industry concentration (usually construed as a relative lack of competition) on profitability. More complex versions within this tradition fall under the "structure –conduct-performance" paradigm whereby the competitive structure of an industry is seen as determining the conduct of its incumbents which in turn determines their performance. As it is often assumed that firms in "an industry" share a common environment this approach has most often been operationalized at the industry level through cross-industry studies. The average performance of firms in a sector is hypothesised to be determined by a set of environmental variables, most commonly including the level of concentration, entry barriers and the extent of product differentiation. While that approach was originally developed most fully within the Economics literature, where it remained relatively formal, Porter (1980) brought it into the strategy domain in the form of the 'five-forces' model of competitive structure. In that analysis the "attractiveness" of a sector (most obviously interpreted as its potential profitability) is determined by: the intensity of competition amongst incumbents; the threat of entry; the threat of substitutes for the sector's output; the power of buyers, and; the power of suppliers.

The strategic management perspective within the strategic choice view appears at first sight to be significantly in opposition to the industrial organization approach. Initially articulated and recently reviewed by Child (1972, 1997) it had its roots in a more sociological or social psychological approach to the firm as an organization. Some analysts in that tradition, most notably Weick (1969) had taken the rather extreme

view (to an economist or strategy researcher) that the environment in which the firm operates is in some sense "enacted" by the firm itself and does not exist therefore as an external and "objective" reality. From that perspective, it could not logically be said that a firm's performance is determined by its environment, but that they are both determined by the actions of the individuals and groups within the organization. The strategic choice approach focussed on managers' ability to determine performance through their actions. By choosing amongst alternative courses of action, including the structuring and design of the organization and the competitive strategies adopted, managers could influence performance.

The tension between the industrial organization and strategic choice views is in fact more apparent than real, and is only maintained if the former is interpreted to mean that performance is entirely determined by a fixed external environment, and the latter to mean that firms are entirely unconstrained by their environment. In fact, writers on both sides of the debate have indicated independently how the two might be brought together. From the strategic choice perspective Child (1972) presented a model in which firms made two kinds of strategic choice. The first, titled 'environmental strategy' involved the firm choosing the environments in which it would operate, an activity referred to by Bourgeois (1980) as 'domain selection'. It was therefore recognized that the environment does exist 'out there' but that the firm has an element of choice in selecting amongst those environments which are within reach. The second kind of strategic choice, titled 'organizational strategy' by Child (1972) and referred to by Bourgeois (1980) as 'domain navigation' involved selecting the

organizational structures and competitive strategies to be adopted within the chosen environment. At the same time, from the industrial organization perspective, Porter (1980) did not present the 'five-forces' analysis simply as a means by which a fixed environment could be described. Instead it was seen (Porter, 1981) as an analytical tool which managers could use to assess alternative environments and the tractability of their components. They could then use that knowledge either to choose more attractive environments in which to operate or to take action to improve the attractiveness of any given environment (by raising entry barriers or reducing rivalry amongst incumbents, for instance). Having built that bridge between the alternative views Porter (1985) went on to describe the types of strategy which might be adopted (cost-leadership, differentiation and focus), suggesting that particular strategies should produce superior performance in particular environments.

This study adopts the 'strategic choice' perspective in that companies are viewed as having the ability to decide and implement business strategies and performance is viewed as being determined (at least potentially) by those strategies. The strategic choice approach to organizations (Child 1972, 1997) was originally intended to offset the formerly orthodox 'functionalist' view that companies' structures and actions could be seen as entirely determined by the requirements of their environment. Hence the emphasis is on the ability of senior executives to exercise a degree of free choice in respect of their actions. At the same time, however, the strategic choice paradigm does not insist that managers act entirely without constraint or that they are free to simply 'enact' their environment, as suggested by some social pyschologists (Weick

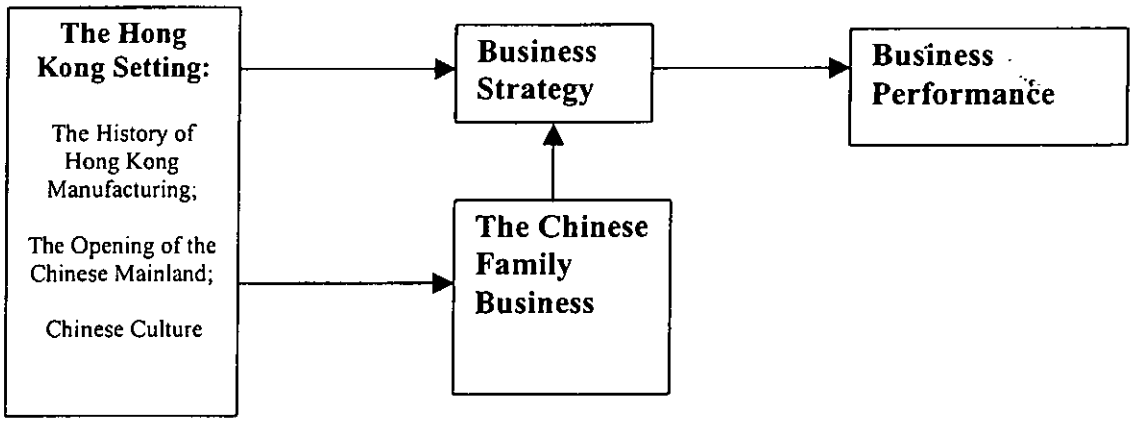
1969, Smircich and Stubbart 1985). What the paradigm does suggest is that managers have their own subjective views of the external world which are coloured by their own values, experiences and training. They act upon those views, and human agency is thereby acknowledged. However, the actions they take have consequences for the organization's performance, those consequences must be taken into account, and they are partly determined by the environment, which 'presents threats and opportunities for the organization which establish the parameters of choice' (Child 1997, p.53). Hence the environment is an important determinant of strategy and performance, it is 'out there' and does have objective features which merit analysis, although those features are perceived through managers' subjective evaluations. At the same time, those subjective evaluations are themselves partly determined by the environment itself through managers' experiences (particularly of the performance consequences of their past actions), through their cultural values, through prescriptions which they share with fellow incumbents of their industry and through the networks of relationships which they share with other industry participants.

This study is essentially concerned with the strategic choices which have been made in Hong Kong's manufacturing sector, with the relationship between those choices and performance, and with the relationships between those choices and two different aspects of the companies' environment. The first of those concerns the highly idiosyncratic political, economic and commercial setting in which Hong Kong manufacturing developed. The second concerns the nature of the Chinese Family

Business, an organizational form which is often seen as inseparable from the Chinese 'milieu'.

Figure 1 provides a graphical rendering of the simple conceptual framework which underlies the analysis.

Figure 1 Strategic Choice and the China Dimension:



As Figure 1 indicates, the starting point for the analysis lies in the Hong Kong setting, whose key features are the history of its manufacturing sector, its embeddedness in Chinese culture and the opening of the Chinese Mainland economy. That setting is seen as providing the opportunities and constraints within which strategic choice is exercised and the circumstances in which the Chinese Family Business (CFB) has developed. While business strategies are chosen in the light of the Hong Kong setting, they are chosen by firms who exhibit the characteristics of the CFB to a greater or a lesser extent and those characteristics also have an influence on the nature of the business strategies adopted. Business performance (in a single industry at least) is

determined by the strategic choices which firms make in the light of their external circumstances and internal characteristics.

The first step to be taken in applying this framework to the Hong Kong watchmaking industry lies in examining the Hong Kong setting. Chapter 2 examines the broad setting of Hong Kong's manufacturing sector as a whole, and Chapter 3 then turns to the details of the watchmaking industry itself.

Chapter 2 The Broad Setting: Manufacturing in Hong Kong

2.1 The Purpose of This Chapter

The purpose of this chapter is to examine the setting in which Hong Kong manufacturing firms operate and the way in which it may affect their strategic choices. The chapter is divided into two sections. The first draws *inter alia* upon Carney and Davies (1999) to examine the history of Hong Kong manufacturing, the pressures which have shaped it and its idiosyncratic features. The second then examines the debate which has been taking place over the "need" for a change in business strategy. Finally, in the light of that analysis, two research questions are identified for examination in the remainder of the study.

2.2 The Origins of Hong Kong's Manufacturing Sector

Although Hong Kong became a British colony following the Treaty of Nanjing in 1842, manufacturing played only a minor part in the territory's economy before the early 1950s. For the first century of British rule, the city's economic activity was dominated by its role as an entrepot for trade between China and other Far East nations (Riedel 1974).

That role came to an abrupt end with the Japanese invasion and occupation of 1941–45 which brought the suspension of all normal activities and institutions, significant

physical destruction in Hong Kong, and the flight or death of a large proportion of the population.

When the war ended, and the British re-took control, it might have been possible for the city to return to its historic entrepot role. However, that was prevented by two sets of events which took place in the early 1950s:

The first of these was the resolution of the Civil War in China and the assumption of power by the Communists. As a result of that upheaval, Hong Kong experienced a massive influx of refugees, quadrupling its population, and at the same time found that the consumer markets of its largest trading partner had been severely curtailed.

The second key event was the outbreak of the Korean War, which resulted in an international embargo on trade in Chinese goods via Hong Kong. As of April 1951, Hong Kong-made products were required to clear US customs accompanied by a Certificate of Origin.

With the entrepot role no longer possible, the much enlarged population of Hong Kong faced a very difficult situation and a very limited range of options- indeed the idea that they might have 'enacted' or 'chosen' their environment in any significant way at that moment in history seems ridiculous, even cruel. The extension of agriculture was not feasible, due to the mountainous nature of the terrain, the lack of new cultivable land and the obsolete system of land tenure and property rights in the

New Territories, which prevented investment in agricultural infra-structure. Mineral resources were negligible so that mining was ruled out. The population in 1948 was around 1.8 million, generating a Gross Domestic Product, of between HK$ 1.5 and HK$ 2 billion (Szczepanik, 1958) or around US$ 250 million at the 1948 exchange rate. Even at that very low level of income savings were high by international standards and hence the domestic market for manufactures was very small indeed, most spending being directed towards food and shelter. Manufacturing for the domestic market was therefore not an option and manufacturing for export became the only means by which employment opportunities and incomes might be provided for the city's rapidly growing population.

The pursuit of that option was assisted by a number of geo-political developments. The first was that, while China remained outside the General Agreement on Tariffs and Trade (GATT), Hong Kong became a member of the organisation. Second, in 1971, the US lowered its trade barriers against Hong Kong products. Similarly, Japan, the European Economic Community (EEC) and Commonwealth members granted Hong Kong preferential tariff rates as a "developing economy". Although many Hong Kong products, notably clothing and textiles, were subject to import quotas in Canada, the EEC and the US, they enjoyed low tariff rates and hence Hong Kong could compete with other worldwide competitors more easily.

Despite these positive external developments, Hong Kong's would-be exporters still faced a number of difficulties. The first of these was the limited availability of capital,

which prohibited investment in activities involving scale and scope except in those sectors where the influx of refugees had provided the colony with an initial endowment of funds and industrial equipment. (Refugee entrepreneurs from Shanghai brought capital to Hong Kong estimated to have financed two thirds of the initial expenditures of Hong Kong industrialization.- Wong 1988).

The second difficulty lay in the distance from Hong Kong to the world's major markets in the US and Europe. The geographical distance imposed both transport costs and transactions cost while the cultural and linguistic distance made it too costly for manufacturers to identify the needs of consuming households directly. In any event, the technical knowledge needed to translate those needs into product designs was not available.

The third difficulty lay in the vulnerability of Hong Kong firms to external shocks arising from political or economic changes in their major markets. As residents of a small highly open economy, having no political bargaining power and no significant financial support from the colonial power, Hong Kong businesspeople had to cope unaided with the amplified effects of the business cycle in distant places and with every change in the tastes and preferences of faraway customers. As a result, national income growth swung wildly between 1% and .17% throughout the 1960s, 70s and 80s.

In the face of these difficulties, a highly idiosyncratic manufacturing sector emerged, having a number of features.

First of all, Hong Kong entrepreneurs chose to operate in a very narrow range of industries. Just six sectors accounted for nearly 90% of the territory's manufacturing output (Lee and Davies 1995). Two of those - textiles and wearing apparel - accounted for more than 50% of manufacturing employment in 1970, followed by plastic products (13%) and electrical appliances and components (9%). Paper products and metal products (including watches) made up the remainder of the manufacturing sector.

The firms that made up this very restricted manufacturing sector shared a number of features. They were almost all very small, being restricted by the amount of capital that could be raised from sources within the family (Owen 1971). Production was organized around the city's most available resource - its labour force – and businessmen avoided spending scarce capital on specialized equipment, technology development or training. In order to maintain flexibility, and minimize the amount of capital tied up in machinery and inventory, the typical Hong Kong firm carried out vertically very shallow 'single-phase' assembly operations, using very limited amounts of general-purpose equipment – sewing machines and simple tools. Sales were made on the basis of low prices and cost-leadership secured through the close monitoring and control of relatively unskilled workers. When market conditions changed, as they often did, product lines could be switched very quickly without loss

of time and without having to write off either equipment or stocks of material and work in progress. Hong Kong firms adopted the 'original equipment manufacturing' (OEM) approach, relying on their customers to provide the product designs and marketing channels, while they themselves focussed on procuring inputs, managing the assembly process and making sales. Hence Riedel (1974) described them as 'merchant manufacturers' whose skills were essentially commercial, rather than technological, and who focussed on the achievement of "quick money", making limited investments in expectation of a very short payback period.

2.3 Changing Conditions and the Opening of China

The choice of business strategies based on low costs and prices achieved through low-technology and labour-intensive production could be described as a rational response to the circumstances of the 1950s and 1960s, which set tight constraints and limited the range of opportunities available to Hong Kong firms. The "low-tech" manufacturing sector certainly provided the engine of growth for Hong Kong's economy from the 1950s until the early 1980s. That period saw continuous growth as demand in Hong Kong's major overseas markets rose steadily and the industrial system of Hong Kong expanded and became firmly established (Youngson 1982).

However, towards the end of the 1970s concern began to emerge that the environment was changing and that the 'traditional' Hong Kong approach to competition was proving inappropriately persistent. While wages and incomes in the city rose very

substantially, there was no discernible move towards larger or more capital or technology–intensive operations. Although Hong Kong's manufacturing output and employment continued to grow there were fears that a lack of land and an emerging shortage of industrial workers would began to restrict that growth. At the same time, the combined effects of family-based companies and small-scale production facilities limited the size of many Hong Kong manufacturers which was felt to inhibit efficiency. (At the end of 1978, 78% of Hong Kong's manufacturing establishments employed fewer than 20 people and only 4% hired more than 100 c. Trade Development Council, 1998: p. 11).

In the face of these changing circumstances, the Hong Kong Government perceived three threats to the city's manufacturing sector. First, rising labour costs inside Hong Kong. Second, the threat of protectionism in major markets and, third, an increase in competition from neighboring countries such as Taiwan and South Korea. In response to those threats it established the Hong Kong Advisory Committee on Diversification (HKACD). The resulting Diversification Report (HKACD 1979) called for technological up-grading in the territory and a shift away from price-based competition founded on labour-intensive production methods. It also marked the beginning of a move away from a government policy based on 'positive non-interventionism' and towards one described as 'minimum intervention with maximum support' (Yeh and Ng 1994). However, the government's concern, and the shift in policy was rapidly overtaken by events when the Chinese authorities decided at the end of 1978 to implement an 'open door' policy.

The opening of China to foreign direct investment transformed the constraints under which Hong Kong firms operate and progressively widened the range of strategic choices available to them. Since it became clear that the radical policy shift of 1978 was permanent, Hong Kong manufacturing firms have found themselves in what might be termed a 'dual environment'. On the one hand, they are located in the high-wage, high-rent setting of the Hong Kong SAR with its well-developed legal and institutional infra-structure and its wealthy, highly skilled, high-cost and intensely motivated population. On the other hand, they are in close physical, cultural and linguistic proximity to the Chinese mainland where rents, incomes and wages are low, institutions are under-developed and the average skill level is low. Hence they are able to exercise strategic choice over their environment to a much greater extent than before.

In the first decade of reform the Chinese authorities prevented or restricted Hong Kong firms' access to the Chinese market, requiring that production be for export. The extension of the environment was therefore restricted to the provision of access to China's low cost resources. However, as reform progressed, those restrictions have been progressively lifted so that the Chinese market also became open to Hong Kong firms. With the city's reversion to Chinese sovereignty in 1997 and the emergence of a middle class in China, Hong Kong firms face a significant expansion of opportunity in respect of the markets which are available for them to address.

Hong Kong's manufacturing companies provide a particularly interesting setting in which to examine the exercise of strategic choice. They came into existence at a time and in a place where the scope for such choice was very limited. However, the growth of the city, the opening of China and the growth of the mainland economy have very significantly extended that scope. It remains for the second part of this chapter to examine the debate that has taken place in the city over the way in which that choice should be exercised.

2.4 The Current Debate: Up-grading Versus Hong Kong Firms' Traditional Approach to Competition

The Diversification Report of 1979 was rendered largely irrelevant by the opening of China, which relieved many of the immediate pressures facing Hong Kong industry. Nevertheless, its central arguments have remained under discussion as the debate over the future direction for Hong Kong manufacturing has continued. Perhaps the most pervasive argument, amounting to a conventional wisdom amongst policy-makers, academics and commentators, is that Hong Kong manufacturing firms "need" to change their business strategies and "up-grade" significantly if they are to survive and prosper. That call for "up-grading" may be seen as the 'local edition' of the global debate on the importance of 'competitive' advantage, as opposed to 'comparative advantage'. Influenced by the analysis put forward by Michael Porter in the *Competitive Advantage of Nations* (1990), academics, government officials and industry spokesmen have urged firms to abandon business strategies based on the cost

advantages bestowed by the comparative advantage of their location and to compete instead on the basis of 'competitive advantage'. That requires placing less emphasis on price and cost-based factors and more emphasis on product differentiation, achieved through innovation, enhanced attention to the business environment and improved marketing. Only by following such a route, it is argued, can 'true prosperity' be achieved. Such has been the influence of the 'competitive advantage' approach that governments and industry leaders in countries as diverse as Finland (Ministry of Trade and Industry, 1993), Hong Kong (Berger and Lester, 1997; Enright, Scott and Dodwell, 1997), Venezuela (Enright, Frances and Scott Saavedra, 1996), Switzerland (Enright and Weder, 1995), New Zealand (Trade Development Board, 1990), and Indonesia (Habibie, 1993) have all embraced initiatives founded on Porter's assertion that they must develop their 'competitiveness' through the adoption of up-grading strategies.

In the Hong Kong setting the 'competitive advantage' approach to business strategy has been directly reflected in criticism of the 'traditional' Hong Kong approach to business and in enthusiasm for 'up-grading'. Despite the city's outstanding economic performance over several decades there is a common belief amongst government officials, industrialists, academics and the press that the traditional way of doing business is no longer applicable or viable (Davies 1999a) and that a new approach is required.

This belief has taken a number of different forms. One of the most prominent has been articulated by the "high-technology" lobby, whose most vocal advocate has been Dr.Raymond Ch'ien, a member of the Executive Council. As he put it:

> "Today, I strongly believe that in the next few decades, Hong Kong stands a better chance than any other place in the world of repeating the Silicon Valley story. All the right ingredients are in place. There has been a mushrooming of knowledge or technology based entrepreneurial initiatives in Hong Kong. We see more and more well-educated young Hong Kong people leaving teaching and research posts at universities and technology-oriented jobs in large firms to start up their own businesses. Typically, they are armed with limited personal savings and bright idea. Importantly, many of them have a good knowledge of the talents available in the various pockets of scientific and engineering excellence in China, where their bright ideas can be complemented at a relatively low price (Chi'en, 1994).

A number of academic studies have seemed to support that position. Leung and Wu (1995, p.533) conclude that the city has the potential to develop an 'indigenous advanced technology base'. Yeh and Ng (1994,p.466) assert that 'we have established that there is an urgent need for Hong Kong to develop high-tech industries". Most prominently, a report written by a team of engineers from MIT argued against the continuation of Hong Kong's traditional approach to business and recommended that

Hong Kong should become 'innovation-driven' (Berger and Lester 1997). In support of that vision, billions of dollars of public money have been spent on a new University of Science and Technology, a Science Park is under construction, and a range of expensive projects for technology support have been canvassed, most notably by the Chief Executive's Commission on Technology and Innovation (CTI 1999).

However, while the "high technology" version of the "up-grading" argument has received a good deal of attention and attracted quite significant government support, Davies (1999) has pointed out that it runs counter to most of the evidence on Hong Kong firms' behaviour and that the studies which concluded in its favour were drawing those conclusions in direct contradiction to the evidence they collected. Leung and Wu (1995) somehow managed to combine their belief in the city's technological potential with the discovery that Hong Kong's 'innovation environment' is not conducive to innovation. Yeh and Ng (1994, p.466) found that 'when we look at the formidable list of factors for successful high-tech industrial developments, Hong Kong does not seem to stand a good chance of succeeding'. Kwong (1997) found that the level of technology in Hong Kong's domestic manufacturing had actually been falling, rather than rising, especially since 1989. Even the MIT Study, which was relentlessly pro-technology in its conclusions, reported in chapter after chapter that relatively little innovation was found in Hong Kong and one of its more carefully argued chapters (Amsden 1997) actually drew conclusions which contradicted those drawn in the remainder of the report.

Despite its officials' enthusiasm for new technology, the Hong Kong Industry Department (1996) found relatively little activity in respect of new products and processes and attributed that finding to the distinctive characteristics of Hong Kong manufacturers. Most of them are small, family-based firms,as noted above. The technology linkages between those firms are weak and interactions amongst firms are even weaker. Small size makes it difficult to develop large scale investment projects. As many of today's newest consumer products are the result of extended research and development effort involving millions of dollars it is unrealistic to expect the typical Hong Kong manufacturer to finance that kind of effort. A 1991 government survey of Hong Kong's manufacturing sector found that less than one quarter of the small manufacturers (fewer than 20 workers) in each of Hong Kong's major export industries regularly conducted R & D and the proportion was only slightly higher amongst larger manufacturers. Hong Kong's spending on research and development is estimated to be less than 0.1% of Gross Domestic Product (IIMD 1996) which is less than one tenth of the proportion for Singapore and there is very little evidence that private business is willing to invest in technology development on any significant scale. It seems highly unlikely, therefore, that the technology lobby's aspirations will bear much fruit.

While the "high-technology" version of the 'up-grading' debate bears little relationship to the reality of Hong Kong manufacturing there have been less grandiose versions of the "up-grading" proposition which merit more attention. One

of the most thorough and reasonable articulations of the "up-grading" argument appears in a study carried by the Hong Kong Trade Development Council (1998). That makes use of a concept described as the "U-curve" of value-added in the product development cycle. According to that concept, the distribution of value-added varies at each stage of product development. The 'front-end', or the early stages of the process, involve marketing intelligence, identifying consumer needs and transforming them into product designs, prototype creations, production design and other pre-manufacturing operations. Those are characterized as high value-added activities. At the other end of the product development cycle lie activities like, brand name development, wholesaling, retailing and marketing. Those are also characterized as high value-added activities. In between these two extremes is the manufacturing process itself. That lies in the middle of the "U-curve" where "the value-added created is typically low". (HKTDC 1998, p.12).

According to the HKTDC most Hong Kong manufacturers are located in the middle portion of the "U-curve". Because of their historical background they have not been proficient at front-end or back-end activities and hence they have been locked into the relatively low value-added part of the U-curve. In order to escape from that position the HKTDC argued that Hong Kong manufacturers need to move away from their traditional OEM basis and towards an 'up-graded' approach involving more attention to marketing intelligence, branding and greater product line breadth. That would allow them to capture a greater share of the overall value-added, thereby improving their profit margins.

This version of the 'up-grading' argument is considerably more convincing than the "high technology" approach and the demands for change which it makes on Hong Kong firms are considerably more realistic and achievable. Nevertheless, the up-grading prescription remains open to question. Davies and Ellis (2000) draw on the 'comparative advantage' perspective to point out that companies operating in a high wage environment and on the technological frontier have little choice but to opt for up-grading if they are to make sales in the face of competition from lower wage environments. That is where their comparative advantage lies. However, as Warr (1994) emphasises, for firms who have access to large endowments of low-cost labour the prescription is much more suspect. If such firms attempt to compete on the basis of resources and skills which are in short supply, ignoring their comparative advantage, they may find themselves achieving poor business performance while squandering the country's most scarce resources.

This argument is relevant to Hong Kong's firms because of the unusual 'dual environment' in which they operate, and it returns the discussion back to the issue of strategic choice and in particular to the choice of environment in which to operate. Within the boundaries of the Hong Kong Special Administrative Region, incomes, wages and rents are very high. If Hong Kong firms were confined to that location, the up-grading strategy could be argued for on the HKTDC's contention that profits and market share cannot be sustained on the basis of low value-added activities and must be sought through other means. However, Hong Kong firms are not confined in that

way. They are able to exercise strategic choice and they may choose to operate in the Mainland Chinese environment. In that case, as Davies (1999) points out, they have access to an effectively infinite supply of cheap labour and they may be able to continue to compete on the traditional basis. Hong Kong's physical proximity to Shenzhen and Southern China has made it easy for companies to negotiate and manage manufacturing arrangements across the border and the asset price differences between Hong Kong and China have meant that Hong Kong firms could easily leverage their property in Hong Kong into a much more extensive group of facilities on the Mainland (Trade Development Council, 1998). The result of that has been an amazing explosion in greater Hong Kong's manufacturing capacity. Starting from zero industrial investment in China, Hong Kong has become the foremost "foreign" investor in the Mainland. For many Hong Kong firms the operating pattern is that perhaps a dozen workers in Hong Kong manage and control a Mainland factory having hundreds of employees. While exact figures do not exist, it is estimated that Hong Kong companies own and operate approximately 400,000 factories in southern China alone, employing over 5 million workers (HKTDC 1998).

While Hong Kong manufacturers undoubtedly face keen competition amongst themselves and with overseas manufacturers, it seems that the traditional OEM strategy of competing through cost-and price-leadership is well-adapted to making the most effective use of the Mainland's low cost resources. It may be argued, therefore, that significant potential remains in the traditional approach. In that case, up-grading

is unnecessary and the adoption of up-grading strategies will not be associated with superior performance.

This argument that Hong Kong firms do not need to pursue 'up-grading' strategies if they choose to operate in the Mainland environment is largely based on the economist's traditional 'comparative advantage' perspective. However, it also receives support from other conceptual frameworks and from some recent fragments of empirical evidence. The economic geographers' analysis of 'global commodity chains' (Gereffi and Korzeniewicz 1994), for instance, suggests that each location in the global economy has a particular role to play, driven by the pressure of competition, and that attempts to alter that role are unlikely to succeed. Taplin and Fagre (1999) provide an interesting example, which is relevant to the Hong Kong case, in a study of two Hungarian firms. The first of these followed the 'up-grading' strategy as recommended for Hong Kong firms, on the basis of similar arguments. It attempted to move away from its OEM approach towards the development of its own designs and brands. It failed, basically because it lacked the necessary capabilities. The other firm stayed with the traditional OEM approach. It was highly successful and was even able to leverage significant advantage from the OEM position by persuading its customers to provide it with the equipment needed to fulfil their specific requirements. It has not been satisfactorily demonstrated that traditional strategies are associated with poor performance. Indeed, a recent analysis published in the *Asian Wall Street Journal* showed that the Hong Kong–listed OEM companies supplying major brand names like Nike and Hewlett-Packard have actually been more

profitable than the brand name companies themselves (Hilsenrath 2000). While the HKTDC's analysis of the U-shaped curve is an interesting hypothesis it is not necessarily empirically valid.

To sum up on this part of the analysis, it has been argued that Hong Kong firms "need" to up-grade their business strategies and that traditional approaches are associated with inferior performance. However, the arguments put forward in support of that proposition are far from convincing and empirical evidence on the issue is in short supply. Hence the first research question to be addressed in this study is:

Do up-grading strategies improve the performance of Hong Kong manufacturing firms?

2.5 Are Up-grading Strategies Inconsistent with the Nature of Hong Kong Manufacturing Firms?

The first research question is concerned with whether Hong Kong firms need to adopt up-grading strategies in order to secure superior performance. However, there is another strand in the debate which merits attention. That is concerned with the idea that there are significant tensions or contradictions between the nature of Hong Kong manufacturing firms and the up-grading strategies which are being urged upon them. In that case, even if the "need" to up-grade were proven beyond doubt, the up-grading

prescription would fail because Hong Kong companies would be unable to carry it out.

At the simplest level, such tensions centre on the small size of Hong Kong firms, which militates against them making the significant expenditures which are required for up-grading. Small firms necessarily lack the finance and the specialist skills that are required to scan the environment effectively, develop brand names and extend along the value-added 'U-curve'. Their vulnerability to external shocks also leads them to value flexibility and therefore to avoid investment in the specialized assets which are required by the up-grading process. However, a number of studies have suggested that there are more complex forces at work and that the strategic choices of Hong Kong manufacturing firms are also circumscribed by their organizational characteristics.

The key issues here concern the nature of the Chinese Family Business (CFB), which has attracted significant attention as an idiosyncratic and significant organizational form and has been extensively characterized by a number of authors, most notably Redding (1990) and Whitley (1992). As Carney (1998a, p.137) points out, much of the writing on the CFB has been "uncritical and laudatory" and many writers have ascribed the success of the Asian economies to the strength of the CFB and its networks (Seagrave 1995, Weidenbaum and Hughes 1996). However, there are also reasons to believe that the demonstrated capabilities of the CFB are balanced by a number of disadvantages. Whitley (1992) pointed out that work group autonomy is

very low in the CFB, senior managers are viewed as omniscient, staff morale is regarded as unimportant and managerial involvement in the work group is low. Redding (1995) noted that while the CFB is unequalled in its ability to secure cost efficiency and flexibility it also has difficulty in generating internal growth, is weak in creating market recognition and discourages professional management. Carney (1998a, 1998b) argued that the CFB suffers from a management capacity constraint which limits its ability to up-grade and that the adaptive capacities of the personalized networks through which CFBs operate are only effective in technologically static low asset-specificity settings. Carney and Davies (1999) and Davies (1998,1999) further explore these themes, concluding that the CFB and its networks have a persistent set of key capabilities that continue to be well-described as 'merchant manufacturing'. That capability allows them to compete on the basis of low costs and prices. At the same time, however, the characteristics which support that capability are inimical of a switch to "up-grading" strategies.

The analyses upon which these claims are based are either essentially theoretical, drawing heavily on the transactions cost analysis of adaptive capacity (Carney 1998a, 1998b, Carney and Davies 1999, Davies 1998, 1999) or based upon the direct and qualitative observation of CFB characteristics and performance (Redding 1990, 1995, Whitley 1992). There has been very little quantitative work, directed towards the measurement of CFB characteristics and their relationship with the characteristics of "traditional" or "up-grading" business strategies. Hence the second and third research questions to be addressed in this study;

To what extent do Hong Kong manufacturing firms conform to the stereotype of the Chinese Family Business (CFB)?

To what extent are there relationships between the characteristics which define the CFB and major dimensions of business strategy?

2.6 Summary

Hong Kong's manufacturing sector developed in a period of great hardship and under very tight constraints, when the extent of strategic choice was very limited. The industry that emerged developed a particularly idiosyncratic OEM approach to competition, based around vertically shallow and labour-intensive small firms assembling customer-designed and branded products with great efficiency. As the city became more prosperous and wages rose concern began to mount that this "traditional" approach to international competitiveness would prove unsustainable. Hence calls began for a move towards "up-graded" business strategies. The opening of the Chinese Mainland to foreign investors expanded the scope for strategic choice by Hong Kong firms, allowing them to select between the city's environment and that of the Mainland and giving a new lease of life to the traditional business strategies. Nevertheless, the calls for up-grading have continued and the first research question to be addressed by this study concerns whether or not the adoption of up-grading strategies does in fact lead to superior performance.

Another aspect of the debate over business strategy in Hong Kong concerns the relationship between the organizational characteristics which have been ascribed to the Chinese Family Business (CFB) and the types of business strategy which can be pursued by firms having those characteristics. The second research question therefore concerns the extent to which Hong Kong firms do actually demonstrate the characteristics of the CFB and the third concerns the relationship between those characteristics and key descriptors of business strategy.

Having examined the broad setting for the study, and before addressing the research questions in detail, it remains to examine the narrow setting for the study, which is the Hong Kong watchmaking industry.

Chapter 3: The Narrow Setting: Hong Kong's Watch Industry

This chapter has three purposes. The first is to explain why the watch industry represents an appropriate setting in which to investigate the research questions identified in Chapter 2. The second is to provide a more detailed overview of the industry's history, performance and current position. The third is to examine the debate on "up-grading" versus "traditional" strategies in the specific watch industry context.

3.1 The Rationale for Setting the Study in the Watch Sector

A single industry setting has been chosen for this study in order to control for industry differences (Namiki, 1989). The Hong Kong watch industry represents a particularly appropriate setting, for a number of reasons. First, it is one of the city's, and the world's, most internationally competitive industries (Davies and Whitla, 1995) having retained a dominant position in the low-price segment of the world market over a sustained period of time. Second, its structure is typical of the city's manufacturing sector in that it is almost entirely made up of small firms many of which appear to conform to the description of the Chinese Family Business. Hence, it is reasonable to suppose that findings in this industry may be generalized to other sectors made up of such firms. Thirdly, it is also typical in that commentators and industry leaders have echoed the general debate on up-grading, calling for a movement away from strategies based on cost and price leadership and towards the introduction of more

branding, market diversification and wider scope. Firms in the watch industry are certainly aware of the debate over up-grading and they have been so for nearly twenty years since competitive pressure on prices and profit margins in the early 1980s brought an industry-wide recession (Glasmeier, 1994). There has therefore been ample time for them to respond to the calls for change and for the performance implications of such change to manifest themselves. Finally, there have been a number of previous studies of the industry, most notably by Glasmeier (1991, 1994), The Federation of Hong Kong Watch and Trades and Industries (1993) and Davies (1998), which provide a useful starting point for the analysis.

3.2 A Brief History of the Industry

In the 1950s, Hong Kong had no domestic watch manufacturing capacity due in part to the lack of technology and machinery in Hong Kong's watches and clocks industry and in part due to Swiss watchmakers' dominance of the market.

At that time, the industry began with the production of watch accessories such as watch cases, parts, bands and dials. According to a survey carried out by Wong (1953), there were only a few dial factories in the early 1950s, and dial production and sales made up an insignificant part of the industry. However, the watch band industry was very well developed by the early 50s, producing a wide of variety of bands such as metallic, string, silk and cloth-made. Their key competitors were US, Japan, Swiss and Germany.

Data presented by Watch & Clock (1964), showed that the Hong Kong watch case and watch band industries were well developed and accepted by Swiss and US watchmakers as a necessary parts for their finished watches in the late 1950s, and early 60s. For instance, Hong Kong supplied the Swiss with 116,226 pieces of watch cases (i.e. Switzerland took 13.6% of Hong Kong watch band exports) and the US with $ 2.436 million of parts (i.e. US took 84.1% of Hong Kong watch band exports). During that year, Italian and French firms also became interested in purchasing from Hong Kong (Federation of Hong Kong Trades and Industries Ltd., 1993).

With the advantage of low labor costs, minimal government regulations and free port status, foreign watchmakers began to establish parts and components manufacturing and supply bases in Hong Kong in the 1960s. Although Hong Kong still did not have a watch-making industry of its own at this time, the Hong Kong watch sector was taking shape and was increasingly moving from simple re-exporting to value-added manufacturing, trying to become a complete watches manufacturer. For watch parts and components, a good reputation had already been built up and foreign buyers were increasingly attracted to source from Hong Kong.

In the early 1970s, the industry began to produce and export low-price mechanical watches. However, they were rapidly replaced by electronic models and with the introduction of the new technology the Hong Kong watch industry enjoyed

uninterrupted growth. Between 1973 and 1980, total exports grew by $HK7.96 billion (The Federation of Hong Kong Trades and Industries Ltd., 1993).

During those eight years, the total export growth was driven by domestic exports that consisted mainly of complete electronic watches assembled from imported Japanese movements. Throughout the 1970s, production capacity and the number of establishments increased dramatically. In 1971, there were only 106 registered watch factories in Hong Kong. However, by 1975, the number of registered watch factories had increased to 237. And by 1980, there were 1167 registered watch factories in Hong Kong. (Federation of Hong Kong Trades and Industries Ltd., 1993). In consequence, Hong Kong became one of the world's leading exporters of watches.

Since assembling liquid crystal display (LCD) watches does not require complex and expensive equipment or a high degree of skill, so the entry barriers to the watch industry were minimal. Thus, many firms started to assemble complete watches. Competition from Japanese watch makers kept forcing prices down and by 1980, many Hong Kong firms suffered from drastic reductions in profit, partly because of that competition and partly because international recession further eroded prices (Glasmeier, 1994).

In the early 1980s, the emergence of the another new technology (quartz analogue) brought new life into the industry. As in the past, the production of analogue watch production relied upon movements and parts supplied by other countries. However,

the assembly process became more complicated and a higher level of capital investment was required. In common with the rest of Hong Kong's manufacturing industry, watchmaking firms began to move their production facilities into Mainland China, concentrated for the most part on the Shenzhen Special Economic Zone.

By the late 1980s, quartz analogue watches began to dominate the industry and by 1989 they accounted for 84% of total output by value. Digital watches accounted for only 6.6% of the total (Hong Kong Trade Development Council 1989; 231). The production of mechanical watches also remained relatively limited because of its requirement for more sophisticated techniques and higher quality skills, and mechanical watches accounted for only 2.3% of total exports in 1989. The decline in low-value mechanical watch output did not affect the total production growth, being replaced by electronic products.

To summarise the history of the Hong Kong watch industry, its origins lie in the production of watch parts and the servicing of imported watches in 1950s. As new types of watch movement emerged the process of assembling watches became simpler and the Hong Kong industry grow rapidly, focussed on the low-price segments of the market. Intense price competition forced down margins in the early 1980s, but by moving production to China costs were held down and the industry did well.

3.3 The Current Configuration and Performance of the Industry

According to a recent research report published by the Hong Kong Government Industry Department, the watches and clocks industry can be divided into 5 sectors of production: complete watches; complete clocks; watch & clock movements; metal cases, dials and parts for watches and clocks; and metal wrist watch band. The most recent figures for these are shown in Table 3.1.

Table 3.1 The Number of Establishments and the Total Employment in the Hong Kong Watch Industry

Products	Employment	Establishment
Watches (mechanical and electronic)	2780	177
Clocks (mechanical and electronic)	126	12
Watch Movement, electronic	39	5
Cases and parts for watches and clocks	1672	339
Metal wrist watchbands	718	85

Source: Employment & Vacancies Statistics (Detailed Tables) Series C 1998(Census & Statistics Department, Hong Kong Special Administrative Region, 1998).

According to the Census and Statistics Department of the Hong Kong Government (1998), as Table 3.1 shows, the production of complete watches made up the largest sector, accounting for 52% of employment and 29% of establishments. As that amounted to only 177 establishments and 2780 persons engaged, the industry appears to be very small. However, these figures refer to operations classified as 'manufacturing establishment', within the boundaries of the SAR. As the distinction between manufacturing and services in Hong Kong has become blurred, many

erstwhile 'manufacturing' establishments within the city have been re-classified as 'import/export' operations (Hong Kong Trade Development Council 1999) although they continue to manage, control and co-ordinate manufacturing operations in China. Furthermore, there are some firms producing only watch parts in Hong Kong who also produce complete watches in mainland China. The implication, therefore, is that the figures in Table 3.1 significantly under-estimate the number of Hong Kong-based firms producing complete watches. As figures for the number of such firms manufacturing in China are not available, a better approximation for the number of Hong Kong-based firms producing complete watches is to be found in the Membership Directory for Hong Kong Watch Manufacturers Association (HKWMA) for 1998. That lists 349 firms having head of firm addresses in Hong Kong and producing complete watches. That figure does not represent the whole population of the industry, as there are some firms (including many producing 'copy' watches) who are not members of the Association. However, the figure of 349 firms does provide a lower bound and illustrate the difficulties associated with using figure based on the SAR alone.

The available statistics on world watch production and trade are confusing and sometimes contradictory. Table 3.2 shows figures presented by Poix (1999) at a watch industry conference held in Hong Kong in April 1999.

Table 3.2 The World's Total Production of Complete Watches* 1998

	Unit (Pieces) Million	%	Value (US$) Million	%
China + Hong Kong	400	80	3,634	38
Germany	18	4	257	3
Switzerland	34	7	5,007	52
Japan	28	6	437	5
France	7.5	2	173	2
Others	12.5	3	60	1
Total	500	100	9,568	100

* LCD watches excluded

Source: Jewellery New Asia, Federation of the Swiss Watch Industry Statistics

According to that source, the estimated total world production of (non-LCD) watches amounted to 500 million pieces in 1998, with a value of US$ 10 billion approximately. Switzerland accounted for approximately 50% by value amounting to US$ 5 billion approximately and Japan accounted for only 5% by value amounting to US$ 437 million. By volume however, the market was completely dominated by Hong Kong and China which were responsible for 80% of the world total, at 400 million pieces, compared with 34 million in Switzerland and 28 million in Japan.

At the same time, however, the official Hong Kong statistics on the city's external trade performance provide rather different figures, as shown in Table 3.3.

Table 3.3 Hong Kong's Total Exports of Complete Watches*

The Hong Kong's total export amount of complete watches		
Year	HK$ Billion	Million Pieces
1994	25.4	693
1995	28.3	688
1996	29.6	699
1997	29.5	766
1998	28.5	738

*Original source: Hong Kong Trade statistics, Census & Statistics Department

According to Table 3.3 in 1998 Hong Kong exported watches to the value of $HK28.5 billion, which is quite close to the $US3.6 billion reported in Table 3.2. However, the figures for total exports by volume are very different, with Table 3.2 reporting China and Hong Kong exporting 400 million pieces while Table 3.3 reports almost twice as many at 738 million. These discrepancies might arise from the fact that Table 3.2 refers to non-LCD watches only while Table 3.3 refers to the total, and to the fact that Hong Kong's watch exports include re-exports of Swiss and Japanese watches to third countries. However, as the values quoted are almost identical the puzzle remains.

Whatever the details, there is no doubt that the Hong Kong watchmaking industry, and its production base in China, is the world's second largest exporter of watches in terms of value and the first by far in terms of volume. From 1994 to 1995, total exports amount of complete watches grew from $HK25.4 billion to $HK28.3 billion,

for a growth rate of 11.4%. After that there was a 4.6% rise in 1996, followed by small reductions of 0.3% and 3% in 1997 and 1998.

Table 3.4 shows the most recent figures for the division of Hong Kong's exports by major markets and growth of sales in those markets.

Table 3.4 Major Markets of Hong Kong's Total Exports of Watches and Clocks

Market	1997		1998	
	% Share of HK's Total Watch Exports	Growth%	% Share of HK's Total Exports	Growth%
USA	22	+1	25	+5
EU	21	-3	24	+5
Germany	6	-7	6	-2
United Kingdom	4	+1	4	+3
Chinese Mainland	15	-12	14	-11
Japan	10	-1	9	-15
Switzerland	4	+10	5	+13
ASEAN	7	-7	4	-41
UAE	4	+2	3	-11
World	100	-2	100	-6

Source: "Trade Watch", Hong Kong Trade Development Council – Research Department, April 99

According to the Co-organizing Chairmen of the Hong Kong Watch and Clock Fair'99, the USA, the EU, Japan and China remained major export markets in 1998 for Hong Kong watches and clocks. Exports to the USA and EU, grew by 5% respectively and they forecast that in 1999, demand from the US, particularly for medium-priced items, would remain constant but that sales in the EU might decline somewhat because of the weakness of the Euro. As Table 3.4 also shows, exports to Japan, Hong Kong's second largest market in Asia, dropped by 15% in 1998 because

the prolonged economic slump in Japan has not only weakened its import absorption power, but also aggravated the regional crisis. (Trade Watch, April, 99).

Table 3.5 shows the estimated average price for each of the major watch manufacturing countries.

Table 3.5 The Average Price Per Watch Sold in Each of The Major Watch Manufacturing Countries

Major watch manufacturing countries	Average Price (US$)
China + Hong Kong	9
Germany	42
Switzerland	155
Japan	29
France	40
Others	39

Source: Jewellery New Asia, Federation of the Swiss Watch Industry Statistics

As Table 3.5 shows, the world watchmaking industry is divided into three distinct segments. The first segment is made up of "high-end" watches, including the "noble" watches – Audemars Piguet, Breguet, IWC, Patek Philippe, Rolex, and other hand made brands. In that segment, Switzerland is totally dominant, selling watches at an estimated average price of US$155. The second segment is the "medium-price" part of the market where Japanese producers sell to the world market at an estimated average price of US$29. The third segment is the low price part of the world watchmaking industry which is totally dominated by Hong Kong firms and their operations in South China, with an average price of US$9.

According to Bob H.H. Chong, a Director of Chung Nam Watch Co. Ltd. and also Chairman of the HKTDC Watch & Clock Advisory Committee, the positioning of the Hong Kong watch industry in the world market can also be described in the form of pyramid-like structure. The top, narrow part of pyramid which is represented as the luxury market segment with least watchmakers, is dominated by Switzerland. The mid-range, mass market is dominated by Japan. The base of the pyramid, consisting of low-price mass producers, is dominated by Hong Kong (Moore 1995). Although some firms have been improving their position in the middle ground, most Hong Kong watch firms are still restricted to the low-end segment. The Chairman of The Federation of Hong Kong Watch Trades and Industries Ltd estimates that about 60 % of Hong Kong watch firms are in the low-end market and 40% are in the low-to-middle segment. (Clock & Watch, 1998).

3.4 The Debate on the Future of the Hong Kong Watch Industry

As Hong Kong watch firms are faced with keen competition profit margins have tightened. According to Cheuk (1999), Hong Kong's watch and clock export performance was significantly affected by the Asian economic crisis, with falling exports to China, Japan and ASEAN being the main cause of the 6% fall in total exports which took place in 1998. Hong Kong watch firms are facing keen competition not only amongst themselves, but also from new and privately-owned firms in Mainland China. Buyers in the low-price segment are extremely price sensitive and, as Cheuk put it, "no matter how long and how good the relations you

have with the clients, they will leave because of twenty to thirty cents difference in unit price, especially for American buyers, and may be even a few cents for South American buyers" (Cheuk 1999).

In this environment Hong Kong watch firms have been examining whether they should continue with the same business strategies, based on cost and low price, into the future. Alternatively, they have been considering whether they should move up to the higher-price segments by 'up-grading' their products and by moving towards the development of original brand manufacturing (OBM) which might allow higher prices for its products.

Watches are no longer just a necessity, they have become fashion accessories in recent years. The market life cycle is shorter for fashion-related watches and the key issues for fashion watches are their styles, designs and quality. In addition, some brand name fashion lines have introduced watches into their accessories lines.

At the same time in a number of major markets, technological change is introducing new products. For example, in the USA, Germany, the UK and Japan, wireless or radio controlled timepieces are gaining popularity, led by the German watch producer Junghans. A wireless watch receives super-accurate time signals transmitted from a nuclear clock by a special radio station, decodes them and automatically calibrates the time, giving a very high level of accuracy.

Both of these developments have meant that brand recognition may be becoming more important as a means of capturing market share and developing customer loyalty. Some Hong Kong watch firms have taken that view and begun to develop their own brands. Thus, they have already put effort into the development of their own brands.

This emphasis on the adoption of 'up-grading' strategies has been given support by the leader of the technology lobby, Dr. Raymond Chi'en, Executive Council Member and Chairman of the Hong Kong Industry and Technology Development Council. As he put it at the official opening of the Hong Kong Watch and Clock Technology Center:

> The Hong Kong watch and clock industry must upgrade its manufacturing capabilities and design concepts in order to move up-market. Customers are asking for products with impeccable design and excellent craftsmanship.

The advocates of up-grading argue that in order to remain competitive in the global market, the Hong Kong watch industry must be able to develop brands which signal to the consumer that its product quality and design are equal to, or even surpass, those of Europe and Japan (Watch Review, 1997). As the Hong Kong Trade Development Council put it "the greatest profits will be earned by watch manufacturers that sell watches under their own, respected, brand names" (HKTDC 1998, p.77)

While the "up-grading" argument in the watch industry context has its supporters, others are more hesitant. Mr. Eddy Li, General Committee member of the Chinese Manufacturers Association, President Of The China and Hong Kong Economic and Trade Association and Managing Director of Campell Timer Ltd (Li 1995) pointed out that since Hong Kong lacks an abundant supply of managerial professionals, it is difficult to believe that the watch industry in Hong Kong can compete directly with Japan and Switzerland. As innovative product designs and extensive branding require considerable expenditures on long-term development, which might never pay off, it might be better not to follow that route. In addition, the availability of cheap resources in China seems to offer the prospect of continuing with the more traditional approach by maintaining price-leadership in the worldwide market. While margins might be low in the low-price segment, the maintenance of high volumes can still provide adequate profits, without the necessity for taking the risks associated with a significant change in direction.

To sum up, then, the debate over the future of the Hong Kong watch industry has been a direct reflection of the more general debate on the future of manufacturing in the city and its mainland Chinese hinterland. On the one hand the supporters of "up-grading" have pointed to the need for more responsiveness to the changing environment, more branding and the extension of product lines away from the "cheap and cheerful" market segments which have been addressed thus far. On the other hand, more cautious voices have pointed to the difficulties inherent in such changes

and to the continued commercial advantages offered by the more traditional approach to competition.

The response of watch companies themselves has not been examined in detail, before this study. Glasmeier (1994) emphasized the continuing labour-intensity of the Hong Kong industry and noted that the availability of cheap labour in China meant that Hong Kong firms were reluctant to invest in other approaches. She also concluded that "there is no encouragement ....to introduce reputable brand names and move upscale". Davies (1998a, p.180) pointed out that as production was shifted to China, prices actually fell and that "the Hong Kong network of small firms has failed to develop the brand-name recognition which would allow it to secure higher prices for its products". On the other hand, Glasmeier (1994) also noted the tremendous flexibility with which the Hong Kong industry responded to the earlier technological shifts, from mechanical movements to LDC to quartz analogue and suggested that such flexibility might imply the ability to adopt "up-grading" strategies when necessary. Davies (1998a, pp.181-184) documents a number of steps taken by the industry's larger firms to develop new brands and gain access to new technologies developed elsewhere. Examination of the industry's trade journals suggests that some firms have been attempting to move away from OEM strategies and those attempts are given extensive coverage, which is perhaps an indication that industry experts believe it to be a positive development. The development of new markets (like Iceland!) are widely publicized. On the other hand, the overwhelming impression is that that the traditional cost and price-based OEM approach remains the dominant

business strategy chosen by Hong Kong watch firms (Hong Kong industry, 1999) supported by production bases in Mainland China.

3.5 Summary

This overview of the watchmaking industry in Hong Kong has suggested that it represents a typical example of Hong Kong's manufacturing industry. Formed by Chinese Family Businesses in the difficult circumstances of the territory in the 1960s and 70s, it grew to take a significant market share in the low-end segment by following the traditional Hong Kong business recipe of price leadership based on vertically shallow assembly operations on the OEM model. As wages and prices rose in the territory, the industry faced severe pressure and the need to re-examine its business strategy. Up-grading is seen by some observers as a vital opportunity to move away from the low-end market and to capture much more market in the future. On the other hand, the availability of cheap resources in China offers the prospect of continuing with the more traditional approach, albeit with a separation of functions between Hong Kong and the mainland. The remainder of this study is concerned to examine the strategic choices made by Hong Kong watch firms in the face of that dilemma. In particular it is concerned to answer the research questions identified in Chapter 2, which become;

Do up-grading strategies improve the performance of Hong Kong watchmaking manufacturing firms?

To what extent do Hong Kong watchmaking firms conform to the stereotype of the Chinese Family Business (CFB)?

To what extent are there relationships in the watchmaking industry between the characteristics which define the CFB and important dimensions of business strategy?

The remainder of this study addresses these questions.

Chapter 4 Defining and Operationalizing Measures for Strategy and Performance

4.1 Introduction

If the research questions are to be properly addressed, the first requirement is to identify the set of constructs to be included in the analysis and then to measure them with acceptable levels of validity and reliability. This chapter explains how this has been done in the present study.

4.2 Identifying the Strategy Constructs to Be Measured

It is first necessary to define and measure strategy. In order to do that it is necessary to address the basic but difficult question:

> *What are the dimensions along which business strategy in Hong Kong should be measured?*

Despite the increasing interest shown in the Asian economies, and particularly the High-Performing Asian Economies (HPAEs), over the last 20 years the literature on the business strategies adopted by firms in these countries is extremely limited. Examination of the major journals which form the central discourse on business strategy and management over the last 15 years shows only two papers, one by Kim and Lim (1988) on the electronics industry in Korea, and the other by Tan and

Litschert (1994) on the same industry in China. Despite its focus *The Journal of Asian Business* has published few pieces on strategy 'per se'. There is a paper by Luo (1995) examining the strategies adopted by Sino-foreign joint ventures and a conference paper by Davies and Walters (1998), also on China. If descriptive case studies like those published in the *Journal of Asian Case Studies* are excluded, the body of research on the strategies adopted by Asian firms is very limited indeed. Forthcoming Special Issues of the *Academy of Management Journal* and the *Journal of Business Research* focussing on China will presumably extend the work on that country. However, since the onset of the Asian financial crisis interest in the region as a whole has tended to focus more on its systems of governance and institutional development than on the competitive stances adopted by companies.

While each of the studies cited does identify a set of dimensions along which strategy may vary, each of them has significant weaknesses. Kim and Lim (1988) used a set of dimensions which were intended to capture Porter's three-fold characterization of strategy: cost leadership; differentiation, and; focus. In so doing they limited their analysis to those dimensions despite the fact that many others have been shown to have value. Tan and Litschert (1994) used measures for the five 'strategic orientations' put forward and validated in the American context by Venkatraman (1989) namely;Analysis; Defensiveness; Futurity; Riskiness, and; Pro-activeness. While those measures proved to be acceptable in the Chinese setting in terms of their reliability, in other respects they were highly inadequate. Exploratory factor analysis across the 15 survey questions used to measure the orientations found only three

dimensions instead of the anticipated five, and the pattern of factor loadings showed that for 11 out of the 15 observed variables there were unacceptably heavy cross-loadings (absolute values on at least two factors >.5). In fact, only one factor emerged having a clear pattern of high factor loadings with no high cross-loadings. Measures for three of the five 'strategic orientations' were so highly positively correlated that they could not be considered to have discriminant validity. Furthermore, having attempted to measure Venkatraman's 'strategic orientations' with survey items derived from that conceptual framework, Tan and Litschert (1994) concluded that they had found strategies corresponding to the Miles and Snow (1976) typology, despite there being only the most tenuous connection between the variables which characterise that typology and those which were measured!

Luo (1995) drew on different studies to select four variables for the characterization of business strategy in China: R&D intensity; firm size; product quality, and;advertising. No rationale was offered for the selection of those variables beyond noting that each one had some explanatory power in respect of performance in other settings. However, the data were drawn from statistical sources in China's Jiangsu province, such sources provide very limited coverage of strategy-related variables and selection seems to have been driven by the fact that data happened to be available. As two of those four variables (firm size and product quality) are more closely associated with 'business position' Luo (1995) does not provide an appropriate set of strategic dimensions for this study.

If previous studies on business strategy in Asia offer little help in respect of the selection of strategic dimensions for inclusion, it is necessary to consider how such a selection might be made. The range of variables which might be considered is very large indeed. Capon et al (1996) examined 428 analyses of business performance and found no less than 86 'causal factors' which could be placed under the heading of 'strategy'. As many of those measures are themselves multidimensional the full set of possible variables runs into the hundreds at least. It is therefore necessary to attempt some systematic approach to variable selection.

The ideal set of variables would meet three criteria. First, and most obviously, the variables should reflect the debate examined in Chapters 2 and 3 between the proponents of 'traditional' versus 'up-graded' business strategies in Hong Kong. Second, it should be relatively compact. That has conceptual advantage in that the analysis of strategy/performance relationships does not become unmanageably complex or unwieldy. It also has the practical advantage that the data may be collected through a survey without placing too much of a burden on the respondents, thereby protecting the response rate and the validity of the responses. Dillman (1978) and Fahey (1998) recommend that a survey form should not exceed four sides of standard size paper. Given the need to collect data for business position and the characteristics of the Chinese Family Business, as well as strategy and performance, and the need to have at least three, and preferably four, observed items for each construct (DeVellis 1990) it was decided that the number of dimensions to be

included should be around five. Porter's three-fold approach is economical and attractive for these reasons, but more compact than is necessary.

The third criterion for the set of variables, which follows in part from the first, is that it should represent a relatively broad domain in the overall strategic space which may be conceptualized. If strategy is to be represented with around five constructs that implies in turn that each of those constructs needs to be relatively broad in scope. There is an associated risk that relatively broad dimensions are multidimensional (Gerbing and Anderson 1988) and therefore not properly measurable. However, if overly narrow constructs are chosen the space defined by their set would make up only a very small part of the strategy domain.

The fourth criterion on which the variables may be selected is that they need to represent fundamental strategic choices that have been shown to impact on performance in a variety of settings. Finally, it would be useful to use variables that have been shown to have validity and reliability beyond the American and European environment, preferably in an Asian setting and most particularly in the Chinese language.

There are in principle an infinite number of different sets of variables that meet some of these criteria to some extent. There may be none that meet them all in full. There is therefore an element of judgment and compromise in any selection process, a fact which is not often made explicit in the published studies. The approach adopted for

this analysis has been to select five variables, as follows. First, three constructs and their associated indicators have been adapted from Davies and Walters (1998) which used a Chinese–language survey instrument to tap dimensions originally used by Zahra and Covin (1993). These are:

1. *Cost Leadership/Emphasis on Efficiency.* This dimension captures the 'cost leadership' aspect of Porter's (1985) analysis. As interpreted here, it also reflects the 'emphasis on efficiency' or 'internal orientation' which is a central element of the 'Defender' strategic-type in the influential Miles and Snow (1976) typology. As Zahra and Covin (1994) point out, this orientation has been shown to represent an internally consistent construct in a number of key studies, including Dess and Davis (1984), Miller (1988) and Fryxell (1990). Close attention to costs has consistently been identified as a key feature of Hong Kong firms' traditional approach to competition and Davies and Walters (1998) provides a Chinese language measure which demonstrated satisfactory levels of validity in the context of Mainland China.

2. *Scope/Product Line Breadth.* This dimension refers to the number and variety of items embodied in a firm's product line. It has featured as a central dimension of business-unit strategy ever since the PIMS studies (Buzzell and Gayle, 1987) and appears (inversely) as 'focus' in the Porter (1980) framework. The traditional approach of Hong Kong firms to competition has been associated with a narrowly focussed product line and firms have been urged to extend it as part of the

recommended 'up-grading' move away from traditional strategies. Davies and Walters (1998) provides a reliable Chinese language measure, derived from a set of questionnaire items originally used by Zahra and Covin (1993).

3. *Marketing Intensity.* Firms are known to vary significantly in respect of the emphasis they place on marketing activities (Scherer, 1980;Shepherd. 1985) and the intensity of a firm's marketing efforts have long been recognised as a critical aspect of business strategy (Buzzell and Gayle, 1987;Miller, 1988; Vanden Abeele and Christaens, 1986). In the Hong Kong case, the traditional approach to business strategy has involved the avoidance of significant involvement in branding and product differentiation in favour of a heavy reliance on original equipment manufacture (OEM). A central aspect of the 'up-graded' approach to strategy being urged on Hong Kong firms is an increased emphasis on marketing, particularly through the development of own brands. A three-item scale used by Zahra and Covin (1993) was adapted slightly, translated into Chinese and administered by Davies and Walters (1998) to a large sample of mainland Chinese firms. As with the 'cost leadership' and 'product line breadth' scales, it demonstrated satisfactory levels of reliability and has been adopted here.

In addition to the three constructs adapted from Zahra and Covin (1993), two others have been selected. These are:

4. *Price leadership.* The 'cost leadership' or 'emphasis on efficiency' construct is conceptually quite close to the idea of 'price leadership' and it might be argued that it is unnecessary to include both constructs, especially when the set of variables needs to be kept compact. Indeed, Zahra and Covin (1993,p.455) describe "offer[ing] competitive (low) prices" as a 'tactic' associated with the cost leadership strategy. However, while the two constructs have some similarities, they are not the same in meaning and it is perfectly feasible to posit firms which place a good deal of emphasis on efficiency and low cost while not seeking to compete on price, and vice versa. That conceptual difference manifested itself empirically in the statistical analysis carried out for Davies and Walters, 1998). The Chinese-language survey form followed Zahra and Covin's (1993) original formulation whereby 'cost leadership' was measured with six questionnaire items. One of those items referred to "offering competitive prices". As Zahra and Covin (1993) offered no information on the measurement qualities of the constructs used it is impossible to say how that item related to the others. However, in the factor analysis for Davies and Walters (1998) it did not load onto the 'cost leadership' factor and was not highly correlated with the other items for 'cost leadership'. Given that the price at which a firm offers its products is one of the broadest and most basic aspects of a firm's strategy the construct has been included separately here.

5. *Emphasis on environmental scanning/Intelligence gathering.* The fifth construct to be included is the emphasis placed on environmental scanning. That variable is

intended to tap the extent to which the firm exhibits the 'external orientation' associated with the "Prospector" strategic type in the Miles and Snow (1976) framework. In that sense it is symmetrical with the 'emphasis on efficiency' construct which corresponds to the (orthogonal) construct of 'internal orientation', associated with the "Defender". Such a measure was not included in either the Zahra and Covin (1993) study, or Davies and Walters (1998). Hence it has not been pre-validated in the Chinese language context. However, Kohli and Jaworski's (1990) multi-dimensional 'market orientation' construct does include a variable for 'intelligence gathering' which has been validated in a number of contexts, including Japan (Deshpande et al, 1993) and it is reasonable to expect it to demonstrate adequate reliability in the Hong Kong context.

4.3 Identifying the Performance Constructs

Just as strategy is a complex and multi-dimensional phenomenon, so is performance (Dess and Robinson, 1984). A number of broad groups of measures may be identified. First, there are financially-oriented measures of performance derived from company accounts, including return on sales (ROS), return on assets (ROA), return on equity (ROE), net income or market share. While those have the advantage of being 'hard' and 'objective' measures (Banker et al 1996, Zinn et al 1994) they are not available for the unlisted firms which make up most of the Hong Kong watch industry, and in any event differences in accounting practice make direct comparison problematical even when data is available (Chakravarthy, 1986). The alternative approach, which

has been adopted here, is to ask respondents to give their companies a performance rating. Such perceptual measures have been shown to correlate strongly with objective measures, where available (Dess and Robinson 1984; Pearce at al 1987) and they have been widely used in marketing and in strategy research (Deng and Dart 1994; Greenley 1995;Kohli and Jaworski 1990; Narver and Slater 1990; Pelham and Wilson 1996; Pitt et al 1996; Ruekert 1992). Chan and Ellis (1998) used the same approach in an English language survey instrument administered in Hong Kong and Davies and Walters (1998) applied the same approach in their Chinese language questionnaire, using items originally drawn from Venkatraman and Ramanujam (1986).

In the current study, three measures of performance have been used. The first and second are taken directly from Davies and Walters (1998) and consist of two sets of three questionnaire items, the first reflecting financial performance, and the second reflecting overall satisfaction with the achievement of strategic objective. The third comprises four items designed to tap the concept of performance construed as effective adaptation (Mott 1972), a particularly desirable outcome in the Hong Kong situation where firms in a small economy subject to frequent external shocks may fail to survive if they cannot adapt.

4.4 Developing the Survey Instrument

An English language version of the survey instrument was first constructed, using the items identified in 4.2 and 4.3 above. The questionnaire was fully structured and for

those questions not requiring simple factual information a form of maximum-minimum 7-point Likert scales was used. Most of the items used were anchored on the statement "not at all important" at one end of the scale and "extremely important" at the other with "neutral" as the mid-point. For the performance scales the end-points were "very poor performance" and "excellent performance". Some analysts have preferred to use even-numbered scales, which force respondents to make a choice on either side of the central point of the scale, but that approach was not adopted, on the argument that a neutral response may be the true response and to force an alternative answer would be to introduce invalid data.

For many of the statements Chinese wordings were already available. However the procedures outlined by Brislin (1970) and Bhalla and Lin (1987) were followed for the whole questionnaire. Those involved translation and then multiple back-translations by independent translators. A few minor issues arose in respect of the Chinese version of the items and these were resolved without difficulty.

In addition to the multiple items representing the strategy and performance constructs, the questionnaire contained a series of questions designed to cover three other areas:

1. *The status of the respondents and the business position of their companies, including*: size by employment in both Hong Kong and China; products produced; the price of most expensive, least expensive and most popular product lines;

proportion of output sold under own brand names; proportion of production in Mainland China; proportion of sales in Mainland China.

2. *Variables representing the characteristics of the Chinese Family Business*. The selection of those variables is explained in Chapter 6 below.

3. *Variables representing companies' China Strategy*. These are also explained in Chapter 6 below.

4. *Variables representing the business environment.* In the event, these variables have not been used in the analysis presented here. They were included in order to allow the possible exploration of that dimension.

The initial draft of the questionnaire was completed in December 1998 and a pilot test was then conducted with senior managers in a convenience sample of 5 firms. The purpose of that test was to check the face or content validity of the constructs and to identify any problems which respondents might have with the wording of questionnaire items. Only very minor problems were encountered, leading to minor changes in wordings and in the ordering of questions.

4.5 Survey Administration

4.5.1 The Total Design Method

In order to obtain a high response rate with limited time and resources, the Total Design Method (TDM) was used in designing the survey package (Dillman 1978, Fahey 1998). First, the questionnaires were sent together with a cover letter explaining the nature and significance of the research. A consulting tone was adopted in the cover letter, it explained that the research dealt with an issue of direct relevance to the respondents, they were told that they were part of a carefully selected sample and that their response was highly valued for the research. Handwritten signatures in ink of a different colour from the letter's text were used in order to avoid a de-personalised "mass production" appearance.

A number of steps were adopted in order to minimize the cost of responding. The questionnaire was restricted to a simple 4-page booklet form (one in English and one in Chinese). Clear instructions were given and most questions required simply selecting from a range of given responses. The cover letter explained that not more than 15 minutes of respondents' time would be needed to complete the questionnaire and a pre-paid envelope was enclosed. Finally, it was promised that a donation of $HK20 would be given to charity for every complete questionnaire received. While each questionnaire was assigned a reference code in order to identify non-respondents for a second mailing, the body of the questionnaire did not ask for the name of the

company or the respondent in an attempt to avoid distortion through socially desirable responses (Adler, Campbell and Laurent 1989).

4.5.2 The Population and the Response Rate

The target population of respondents was defined as the senior managers of all Hong Kong-based firms producing complete watches. According to the Census and Statistics Department of the Hong Kong Government (1998) the city's watch industry in that year consisted of 194 establishments producing watches, having 2,945 persons engaged, and 339 establishments producing watch parts, with a total employment of 1,672 persons engaged. However, those figures refer to operations classified as 'manufacturing establishments', within the boundaries of the SAR. As the distinction between manufacturing and services in Hong Kong has become blurred, many erstwhile 'manufacturing' establishments within the city have been re-classified as 'import/export' establishments (Hong Kong Trade Development Council 1999) although they continue to manage, control and co-ordinate manufacturing operations in China. Furthermore, there are some firms producing only watch parts in Hong Kong who also produce complete watches in mainland China. The most appropriate available sampling frame for 'Hong Kong-based watchmaking firms' is the Hong Kong Watch Manufacturers Association (HKWMA) Membership Directory for 1998. That lists 349 member firms with Hong Kong addresses who were producing complete watches, which figure probably represents a lower bound on the number of Hong Kong-based firms in the sector of interest. (There are a significant number of

watchmaking firms engaged in the production of 'copy watches' who are not members of the HKWMA.)

A first round of questionnaire mailing took place in January to March 1999. A total of 8 questionnaires were returned by the Post Office as undeliverable and a total of 65 completed questionnaires were returned, giving a first round effective response rate of 19.1%, which is unusually high for a postal survey in Hong Kong. In the second round, a follow-up letter with a second copy of the questionnaires was sent to non-respondents. That was accompanied by telephone calls and faxes encouraging firms to respond and eventually a further 55 responses were received, giving a total of 120 or 35%, which may be considered an excellent response rate.

4.5.3 The Characteristics of the Sample

Table 4.1 shows the characteristics of the respondents and their firms. As shown there, 33% of the 120 respondents described themselves as the owners of the company while a further 56% were either Managing Directors or General Managers. The remaining 13 described themselves as having various titles, all indicating suitable levels of seniority.

Wherever possible, samples should be tested for response bias by comparing the characteristics of the sample with those of the population. However, because of the difficulties outlined above, neither the variables reported in Table 4.1 nor any others have been measured for the population of Hong Kong-based watch firms and hence it

is not possible to compare the sample with the overall population. However, there were two re-assuring features. First, the figure for the mean price of respondents' best-selling watches in 1999 was just 10% higher than that reported for the industry as a whole in 1995 (Citizen Watch 1995) suggesting that the sample corresponded to the industry as a whole on that variable at least. Secondly, a comparison of the first-round respondents with the second-round respondents on all of the variables reported in Table 4.1 showed no significant differences. While that is not strictly a good test for non-response bias, it has been used by many analysts as a reasonable proxy (Armstrong and Overton 1977).

The other figures reported in Table 4.1 confirm the broad description of the industry as one that conforms closely to the Hong Kong stereotype. Firms were generally small, having a mean of 23 employees in Hong Kong and more than 90% of them having less than 50 employees in the city. Approximately one third of the respondents reported no employment in China, but those who did employed an average of 176 workers. The mean price level of best selling watch lines was very low, at around $US10, while low cost lines had a mean price of only $US3.90 cents and the minimum price reported was a startling 8 US cents. Respondents were also vertically very shallow, with 82.5% of them being involved with just one or two production steps - watch assembly alone (64.2%) or watch assembly and the manufacture of one component (18.3%), most frequently watch cases (20.8%) or watch bands (14.2%). Only 7 firms were involved with the production of watch movements, which constitutes the only technologically complex manufacturing step in watch production.

With respect to branding, 59.1% of firms sold less than 5% of their output under their own brand names and only 6.1% sold more than 70% under their own brand name. Production was heavily concentrated in China[1], and that production was heavily export-oriented with only 9 firms (8%) having more than 5% of their sales on the mainland.

4.5.4 The Treatment of Missing Values

Missing values can present a problem for the analysis of survey data. However, in this case the problem was minimal. The maximum number of missing values for any of the scale items was 7 (N= 120), which applied to just one question. For the other questions the maximum number of missing values was 3 and the mean number of missing values was less than 2. For such a small number of missing values the technique used to replace them is of little significance (Roth and Switzer 1999). However, in order to make the best possible use of the data, the missing values were replaced following Roth and Switzer's (1999) recommendations. That involves making a distinction between "heffalumps", which is where all of the items relating to a particular construct are missing, and "woozles" , which is where one item relating to a construct is missing but the others are not. In the case of "heffalumps", the missing data were replaced by the overall mean. In the case of "woozles" a simple imputation procedure was used whereby the missing item was replaced by the (rounded) mean of the other items.

Table 4.1 Profile Of Responding Firms (n=120)

Type of Products	***No. of Firms***	***Range of Products***	
Complete Watches	120 (100%)	Complete Watches Only	77 (64.2%)
Watch Cases	25 (20.8%)	Complete Watches and One Other Watch Product	22 (18.3%)
Watch Bands	17 (14.2%)	3 Watch Products	12 (10%)
Watch Dials	10 (8.3%)	4 Watch Products	8 (6.7%)
Watch Movement	7 (5.8%)	5 Watch Products	1 (0.8%)
Other Watch Parts	6 (5.0%)		
Other Products	10 (8.3%)	***Price of Best Selling Watches (US$)***	
Employment in Hong Kong			
Mean	23	Mean	$10.24
Maximum	180	Maximum	$60
Minimum	2	Minimum	50 cents
Less than 10 Employees	70 (42.5%)	***Price of Lowest Cost Models***	
11 – 20 Employees	34 (28.3%)	Mean	$3.9
21 – 50 Employees	24 (20%)	Maximum	$30
51 –100 Employees	6 (5%)	Minimum	8 cents
100+ Employees	5 (4.2%)		
Employment in China		***Price of Most Expensive Models***	
Mean	176	Mean	$59.6
Maximum	2040	Maximum	$2000
Minimum	0	Minimum	$2
0 Employees	34 (28.3%)	***Years Experience in the Watch Industry***	
1-50 Employees	19 (16%)		
51-100 Employees	15 (12.6%)	Mean	14.2
201 – 500 Employees	20 (16.8%)	Maximum	50
500+ Employees	7 (5.8%)	Minimum	2
Own Brand as % of Sales	No. / %	Less than 5 years	18 (15.1%)
0-5%	68 / 59.1	5 – 10 years	29 (24.4%)
6-30%	25 (21.8%)	10-20 years	58 (48.7%)
31 –70%	15 (13.1%)	More than 20 years	14 (11.8%)
70%+	7 (6.1%)		
% of Production in China by Value		***% of Sales in China by Value***	
0-10%	12 (10%)	0-5%	104 (92%)
11-30%	5 (4.3%)	6-10%	4 (3.5%)
31-50%	6 (5.1%)	11-30%	3 (2.7%)
51-70%	14 (12%)	90-100%	2 (1.8%)
71-90%	18 (15.4%)		
90+%	62 (53%)		

4.6 Assessing the Measurement Properties of the Scales for Strategy

4.6.1 Exploratory Factor Analysis and Cronbach Alpha

As a first step in examining the scales for the strategy constructs a correlation matrix was constructed showing the correlations amongst all 20 questionnaire items, shown here in Table 4.2. Visual inspection, assisted by the shading in the matrix, suggests an appropriate pattern of correlations, with items designed to tap the same construct having high correlations with each other (pointing to convergent validity) and low correlations with other sets of items (pointing to discriminant validity). In order to examine that more rigorously an exploratory factor analysis was carried out using principal components and a number of alternative rotation algorithms (varimax, promax, equamax) in order to establish the underlying factor structure.

The exploratory factor analysis identified 5 factors having eigenvalues greater than 1.0, each corresponding directly to one of the strategic constructs being examined. Examination of the factor loadings revealed just one questionnaire item (C9 in Table 4.2) which cross-loaded at more than .45 on two constructs. Removal of that item and re-running the exploratory factor analysis produced a completely 'clean' structure, as shown in Table 4.3.

[1]There might appear to be a contradiction between the fact that one third of firms reported no employment in China while only 10% had less than 10% of their production in China. The apparent conflict is accounted for by the practice of contracting production to PRC enterprises. Hong Kong firms control the operation while not formally employing the workers.

TABLE 4.2
MEAN, STANDARD DEVIATION AND INTERCORRELATIONS OF STRATEGY VARIABLES

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
EMPHASIS ON EFFICIENCY																					
1. Operating the factory at full capacity	5.3	1.39																			
2. Operating efficiency	6.3	1.05	.54**																		
3. Efficiency in getting materials and components	6.4	.92	.26**	.58**																	
4. Reducing production costs	6.22	1.15	.28**	.36**	.19*																
5. Efficient delivery to customers	6.06	1.18	.27**	.37**	.30**	.26**															
SCOPE																					
6. Offering a broad line of products	5.65	1.29	.32**	.24**	.24	.06	.18														
7. Offering a wide variety of products	5.36	1.42	.21**	.19*	.26	.07	.18*	.81**													
8. Meeting the needs of all potential customers	5.36	1.58	.16*	.21*	.16	.14	.16	.49**	.51**												
9. Selling to a small group of target customers	4.61	1.61	.09	.04	-.02	.21*	-.04	.13	.09	.20*											
PRICE LEADERSHIP																					
10. Selling at low prices	3.94	1.62	.12	-.16	-.17	.04	.05	.21*	.17	.11	.16										
11. Pricing below other firms in the industry	3.82	1.64	.11	-.06	-.10	.06	-.04	.08	.08	.15	.04	.60**									
12. Being a price leader	3.70	1.71	.16	-.06	-.20	.03	.03	.03	-.01	.12	.05	.49**	.49**								
13. Offering a lower price for the same quality	4.76	1.68	.17	.05	-.09	.14	.09	.05	.01	-.09	.14	.58**	.55**	.34**							
MARKETING INTENSITY																					
14. Heavy spending on advertising	3.05	1.55	.10	.05	-.10	.02	.13	.29**	.25**	.18	-.15	.13	.06	.15	.10						
15. Intensive marketing effort	4.17	1.69	.19*	.19*	0.5	.05	.28**	.24**	.19*	.07	-.06	-.03	-.04	.09	-.05	.44**					
16. Building strong brand identification	3.99	1.86	.09	.06	-.04	.11	.04	.09	.09	.09	.02	-.02	-.02	.27**	.10	.35**	.47**				
ENVIRONMENTAL SCANNING																					
17. Meeting customers to identify their future needs	5.93	1.24	.03	.25**	.26**	.08	.23*	.15	.17	.13	.09	-.19*	-.13	-.08	-.15	.06	.20*	.09			
18. Doing market research	5.09	1.54	.05	.13	.10	.05	.10	.14	.09	.06	-.01	-.08	-.14	.04	-.02	.27**	.38**	.32**	.56**		
19. Asking customers to assess the quality of our products	5.30	1.28	.03	.21*	.19*	.02	.23*	.04	.10	.02	.13	-.06	-.12	.05	.02	.07	.20*	.24**	.57**	.57**	
20. Collecting information on the industry	4.91	1.47	.14	.19*	.12	-.01	.13	-.02	-.02	.03	.04	0.5	.09	.03	.05	.08	.25**	.18	.34**	.30**	.35**

Table 4.3 Exploratory Factor Analysis And Reliability Statistics For Factor Based Scales Measuring The Strategic Dimensions

Factor 1 Cost Leadership/Emphasis on Efficiency (EMPEFF) Cronbach alpha = .72	Factor Loading	Corrected item –total correlation	Alpha if Delete Item
C1 Operating the factory at full capacity	.701	.47	.66
C2 Operating efficiency	.827	.68	.57
C3 Efficiency in getting materials and components	.607	.45	.67
C4 Reducing production costs	.625	.37	.69
C5 Efficient delivery to customers	.566	.41	.68
Factor 2 Scope (SCOPE) Cronbach alpha = .84			
C6 Offering a broad line of products	.864	.72	.76
C7 Offering a wide variety of products	.916	.82	.66
C8 Meeting the needs of all potential customers	.759	.59	.89
*C9 Selling to a small group of target customers**			
Factor 3 Price Leadership (PRICE) Cronbach alpha = .81			
C10 Selling at low prices	.848	.69	.72
C11 Pricing below other firms in the industry	.860	.72	.70
C12 Being a price leader	.643	.48	.82
C13 Offering a lower price for the same quality	.782	.60	.76
Factor 4 Marketing Intensity (MKTINT) Cronbach alpha = .67			
C14 Heavy spending on advertising	.714	.46	.68
C15 Intensive marketing effort	.748	.55	.63
C16 Building strong brand identification	.755	.48	.51
Factor 5 Intelligence Generation/ Environmental Scanning (ENVSCAN) Cronbach alpha = .76			
C17 Meeting customers to identify their future needs	.801	.63	.67
C18 Doing market research	.724	.60	.68
C19 Asking customers to assess the quality of our	.832	.64	.66
C20 Collecting information on the industry	.604	.40	.79

* Item was deleted.

Kaiser-Meyer-Olkin measure of Sampling Adequacy: .70. Barlett's test of Sphericity: Approx. Chi-Square 791.510. Sig. 0.00)

Table 4.3 shows that the factor loadings are consistently high, indicating good convergent validity (the different items for the same construct are measuring 'the same thing'). The corrected item-total correlations all exceed .37 and the Cronbach alpha reliability co-efficients for four of the constructs exceed the conservative benchmark of .70 recommended by Nunally (1978) and that for the fifth (marketing intensity) approached it, at .68, comfortably exceeding the more liberal benchmark of .60 suggested by Robinson et al (1991).

4.6.2 Confirmatory Factor Analysis: Fitting a Measurement Model

The use of exploratory factor analysis to "confirm" the existence of underlying factors which correspond to the theoretical constructs being measured, coupled with satisfactory Cronbach alphas, is often regarded as sufficient to demonstrate the measurement properties of the data collected, without having further recourse to confirmatory factor analysis. Indeed, DeVellis (1990, p,108) goes so far as to argue that exploratory factor analysis is superior to the confirmatory approach in that the software "has not been instructed to "look for" a specific pattern. Instead it has found the anticipated pattern on its own". On the other hand, exploratory factor analysis identifies factors which load onto all items in the dataset, and the calculation of Cronbach alpha assumes without testing that the constructs being measured have the important property of "unidimensionality" (Hattie 1985) – they concern just one "thing". In order to check the dimensionality of the five strategy constructs the fitting of a "measurement model" using confirmatory factor analysis (CFA) is desirable.

That in turn raises a number of issues. The most direct approach would be to fit a five factor measurement model to the data. However, that would be a relatively large model, raising questions concerning the adequacy of the sample size. For exploratory factor analysis it is sufficient that there be at least 5 observations per variable included (Hair et al 1998) and the sample of 120 cases is adequate for the 20 variables included. However, for CFA the minimum number of observations is equal to 5 times the number of parameters to be estimated in the model (Hair et al 1998). As the parameters to be estimated include the variances of the five factors, their ten covariances and the variances of the error terms for each of the 19 observed items, as well as the 14 freely estimated factor loadings, the five factor model corresponding to the structure indicated in Table 4.3 contains more than 40 parameters and would require more than 200 observations to meet the sample size requirement. [1] The alternative adopted here is to follow the approach adopted by Klein et al (1998). First, 'congeneric' measurement models are fitted for each of the five individual constructs, with the results shown in Table 4.4.

[1] In fact, as Baumgartner and Homburg (1996) show, this requirement has not been met in almost 50% of studies published in leading journals. A recent paper by Mjoen and Tallman (1997) published in *Organization Science* reports a single measurement model containing seven constructs and many observed items, fitted to a sample with just 102 observations. The role of sample size in CFA and SEM is problematical. The models involve fitting to a covariance matrix and therefore do not make direct use of the original observations as data points. The degrees of freedom are determined by the number of distinct sample moments minus the number of parameters to be estimated, and hence are also independent of sample size. Sample size matters because the statistical theory underlying maximum likelihood estimation is asymptotic.

Table 4.4 Confirmatory Factor Analysis For Single Construct Models

Construct	No.of Items	N per fitted Parameter	Chi-square/ df	TLI	GFI	CFI	RMSEA	Construct Reliability
EMPEFF	5	12	1.34	.972	.978	.986	.054	.74
SCOPE*	3	20	-	-	-	-	-	.86
PRICE	4	15	1.37	.987	.988	.996	.056	.82
MKTINT*	3	20	-	-	-	-	-	.68
ENVSCAN	4	15	.166	1.000	.999	1.000	.000	.77

*for three latent variables measured by three items the single construct model is just identified (zero degrees of freedom). Hence fit statistics cannot be calculated.

As the results show, all of the fit statistics were satisfactory and the construct reliabilities were almost identical to the Cronbach alphas from Table 4.3.

While congeneric models are informative, they share a weakness of the Cronbach alpha approach (Gerbing and Anderson 1988) in that they are only concerned with the internal consistency of the construct and its indicators, paying no attention to external consistency – the relationship between the indicators for one construct and those for another. They also provide no means of estimating the correlations amongst the constructs and thereby testing for discriminant validity. Hence, continuing to follow Klein et al (1998), the second step was to 'fix' the five congeneric models and then to fit a full measurement model, thereby testing the fit of a model in which the indicators for each construct do not load onto other constructs while estimating the correlations amongst the constructs and not violating the requirement for at least five observations

per parameter estimated. That model also showed a good fit (chi-square per df = 1.07; TLI = .984; CFI = .983; GFI = .866, RMSEA = .024).

Having demonstrated the unidimensionality and reliability of the strategy constructs, their measurement may be approached in two different ways. Factor scores are one possibility but that is not recommended because the principle of factor indeterminacy shows that such scores can only be estimated, not calculated directly (Bollen 1989,p.305). However, in the context of structural equation modelling the latent variables/factors may be included as dependent or independent variables and the paths amongst them estimated as part of a combined structural and measurement model. Alternatively, 'factor-based scales' may be constructed for each of the strategy constructs, by simply summing the items which indicate each construct and taking their mean (in order to base each measure on an underlying 7 point scale). Table 4.5 shows the means and standard deviations for each of the factor-based scales, and the correlation matrix for both the factor based scales and the factors (taken from the measurement model).

Table 4.5 Descriptive Statistics And Correlations For Strategy Constructs
(Correlations above the diagonal are for the factors, as estimated in the measurement model. Correlations below the diagonal are for the factor-based scales. Means and SDs are for the factor-based scales)

	Mean	S.D.	CV	1	2	3	4	5
1. COST/EMPEFF	6.07	.79	.13		+.26**	-.09	+.20	+.29**
2. SCOPE	5.47	1.24	.23	+.31**		+.09	+.26**	+.16
3. PRICE	4.04	1.33	.33	+.03	+.08		+.04	-.14
4. MKINT	3.73	1.32	.35	+.17	+.22**	+.10		+.43**
5. ENVSCAN	5.30	1.05	.20	+.23**	+.11	-.06	+.34**	

These results demonstrate a number of points. First, with respect to discriminant validity, a problem might have been anticipated between price-leadership (PRICE) and cost-leadership/emphasis on efficiency (EMPEFF). However, the correlation between PRICE and EMPEFF was not significant and those two measures clearly demonstrate satisfactory levels of discriminant validity. As the data in Table 4.5 show, the maximum correlation between two factors was +0.43, between Marketing Intensity and Environmental Scanning (+0.34 for the factor-based scales). That poses no evident threat to discriminant validity and, if a more formal test is needed, placing a 90% confidence interval around the correlation for the factor scores does not include a correlation of unity (Anderson 1987).

The figures in Table 4.5 also provide a summary of the mean position of the respondents on each of the strategy dimensions and the standard deviations, providing some quantitative support for the qualitative descriptions usually drawn of Hong Kong firms. As might be expected, given the extent to which efficiency in co-ordinating the OEM process has been seen as the heart of Hong Kong firms'

advantage, respondents generally placed a very high degree of emphasis on efficiency, with a mean score of 6.07 on a 7-point scale, and the results of a one-sample t-test show that mean to be significantly above the centre point of the scale (Neutral=4). The mean score for price leadership was not significantly different from the centre point of the scale, while those for environmental scanning and scope were above it and, as might be anticipated of firms taking the OEM route, marketing intensity was significantly below it.

Finally, Table 4.5 provides some data on the extent to which there is variation in Hong Kong firms along the strategic dimensions. The co-efficient of variation is lowest (.13) in respect of the emphasis placed on efficiency, while those for marketing intensity (.35) and price leadership (.33) are much higher, with scope (.23) and environmental scanning (.20) lying between them. The mean co-efficient of variation for the five strategy variables was .25. Such figures are difficult to interpret, except against benchmarks, which are not available for all of the specific measures used. However, in their parallel study of a single industry in Korea, Kim and Lim (1988) found co-efficients of variation for a group of 15 strategy variables which ranged from .23 to .41, with a mean of .29, which are of a similar order to those reported here. In the American context Doty, Glick and Huber (1993) measured 5 strategy variables across a wide range of sectors in four states and found co-efficients of variation ranging from .19 to .28 including .27 for 'scope' and .19 for 'focus on efficiency'. While the mean values for the strategy measures in Hong Kong watchmaking confirm the industry's overall position in the world division of labour,

the extent of strategic choice exerted appears to be of the same order, in so far as that can be measured through the co-efficients of variation.

4.7 Assessing the Scales for Performance

4.7.1 Exploratory Factor Analysis and Cronbach Alpha

Before turning to examine the impact of those strategic choices on Hong Kong firms' performance, it is necessary to measure that performance appropriately. In order to do that, the same steps were followed as for the strategy constructs. The starting point lay in ten questionnaire items adopted from previous studies and designed to tap three dimensions of strategy – financial performance, satisfaction with achievement, and effective adaptation. Table 4.6 shows the correlation matrix for those 10 items.

Table 4.6 Correlation Matrix For Performance Items

	Mean	1	2	3	4	5	6	7	8	9
Financial Performance										
1. Total Sales	4.43									
2. Market Share	3.87	.63**								
3. Total Profits	4.07	.65**	.61**							
Satisfaction with the Achievement of Strategic Objectives										
4. We are very satisfied with the overall performance of our enterprise	4.31	.47**	.49**	.37**						
5. We are very satisfied with out performance relative to our competitors	4.45	.45**	.44**	.29**	.75**					
6. We have been very successful in achieving our strategic objectives	4.26	.42**	.40**	.27**	.56**	.62**				
Effective Adaptation										
7. Our company does a good job in anticipating problems	4.40	.28**	.23*	.23*	.57**	.55**	.64**			
8. We do a good job of keeping up with changes	4.72	.44**	.45**	.33**	.51**	.45**	.51**	.59**		
9. Our company implements changes very quickly	4.72	.35**	.36**	.27**	.49**	.53**	.60**	.59**	.65**	
10. When emergencies occur this company copes very successfully	5.13	.31**	.36**	.24**	.52**	.52**	.46**	.54**	.65**	.67**

As Table 4.6 shows, visual inspection, assisted by the shading in the matrix, suggests an appropriate pattern of correlations, with items designed to tap the same construct having high correlations with each other. Thus, the results clearly show that those items have significant intercorrelations among the subscale. It indicated that all the scales also exhibited a good degree of convergent validity. Additionally, it was not difficult to conceive some of the items in a subscale were highly correlated with other scales. This situation was not unusual happened in performance construct. For example, as shown in table 4.6, item in Satisfaction with the achievement of strategic objectives were not only highly correlated with expected items, to some extent, they

should also expect to have high correlation with Financial performance. Thus, factor analysis was conducted on each of the expected subscales in order to provide a further assessment of the performance construct. Table 4.7 shows the results of an exploratory factor analysis using principal components and varimax rotation

Table 4.7 Exploratory Factor Analysis And Reliability Statistics For Factor Based Scales Measuring The Performance Dimensions

Financial Performance Cronbach Alpha = .83	Factor 1 Loading	Factor 2 Loading
Total Sales	.834	
Market Share	.815	
Total Profits	.860	
Satisfaction with Achievement Cronbach Alpha = .84		
We are very satisfied with the overall performance of our enterprise		.687
We are very satisfied with out performance relative to our competitors		.712
We have been very successful in achieving our strategic objectives		.751
Effective Adaptation Cronbach Alpha = .86		
Our company does a good job in anticipating problems		.833
We do a good job of keeping up with changes		.735
Our company implements changes very quickly		.811
When emergencies occur this company copes very successfully		.782

As Table 4.7 shows, the EFA identified just two factors, grouping the items concerning satisfaction together with those designed to measure effective adaptation, suggesting a problem of discriminant validity. Given the history of Hong Kong firms, and their vulnerability to unexpected changes in distant markets, a lack of discrimination between performance construed as satisfaction with the achievement of

strategic objectives and performance construed as effective adaptation is not too surprising.

In order to examine this issue further, confirmatory factor analysis was used to compare a three-factor model of the performance variables with the two-factor model suggested by the EFA, with the results shown in Table 4.8.

Table 4.8 Measuring Performance: Confirmatory Factor Analysis, Fit Statistics, Standardized Loadings, Construct Reliabilities

Fit Statistics for a Two Factor Model: Chi-square per degree of freedom = 2.93 GFI =.860, TLI = .868 CFI =.900, RMSEA = .127		
Fit Statistics for the Three Factor Model Shown Below: Chi-square per degree of freedom 2.09, GFI = .914, TLI = .926, CFI=.947, RMSEA =.095		
	Standardized Loadings	**Construct Reliability**
Factor 1: Satisfaction with the Achievement of Strategic Objectives		.85
G1. We are very satisfied with the overall performance of our enterprise	.841	
G2. We are very satisfied with our performance compared with our competitors	.849	
G3. We have been very successful in achieving our strategic objectives	.732	
Factor 2: Effective Adaptation		
G4. Our company does a good job in anticipating problems	.745	.86
G5. We do a good job of keeping up with changes	.796	
G6. Our company implements changes very quickly	.816	
G7. When emergencies occur, this company copes very successfully	.788	
Factor 3: Financial Performance (Very Poor Performance = 1, Average = 4, Excellent Performance = 7)		
G8. Total Sales	.835	.84
G9. Market Share	.783	
G10. Total Profits	.759	

In fact, as Table 4.8 shows, the three-factor model exhibited superior fit, showing that performance is better modelled as the three dimensions initially proposed, rather than as two. The three measures all showed satisfactory convergent validity, with uniformly high standardized loadings. However, the issue of discriminant validity remained as the correlation between performance as strategic satisfaction and performance as effective adaptation was high, as anticipated, at .80 and the interval test for discriminant validity showed that a 90% confidence interval around the correlation co-efficient did include unity. As a further check, Fornell and Larcker's (1981) test was applied whereby discriminant validity requires that the variance extracted for each construct exceeds the square of the correlation between them. That gave a marginal result, with one figure for variance extracted exceeding .64 and the other falling slightly below it. Table 4.9 shows the correlation matrix for the performance measures, using both the factors from the three-factor model and the factor-based scales.

Table 4.9 CORRELATION MATRIX FOR PERFORMANCE MEASURES
(Correlations for Factors Below the Diagonal, For Factor-Based Scales Above the Diagonal)

	1	2	3
1. Financial Performance		.53	.44
2. Satisfaction with the Achievement of Strategic Objectives	.60		.72
3. Effective Adaptation	.52	.80	

Clearly, there is an issue with respect to discriminant validity between Hong Kong watch firms' satisfaction with the achievement of strategic objectives and their

effective adaptation, which is an interesting finding in itself. It appears that the maintenance of flexibility is a high priority for Hong Kong watch firms, being more closely related to their overall satisfaction than are financial aspects of performance. At the same time, the three factor model fits significantly better than the two-factor version. If the constructs in question were to be used together as independent variables in any further analysis the multi-collinearity between them would cause difficulties. However, in this analysis they represent different forms of the dependent variable, being examined separately, and hence the discriminant validity problem does not invalidate their use.

4.8 Summarising on Measures of Strategy and Performance

A set of criteria were established on which to base the selection of strategy constructs and five such constructs were identified. Three alternative constructs were identified in order to examine different dimensions of performance. A survey instrument in both English and Chinese was developed to measure these constructs and the survey was administered to senior managers in Hong Kong-based companies producing complete watches. The response rate was excellent and the measures have been shown to meet acceptable benchmarks in respect of their construct reliability, convergent validity and discriminant validity – the latter with some qualification for the performance variables. The results have allowed one of the central research questions to be addressed by characterizing the strategies adopted by Hong Kong watch firms, which have been shown to conform quite closely to the qualitative descriptions commonly

made of them. It remains to use these measures to address the other two research questions.

Chapter 5 Do Up-grading Strategies Improve the Performance of Hong Kong Watch Manufacturing Firms?

5.1 Introduction

Having measured both strategy and performance, as reported in Chapter 4, it remains to address the second major research question identified in Chapters 2 and 3. That question was:

Does the adoption of up-grading strategies lead to improved performance in Hong Kong watchmaking firms?

In terms of the five strategy variables which have been measured, "up-grading" has been identified with a greater emphasis on marketing and branding, broader scope and more attention to environmental scanning but less emphasis on price and cost leadership, which are the focus of more "traditional" strategies.

The links between strategy and performance may be examined in two distinctly different ways, each stemming from a different tradition within the literature.

5.2 Testing for Strategy/Performance Links I: The "Comparative" Approach

The first approach is the 'comparative' view, adopted by Venkatraman (1989). In this view strategy is described as an n-dimensional space (n=5 in this study) across which firms are free to locate themselves without restriction. Each dimension of strategy is independent of the others (although they may be correlated) and the impact of these separate dimensions of strategy on performance may be assessed by examining the correlations between the performance and strategy variables and the multiple regression of performance on strategy. If the "up-grading" hypothesis is correct, it is to be expected that there would be significantly positive correlations between performance and marketing intensity, scope and environmental scanning and significantly negative co-efficients between performance and price leadership and cost leadership. This has been carried out here in two different ways. The first uses the factor-based scales constructed by summing the indicators for each of the strategy and performance constructs. Table 5.1 shows the correlations between the performance scales and the strategy scales.

Table 5.1 Correlations Between Strategy Variables And Performance Measures

	Financial Performance	Satisfaction with the Achievement of Strategic Objectives	Effective Adaptation
COST/EMPEFF	.11	.17*	.13
PRICE	-.05	-.16*	-.24***
SCOPE	-.09	-.13	-.02
MKINT	.05	.01	.03
ENVSCAN	.08	.13	.18*

*/*** Significant at the 10%/1% level

As Table 5.1 shows, the correlations do not point to any very strong relationship between 'up-grading' and good performance or 'traditional' strategies and poor performance. Only four of the correlations are significant and three of those are only significant at the 10% level. Of the significant correlations two show that an emphasis on price is negatively associated with performance as satisfaction and performance as effective adaptation, which is consistent with the 'up-grading' hypothesis. A third shows a positive relationship between environmental scanning and effective adaptation, which is also consistent with the 'up-grading' hypothesis. The fourth, however, shows a positive relationship between performance as satisfaction and the emphasis placed on efficiency and cost, which runs counter to the 'up-grading' hypothesis.

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As the correlations simply indicate the bivariate relationships between strategy and performance, it is also useful to examine for multivariate relationships and hence Table 5.2 shows the ordinary- least squares regression results.

Table 5.2 OLS Regressions Of Performance On Strategy Variables

	Financial Performance	Satisfaction with the Achievement of Strategic Objectives	Effective Adaptation
EMPEFF	.137	.213**	.117
SCOPE	-.143	-.193**	-.049
PRICE	-.040	-.141	-.233**
MKINT	.051	-.019	-.008
ENVSCAN	.046	.104	.146
R-squared	.00	.059	.098
F/ Sig F	.85/.52	2.48/.036	2.47/.036

** Significant at the 5% level

As the results show, the OLS regressions show a slightly different pattern to that observed in the correlations. There is some slight support for the 'up-grading' hypothesis in that the emphasis on price is negatively related to performance as effective adaptation. However, the positive co-efficient on 'emphasis on efficiency' and the negative co-efficient on 'scope' point in the opposite direction. At the same time the correlations are all small and the R-squared is very low so that even the few significant relationships do not explain substantial proportions of the variation in performance from firm to firm. Overall, there is no substantial support for either the 'up-grading' hypothesis or its converse.

While the use of the factor-based scales is a perfectly valid approach, it ignores the presence of measurement error and makes no use of the measurement models which were fitted and tested in Chapter 4. Hence a more sophisticated approach to the issue lies in adopting a structural equation modelling framework. In that approach the measurement models for each construct were taken as the starting point. In order to focus on the structural paths between the co-efficients, the measurement models for each construct were fixed and then three separate structural models were fitted, one for each dimension of performance as the dependent variable. Table 5.3 shows the results.

Table 5.3 Fit Statistics And Standardized Path Co-Efficients For Structural Models

	Dependent Variables		
	Financial Performance	Effective Adaptation	Satisfaction with Achievement of Objectives
FIT STATISTICS	Chi-sq. per df = 1.06 GFI = .852 CFI = .985 TLI = .985 RMSEA = .022	Chi-sq. per df = 1.02 GFI = .849 CFI = .995 TLI = .995 RMSEA = .013	Chi-sq per df = 1.09 GFI =.847 CFI = .977 TLI=.977 RMSEA = .027
Independent Variables			
COST/EMPEFF	n.s.	n.s	n.s
SCOPE	n.s	n.s	n.s
MKINT	n.s	n.s	n.s
PRICE	n.s	-.251**	n.s
ENVSCAN	n.s	+.218*	n.s

*/** Significant at the 10%/5% level

As Table 5.3 shows, all three models fitted well, meeting the criteria for a 'close' fit. The pattern of covariances implied by the fitted models reproduce the covariances in the dataset very well. However, the only significant path co-efficients between the performance variables and the strategy variables were found in the model having "effective adaptation" as the dependent variable. In that model, price leadership had a significantly negative effect at the 5% level of significance and environmental scanning had a significantly positive effect, though only at the 10% level. For all of the other models and variables, the null hypotheses that all the path co-efficients are equal to zero could not be rejected.

These results provide some very limited support for the view that 'up-grading' strategies are positively related to performance. Price leadership is central to the traditional approach to competition and its significantly negative relationship with effective adaptation supports the view that price leadership is part of an internally focussed approach to business which limits the firm's capacity to react to changing circumstances. Similarly, the significantly positive co-efficient on intelligence gathering provides support for the view that a more external orientation brings rewards in terms of greater ability to anticipate, predict and respond effectively to changes. However, that significant impact is limited to performance interpreted as adaptation. There were no significant co-efficients linking the strategy variables with the other dimensions of performance – overall satisfaction and financial performance.

The null results need careful interpretation in order not to over-state the conclusions. The hypothesis that the path co-efficients are equal to zero cannot be rejected. That represents a substantive finding in itself, casting doubt on the claims made for the superiority of 'up-grading' strategies. However, at the same time it is not equivalent to demonstrating conclusively that the strategies have no direct impact on performance. There remains the possibility of a Type 2 error whereby the null hypothesis is not rejected when it should be. That raises the question of statistical power and the 'effect size' under consideration. It is possible that strategy does have an effect on performance but that the size of the effect is too small to be detected in a sample of 120 cases. Resolution of that issue involves determining the sample size which would be required to detect an effect of different sizes at a given level of

probability (80% is the usual level of 'statistical power' deemed acceptable (Hair et al. 1998). According to Cohen (1988) a sample size of 120 is more than enough to provide that level of power in the detection of a 'moderate' effect (R-square = .10 or more) in an OLS regression with five independent variables. However, that figure cannot be applied directly in the SEM context, where power analysis is not available for parameter estimates and in OLS a larger sample would be required to give the same power in the presence of a 'small' or 'very small' effect (R-square less than .05). Hence we cannot dismiss the possibility that strategies could have small effects on performance. However, it is reasonable to conclude that adopting strategies based on higher levels of marketing intensity, environmental scanning and greater scope do not have large positive effects on performance, nor does the adoption of strategies based on efficiency and price leadership have large negative effects. Given that the sample covers more than one third of all firms in the industry it is clear that at least reasonable doubt is cast on the proposition that greater attention to 'competitive advantage' type strategies is accompanied by enhanced performance while a focus on 'comparative advantage' through emphasis on cost and price leadership leads to poor performance.

5.3 Testing for a Strategy Performance Link II: The Configurational Approach

5.3.1 Different Approaches to Configuration

The configurational approach to strategy/performance relationships (Meyer, Tsui and Hinings 1993:Miller 1996) does not treat performance as the outcome of firms'

positions along separate dimensions of strategy, considered independently. Instead it identifies 'configurations' which are combinations of characteristics which together have performance outcomes. The configurational approach may be operationalized in two distinctly different ways. The first is the 'empirical taxonomic' approach. This approach is fundamentally atheoretical in that there is no attempt to match the data to any specific configurations identified on an 'a priori' basis. Instead, cluster analysis or similar techniques are used to identify groups of firms which resemble each other empirically more than they resemble members of other groups. Whatever groups emerge 'naturally' from the analysis are then examined for their meaning. Such an approach has been used in the Asian context by Kim and Lim (1988) first to group firms in the electronics industry according to a set of strategic 'gestalts' and then to examine for performance differences across the groups. In that study a set of strategic dimensions similar to those employed here were used as the basis for clustering, three 'strategic groups' of firms were found and these were 'ex post' judged to represent an amended version of Porter's typology – cost leaders, differentiators and focussers. In the current context the empirical taxonomic approach involves using the five strategy variables to identify clusters and then examining the results to see whether these clusters bear any relationship to the distinction drawn in Chapters 2 and 3 between "up-grading" strategies and "traditional" strategies.

The difficulty with the 'empirical taxonomic' approach is that it is entirely atheoretical and data-driven. As cluster analysis will always identify clusters, irrespective of their "real" existence, the validity and meaning of those identified can

be difficult to establish, and few studies using the approach take sufficient steps to validate the clusters found for them to be really convincing (Ketchen and Shook 1996).

The alternative to the 'empirical taxonomic' approach in the analysis of configuration is the 'theoretical typology' approach. In this stream of literature the starting point lies in a typology – a set of descriptive profiles, each of which characterizes the ideal-typical member of a group. Typologies in the strategy literature include Porter's cost-leadership / differentiation / focus approach, and Miles and Snow's (1976) distinctions between Prospector, Defender, Analyzer and Reactor. In the 'theoretical typology' approach companies are allocated to one or other of the types according to their distance from the profile representing each type. Each firm is allocated to the type to which it is closest –even if it is quite distant from that type. Both type membership and distance from the ideal-type are potential candidates for analysis in this approach. Most importantly, the validity of the 'clusters' found does not depend primarily upon their empirical characteristics but upon the value and meaningfulness of the initial typology. While the same clustering algorithm may be used to divide firms into groups, its purpose is fundamentally different. In the case of an empirical taxonomy the clustering software is being used to find whatever groups may (or may not) exist in the data, with no 'a priori' specification of cluster centres. As cluster centres are not specified in advance, any initial cluster centres found are iterated as the software cycles through the data, with new centres replacing those initially found. In the case of a theoretical typology the software is simply used as a tool to allocate

each observation to a pre-specified set of groupings which has some theoretical interest. Cluster centres are specified in advance and not up-dated as the analysis proceeds (although the final cluster centres – the set of means of each clustering variable for each cluster – will usually differ somewhat from the initial cluster centres as the members of each cluster are not perfectly aligned around each centre).

In this study, both the 'empirical taxonomic' and 'theoretical typological' approaches have been adopted.

5.3.2 The 'Empirical Taxonomic' Approach: Cluster Analysis

In order to meet the full requirements for a valid cluster analysis, as identified by Hair et al (1998) and Ketchen and Shook (1996) the following steps were taken. First, a non- hierarchical cluster analysis was carried out using five different agglomerative procedures: single linkage;complete linkage;average linkage and; Ward's method. In each case squared Euclidean distance was used as the distance measure. These analyses give results for a number of different cluster solutions and a first task is to select the most appropriate such solution. In order to do that every solution from the 2-cluster to the 5-cluster solution was examined to see how the "mean distance" changed from one to the next, with the aim of identifying a point where the mean distance went through a 'step-jump'. However, no such point was found, with the mean distances increasing in a relatively smooth pattern. Hence, the results provided no strong grounds on which to select the most appropriate number of clusters. In a

second step, a series of hierarchical cluster analyses were carried out specifying 2,3,4, and 5-cluster solutions. Each of the resulting clusters were examined but, in contrast to the Kim and Lim (1988) results, the configuration of the clusters found bore no obvious relationship to any theoretically meaningful strategic group. Furthermore, when the various different clusters were tested for validity, as recommended, by examining for significant differences amongst clusters in respect of variables not included in the cluster analysis, no such differences were found. Hence none of the clusters found could be regarded empirically valid and the empirical taxonomic approach could be taken no further.

5.3.3 The 'Theoretical Typology' Approach

The alternative to the 'empirical taxonomic' approach is that of the 'conceptual typology'. This takes theory as its starting point, with the validity of the groupings identified being drawn from that foundation, rather than from their empirical characteristics. A typology is developed, as in the case of Porter's (1980) 'generic strategies' or the Miles and Snow (1978) analysis, and each configuration in the typology is described in the form of a 'profile'. Firms are then classified by type on the basis of their proximity to each profile.

The starting point for this approach in the present study lies in referring back to the distinction made in the early part of the paper between the traditional 'comparative-advantage' based strategies which focus on efficiency and price-leadership in a

typically OEM pattern, and the proposed 'competitive-advantage' based strategies which give greater emphasis to environmental scanning, marketing and a broader business scope. Instead of simply using cluster analysis unguided to seek patterns in the data, a profile of each strategy was first developed, drawing on the debate over Hong Kong firms strategic orientation and the measures already developed and reported in Chapter 4. Firms were then allocated into two groups – those who compete on a traditional comparative-advantage basis and those whose strategies correspond to the 'up-graded' or 'competitive-advantage' approach – according to their distance from the profiles. Each firm was allocated to the group to whose profile it is closest. The characteristics of the two groups were then examined and performance differences tested for.

The 'traditional' or 'comparative advantage' strategy has been identified as one which is associated with a relatively 'high' emphasis on price-leadership and efficiency and a relatively 'low' emphasis on marketing, scanning the environment and product scope. It has significant elements in common with Miles and Snow's 'Defender' ideal-type (Miles and Snow 1978; Doty, Glick and Huber 1993) which exhibits a similar 'internal orientation' being primarily focussed on the maintenance of efficiency and low price in order to meet the needs of a relatively limited and well-understood market segment. Conversely, the competitive advantage strategy being urged on Hong Kong firms has parallels with the Miles and Snow 'Prospector' type, which gives greater emphasis to a more external orientation involving scanning the

environment, catering for a wider range of customer needs and more extensive product differentiation.

This characterization of the two configurations is expressed in terms of 'high' and 'low' values, which need to be quantified more precisely in order to provide profiles against which the Hong Kong firms may be compared and hence allocated to one group or another according to their distance. Two approaches offer themselves here. The first one, which was used by Doty, Glick and Huber (1993) in respect of the Miles and Snow typology, is to present a group of industry and academic experts with descriptions of the two 'ideal-types' and then ask them to assign values on 1-7 scales to each of the strategy variables for each of the types. The difficulty with that approach is that such profiles lack 'calibration' and experts may assign values which lie outside the range actually observed in the industry, thereby generating inappropriate classifications. An alternative approach, adopted here, was to fix each profile, first by assigning a value of one-half of a standard deviation below the mean for variables which are ascribed 'low' values for that strategic type and one half of a standard deviation above the mean for variables ascribed 'high' values. The cluster centres for each group were therefore initially set at one standard deviation apart. In the second stage, the process was repeated with profile values set at a full standard deviation above or below the mean. When the cluster memberships for the two approaches were compared they were identical and it became clear that the classification of firms was not sensitive to the method used, within that range. Table 5.4 sets out the results. First, it shows the profiles for each strategic type, represented

by the initial cluster centres (as set a half a standard deviation above or below the mean). Second, it shows final cluster centres and the number of firms allocated to each group by the 'Classify Only' procedure in SPSS using the factor-based scales for each strategy variable, the Euclidean distance measure and nearest centroid sorting (Anderberg 1973). Third it shows the significance tests for differences between the groups in respect of the five strategy measures. Finally, it reports the tests for significant differences in performance between the two types of firm.

Table 5.4 Profiles Of 'Traditional' And 'Up-Grading' Strategies

Strategy Dimension (Factor-based Scales)	Sample Mean	Sample S.D.	'Traditional' Profile (Initial Cluster Centre)	'Up-grading' Profile (Initial Cluster Centre)	'Traditional' Final Cluster Centre N=61	'Up-grading' Final Cluster Centre N=59
OST/EMPEFF	6.06	.79	6.46	5.67	6.02	6.11 n.s
SCOPE	5.47	1.24	4.84	6.08	4.92	6.01**
MKINT	3.73	1.32	3.08	4.40	3.01	4.49**
PRICE	4.04	1.33	4.71	3.39	4.54	3.54**
ENVSCAN	5.30	1.05	4.78	5.83	4.99	5.63**
PERFORMANCE MEASURES						
Financial Performance					4.13	4.10 n.s
Achievement of Strategic Objectives					4.37	4.30 n.s
Effective Adaptation					4.68	4.80 n.s.

As Table 5.4 shows, the sample divided almost evenly between firms whose strategic profiles most closely resemble the 'comparative advantage' strategy (N=61) and those whose profiles were closer to the 'up-grading' approach (N=59). The final cluster centres were very close to the initial centres as set when using half of a standard deviation to fix the 'high' and 'low' values. There were significant differences between the groups in respect of four out of five strategy variables, the exception

being 'cost leadership/ emphasis placed on efficiency'. Perhaps unsurprisingly, given the very high mean score for that variable, its low co-efficient of variation and hence the relatively small distance across the dataset, there were no differences in respect of the high level of importance ascribed to the achievement of efficiency between the two groups of firms, although all of the other differences set out in the profile were significant across the two clusters. The significance tests for the performance measures revealed no significant differences between the groups.

The claim that higher performance will be achieved by firms who seek to compete through the adoption of 'up-grading' strategies based on greater environmental scanning, greater scope and more intensive marketing , when compared with firms who retain the traditional 'comparative advantage' strategy based on price leadership, is not supported. As with the first set of results care should be taken not to overstate these conclusions. There are no significant differences across the strategy types and hence the null hypothesis that performance is the same for firms of both types cannot be rejected. That in itself does not demonstrate that there are no differences in the population as the possibility of a Type 2 error (accepting the null hypothesis when it should be rejected) must be taken into account. To account for that requires an examination of the statistical power of the test. According to the standard tables (Cohen 1988) a sub-sample size of 60, as in this study, provides a statistical power of .775 in the presence of a 'moderate effect' size (.5 of a standard deviation) and an alpha level of .05. For a 'large' effect size the figure for statistical power is greater than 90%. That is to say that the sub-sample sizes are large enough to detect a

moderate effect size (reject the null hypothesis) at a significance level of 5% with a probability of 77.5% and a large effect with a probability of more than 90%. As the recommended level of statistical power is 80% (Hair et al 1998) it is clear that the sample size is more than sufficient to have detected a 'large' performance effect in the population with a probability level above the recommended benchmark and a 'moderate' effect at very close to the recommended level.

It is possible in the light of the evidence above that the adoption of 'up-grading' strategies might have a small effect (defined as a difference of one fifth of a standard deviation in either direction) on performance in the population as a whole. However, a 'moderate' effect (involving a difference of half of one standard deviation) would have been detected with nearly 80% probability and a 'large' effect (involving one standard deviation) would have been detected with near certainty. It is reasonable, therefore, to conclude conservatively that firms whose strategies conform to the 'up-grading' description do not demonstrate large and positive performance effects, relative to those adopting the 'traditional' approach.

5.4 Discussion and Conclusion

This chapter has addressed the second research question raised in this study by examining the performance implications of 'up-graded' business strategies based less on securing low cost and price leadership and more upon intelligence-gathering, broader scope and intensive marketing, when compared with the 'traditional' Hong Kong approach. The results provide little encouragement to those who advocate up-grading and who believe that it is inevitably accompanied by significantly better performance. The only support for that view lay in the finding that the price leadership dimension of strategy has a significantly negative effect upon the 'effective adaptation' dimension of performance, while intelligence gathering has a significant positive effect. For the other dimensions of performance, no significant relationships with the strategy dimension were found in either direction. When the sample was divided into companies whose strategies more closely matched a profile of 'traditional' firms and those that more closely matched an 'up-grading' profile, no significant performance differences were found.

These results cast doubt on the efficacy of the up-grading prescription and justify further research but they also require a critical appraisal. The strategy measures represent the perceived importance placed by senior executives on the different dimensions of strategy. They therefore represent the companies 'intended' strategies which may differ from their 'realized' strategies (Mintzberg 1978). A comparison of the prices reported by each firm in respect of their cheapest, most expensive and most

popular product lines showed no significant difference between the 'traditional' group of firms and the 'up-grading' group, which contradicts the very significant difference between them on the measured strategy dimension. That may indicate that while the 'up-grading' group intend and aspire to move away from the OEM posture they have either been unable to do so, or have not yet had time to meet their aspirations. Examination of the proportion of sales made under firms' own brand names provides some further evidence in this respect. A significantly larger proportion of the 'up-grading' firms (50.9% compared with 31.7%, Pr<.05) sold more than 5% of their output under their own brand name. In that sense they had 'realized' their intention relative to firms pursuing the 'traditional' approach. However, of the 59 firms in the 'up-grading' group only 2 were selling more than 70% of their output under their own brand names. Clearly, while the 'up-grading' firms are significantly different in the statistical sense from their 'traditional' counterparts in respect of the strategic dimensions, as measured within the Hong Kong setting, they have not moved substantively very far from the Hong Kong stereotype.

This may be interpreted in two ways. For the committed supporter of up-grading strategies it might be taken to show that the Hong Kong firms in the sample (representing 35% of all firms in the industry) have not yet made sufficient progress away from the traditional approach to reap the performance benefits of a new approach. Alternatively, it might simply reflect the fact that Hong Kong firms occupy a relatively circumscribed (though large) market niche, at the bottom end of the price spectrum. They are very successful in that niche, variations in realized strategy are

bounded by it and within that limited 'strategic space' there are no significant performance differences between firms intending to 'up-grade' and those maintaining the 'traditional' strategy. Whichever interpretation is correct, there is ample room for further research. Extending the analysis into other industrial sectors, where larger samples having more statistical power might be obtained, extending the range of strategy variables included, and examining the relationship between 'intended' and 'realized' strategies should shed further light on a central question. Do firms in Asia perform better or worse when they attempt to move away from competing on the basis of the comparative advantage of their location and toward the achievement of 'competitive advantage' based on 'up-grading'?

Chapter 6 Measuring the China Dimensions: The Characteristics of the Chinese Family Business

6.1 Introduction

A key aspect of the debate on the 'need' for a change in the strategy adopted by Hong Kong firms lies in the proposition that the strategic choices made by these firms are related to their organizational characteristics. To be specific, it has been suggested in Chapters 2 and 3 that the characteristics of the Chinese Family Business (CFB) pre-dispose it towards 'traditional' business strategies based upon low prices and cost-leadership and inhibit the development of 'up-grading' strategies based upon more intensive marketing, greater environmental scanning and wider scope. In order to investigate this issue in more detail it is necessary first to identify and measure the attributes which characterise the CFB.

6.2 The Nature of the Chinese Family Business

The Chinese Family Business has attracted significant attention as an idiosyncratic and significant organizational form (Redding 1990, Whitley 1992). It has also been a major contributor to the success of those East Asian industries which have come to dominate global markets including textiles, garments, electronics and watches. However, despite its importance, very little work has been carried out involving measurement aspects of the phenomenon and there has to date been no empirical

work designed to examine the links between the characteristics which define the CFB and the business strategies adopted by it.

As Chapters 2 and 3 have indicated, this is an important issue in the debate over the direction which East Asian firms and economies should take in future. Following Michael Porter's analysis in *The Competitive Advantage of Nations* (1990) governments, academics and industry leaders across the region have been calling for a move away from traditional East Asian business strategies based upon cost and price leadership with low profit margins and towards the adoption of 'up-grading' strategies which would allow higher margins to be earned. However, while that view has become a conventional wisdom, some observers have questioned its appropriateness, suggesting that while the CFB is well-suited to the 'traditional' strategies which have been adopted in the past it is particularly ill-suited to the 'up-grading' strategies which are being proposed. Carney (1998a, 1998b), Carney and Davies (1999) and Davies (1998, 1999), in particular, have argued that the competitive advantage of the CFB lies in a long-established 'merchant-manufacturing' capability which allows it to secure low costs and prices. At the same time, the characteristics which support that capability are inimical of a switch to other types of strategy. This chapter examines that issue in the setting of the Hong Kong watchmaking industry. Its first objective is to develop and test measurement models for key characteristics of the CFB. The following chapter then tests the proposition that there are positive relationships between the characteristics which make up the CFB and strategies associated with their 'traditional' form of competition and negative relationships with strategies which

form part of the 'up-grading' recommendation. Before turning to the empirical work a more detailed examination is required of the nature of the CFB, and its implications for strategy.

6.3 Key Characteristics of the CFB

Early research on the organizational form and managerial ideology of Overseas Chinese firms is to be found in unpublished working papers and PhD dissertations, including Ryan (1961) and King and Leung (1975). These were followed by Wong Siu-Lun's (1985) seminal study of the "Chinese family firm" which appeared in *The British Journal of Sociology*. In that analysis the central assertion was that 'familism' is the essence of the organizational form adopted by Chinese business. Redding and Pugh (1986) applied the "Aston methodology" to compare survey data for a small number (N = 53) of Hong Kong firms with benchmarks established for firms in other locations. While the constructs measured in that study were not designed to tap the specific features of the Chinese firm, the findings were that such firms displayed less formalization and less overall role-specialization than Western or Japanese firms. The authors speculated that this might be attributable to the familism and paternalism associated with Chinese sociological characteristics.

The late 1980s saw increasing interest in the Chinese business phenomenon, given particular impetus by Gordon Redding's (1987) paper. In that analysis he argued that the Chinese organizational form "is sufficiently consistent to merit interest as a

category" (p.167), he drew attention to the lack of empirical data, and presented some initial ideas on a research programme focussed on the Overseas Chinese. That coincided with Hamilton and Biggart's (1988) paper which pointed to the importance of the family firm in Taiwan, and scrutiny of the Chinese Family Business began in earnest. Much of that work was concentrated on the University of Hong Kong where Wong (1991, 1995) continued to produce key papers and where the topic was taken up from the management perspective by Redding (1991, 1992, 1995) and by Whitley (1990, 1991, 1992) visiting from Manchester Business School.

Of these contributions to the literature, the two most significant were Redding's (1990) *The Spirit of Chinese Capitalism* and Whitley's (1992) *Business Systems in East Asia*. Redding saw the Overseas Chinese as an "economic culture" and argued that there is a distinct "spirit of Chinese capitalism". That spirit is rooted in the Chinese psycho-social legacy and in the networked nature of Chinese society. In that setting the Family Business has remained the dominant organizational form, stemming from three major influences. These are: the insecurity which derives from a general lack of trust and from the possession of wealth in societies which have a weak tradition of protection for property rights ; the paternalism which derives from Confucian tradition, and; the personalism which supports exchange processes. In a later article Redding (1995) set out a comprehensive summary of the CFB's salient characteristics, shown in Table 6.1.

Table 6.1 The CFB According To Redding (1990)

Small scale	Personalistic networking
Simple organizational structure	Cost-conscious and efficient
Centralized decision-making	Weak in creation of market recognition
Reliance on dominant chief executive	Discouragement of professional management
Family ownership and control	Limited ability to support growth
Paternalistic organizational climate	High degree of strategic adaptability

Source: Adapted from Redding (1995) p.64

While Redding (1990) focussed on the CFB itself, Whitley (1992) adopted a broader perspective, first presenting a rationale for the comparative analysis of "business systems" and then examining three such systems in Asia: the *chaebol* of South Korea; the Japanese *kaisha*, and; the CFB in Hong Kong and Taiwan. Each system was described in terms of the "nature of the firm", the type of "market organization"" and the internal mechanisms used for "co-ordination and control". Table 6.2 shows Whitley's characterization of the CFB.

Table 6.2 The CFB According To Whitley

The Nature of the Firm	
Size.....Small/Medium	Strategic Change.....Opportunistic
Capital intensity.....Low	Business specialization....High
Managers' discretion.....Low	Integration.....Personal ties and ownership
Risk management.....Limiting commitment and maximising flexibility	Growth focus.....Volume expansion and opportunistic diversification
Market Organization	
Interdependence of firms.....High	Vertical integration.....Low
Commitment to exchange partners .....Limited to family-like connections	Reliance on personal knowledge and reputation.....High
Scope of exchange relations with partners .....Low outside family-like connections	Horizontal co-ordination through long-term commitments.....Limited to personal ties
Reciprocity of commitments.....Low	
Co-ordination and Control	
Importance of owner's personal authority.....High	Work group and task autonomy ..... Low
Reliance on family for top management .....High	Managerial involvement in the work group .....Low
Centralization of decision-making .....High	Importance of group morale .....Low
Delegation to middle management ..... Low	Omniscience of managers .....High
Number of middle managers..... Few	Managerial style .....Paternalistic
Reliance on formal procedures.....Low	

Source: Whitley, 1992, pp.65,71,77

As a comparison of Tables 1 and 2 makes clear, Whitley's (1992) description of the CFB is very much consistent with that presented in Redding (1990), as might be expected, given Whitley's acknowledged debt to work carried out at the University of Hong Kong. That consistency extends beyond the work of those two scholars to further work by Wong (1995), re-affirming the centrality of familism, personalism and business networking in Hong Kong and Singapore, Lee's (1996) paper on CFBs in Singapore which highlighted human-centredness, family-centredness, centralization

of power and small size as the salient features, and Weidenbaum's (1996) paper which covered essentially the same ground.

Amongst the range of characteristics displayed by the CFB, particular interest has been shown in networking, focussed in a collection of studies published in Hamilton (1991). Numazaki (1991), Tu (1991), Tong (1991), Gilbert Wong (1991) and Wong Siu-lun (1991) examine CFB networks as they operate in Hong Kong, Taiwan and Singapore, echoed by Kienzle and Shadur (1997). While these papers re-inforce the importance of networking as a salient feature of the CFB's operations, they add little to its overall characterization. The literature has essentially converged around Redding's description of the CFB and Whitley's extension of that description. Harjani (1999) identifies a total of 15 variables which may be said to fully characterize the CFB, as shown in Table 6.3.

Table 6.3 A Summary Of CFB Characteristics

CEO dominance in decision-making: one top person in the firm is relied upon to take most of the decisions	**Family-centredness**: the business is regarded as family property under strong family control	**Family financing:** a preference for, and reliance on, familial sources of finance
Antipathy to external management: a strong reliance on family members to fill senior positions and an antipathy to outside professionals	**Paternalism:** didactic and patrimonial leadership style requiring employee acceptance of the owner's decisions	**Opportunistic diversification**: a tendency to establish new business ventures wherever profit opportunities are perceived.
Networking: extensive linkages with other firms through a complex web of deals, obligations and ties/	**Personalism of network behaviour**: business networking is based on personal and social networks	**Impermanence of connections:** the linkages between firms are not permanent bonds, being changeable and relatively short – term.
Short termism: a relatively short time horizon and limited long term planning	**High degree of centralization**: limited delegation of authority by the chief executive	**Low degree of formalization**: the firm is relatively unstructured and there is limited use of written and standardized control and co-ordination procedures
Low degree of specialization: managerial roles are diffuse and shifting and staff deal with a range of tasks as required	**High emphasis on cost control**: the firm is very cost conscious and sensitive to matters of financial efficiency	**High emphasis on price leadership**: the firm competes on price and is willing to accept lower profit margins if necessary

Source: Harjani (1999)

It has been suggested by Carney and Davies (1999) that the characteristics of the CFB constitute a rational response to the position in which Hong Kong businesspeople found themselves in the immediate post-war period. Being dependent for their revenues upon distant markets which they could neither monitor nor control, and having no significant competitive advantage beyond cheap labour, they devised a business 'recipe' involving price and cost-based competition. Efficiency and low prices were secured by the close monitoring of cheap and relatively unskilled labour,

carrying out simple labour-intensive assembly work. At the same time the dangers inherent in unpredictable distant markets were kept under control by maintaining a strict short-term focus and restricting investment to the purchase of general-purpose assets which could be switched to alternative uses should the market change. While that approach seemed to be coming under threat at the end of the 1970s (Advisory Committee on Diversification 1979) the opening of the Chinese economy gave access to an effectively unlimited supply of cheap labour (Davies 1999) and hence gave the recipe a new lease of life. In terms of evolutionary economics Hong Kong CFBs found a niche in which their behaviours were rewarded and hence re-inforced, generating a benign form of path dependence whereby they stayed with the old ways and prospered.

6.4 Variable Selection for the Characterization of the CFB

Having identified the constructs which characterize the CFB it remains to consider which of them should be included in the present study. A survey instrument designed to measure the full set of fifteen variables was developed and tested (in English) by Harjani (1999). In that analysis, all of the constructs except 'antipathy to external management' met standard criteria for construct reliability and validity and they are hence all candidates for inclusion here. However, as this study has involved the measurement of strategy constructs as well as those concerning the CFB, and as the total number of constructs needs to be restricted in order to reduce respondent fatigue and protect the response rate (Dillman 1978), a more parsimonious set of variables is

required. Of the fourteen constructs in Table 6.3 two represent central concepts in business strategy – emphasis on cost control and price leadership – and they have already been examined in Chapter 4. Of the remaining twelve, five have been selected by re-examining the literature for those described as having an impact on the business strategies adopted while reflecting the most salient and fundamental features of the CFB. These are:

1. *Chief Executive Officer (CEO) dominance in decision-making.* This construct represents the extent to which the firm relies upon a single top person to take decisions. All of the major studies concerned with the CFB, including both Redding (1990) and Whitely (1992) identify this as a key aspect of the organizational form. While it reduces the cost of decision-making and thereby contributes to the efficiency and flexibility of the CFB, CEO dominance is inhibitive of companies' development in that it restricts the knowledge base on which decisions are taken and prevents the development of a professional managerial hierarchy (Carney 1998). In so doing it limits the firm's ability to pursue strategies which require expertise lying outside the CEO's experience.

2. *Paternalism.* The extent to which the CEO's style is didactic and patrimonial, acting as a father-figure, requiring employees to accept decisions and expecting them to ask for instructions. This construct is central to the 'familism' which is the most salient feature of the CFB. Like CEO dominance, paternalism contributes positively to competitiveness in the form of efficiency and price leadership while working against the development of activities which require a more external

orientation, such as environmental scanning, the development of brand identity or extension of the product line.

3. *Networking*. The exchange of information and business opportunities with other firms in the industry through informal mechanisms. This aspect of the CFB has been seen as one of its greatest strengths (Redding 1991, 1994), whereby relatively weak small firms have strong linkages with others in order to make up a highly competitive overall system. The networking phenomenon amongst CFBs has also been seen as akin to the 'flexible production networks' which have been described as a 'post-modern' form of industrial organization (Sabel 1989). While such networks have been lauded for their ability to secure cost efficiency (Carney 1998) it has also been argued by Uzzi (1997) that they insulate firms from information which originates outside them. Hence while networking re-inforces existing capabilities it renders them 'persistent' (Davies 1998) and makes it difficult for incumbents to develop new approaches to competition.

4. *Personalism of business networking*. The extent to which business networking takes place on a personal basis, using personal relationships for the establishment and maintenance of business contacts and for the generation of new business. Personalism in networking provides a system of obligation and reciprocity which is re-inforced by recurring transactions (Lazerson 1995). Such a system enhances efficiency by providing trust and reducing the transaction costs associated with credit and supplier qualification, production planning and quality control, relative

to those incurred in a managerial hierarchy. Hence it improves cost competitiveness. However, it also restricts the set of potential transaction partners, re-inforcing the firm's inability to learn from the broader world.

5. *Short-termism.* The extent to which the firm focusses on the immediate future in its business planning and performance improvement effort. Short-termism has been seen as a central feature of the CFB, contributing to 'strategy as hustle' (Fung 1996), encouraging rapid 'spatial arbitrage' when prices shift (Fu 1997) and forming the foundation for the CFB's formidable ability to fill orders at short notice. At the same time, the adoption of a short time horizon prevents the firm from investing in those activities which require long term funding and effort, like the development of brand identity, the construction of mechanisms for scanning the environment and the extension of the product line.

6.5 Measuring the CFB Characteristics

The constructs in question have been measured before by Harjani (1999), but that study used a relatively small sample and the questions were all in the English language. Hence the full process of scale development was re-applied for this study. The original statements in English from the earlier study were translated and back-translated to and from Chinese, as explained in Chapter 4 and the whole questionnaire was piloted with a group of industry experts in order to secure face and construct validity.

For the eighteen questionnaire items designed to tap the five CFB characteristics respondents were asked to indicate the extent of their agreement or disagreement on 7-point Likert scales, running from "strongly disagree" =1 to "strongly agree" = 7. Table 6.4 shows the correlation matrix for the eighteen items.

TABLE 6.4
MEAN, STANDARD DEVIATION AND INTERCORRELATIONS OF CFB VARIABLES

Variables	Mean	S.D.	E1	E2	E3	E4	F1	F2	F3	F4	F5	F6.	F7	F8	F9	F10	F11	F12	F13
CEO DOMINANCE IN DECISION-MAKING																			
E1. The boss makes most decisions	5.5	1.41																	
E2. The boss does not spend much time consulting with middle managers before making a decision	3.76	1.84	.35**																
E3. This business heavily relies on one person in making decisions	4.2	1.85	.46**	.65**															
E4. Employees are not given authority to make decisions by themselves	3.58	1.85	.42**	.58**	.71**														
PATERNALISM																			
F1. The boss is personally involved in what is going on	5.44	1.34	.32**	.15	.27**	.15													
F2 Employees are expected to accept the boss's decisions.	4.99	1.24	.26**	.28**	.32**	.20*	.36**												
F3 Employees have to frequently ask the boss for instructions.	4.65	1.61	.35**	.25**	.35**	.35**	.19*	.47**											
F4 The boss acts like a father-figure for the employees	4.32	1.67	.36**	.39**	.35**	.51**	-.09	.42**	.55**										
NETWORKING																			
F5 We exchange business knowledge and information with other watch companies	4.17	1.57	.14	.04	.12	.19*	.05	-.12	-.12	.25**									
F6 We get information about business opportunities from our social contacts	4.29	1.58	.14	.05	.02	.22*	-.07	-.15	-.15	.25**	.56**								
F7 Everyday we make use of our personal business contacts	4.26	1.48	.15	.09	.12	.21*	.13	.11	.11	.28**	.27**	.58**							
PERSONALISM OF NETWORKING																			
F8. Most of our new business is generated by introductions and personal referrals	3.35	1.68	.04	.18*	.07	.13	.19*	.12	.12	.11	.04	.28**	.36**						
F9 The relationship with our customers/suppliers is a personal one	3.55	1.75	.13	.19	.23*	.19*	.32**	.19*	.10	.09	-.02	.21*	.36**	.55**					
F10 All our business contacts are based on personal relationships	3.03	1.73	.17	.14	.18	.12	.15	.17	.28**	.22*	.07	.25**	.34**	.59**	.75**				
SHORT-TERMISM																			
F11 We rarely plan more than six months ahead	3.83	1.90	.04	.32**	.31**	.23*	.23*	.34**	.18	.15	-.06	.02	.17	.28**	.21*	.22**			
F12 We always plan more than six months ahead	4.19	1.90	-.08	-.30**	-.39**	-.30**	-.27**	-.38**	-.28**	-.22*	.05	.05	-.11	-.22*	-.18	-.24**	.81**		
F13 Most of our effort is focussed on improving performance over the next six months	4.85	1.53	-.23*	-.35**	-.39**	-.26**	-.16	-2.7**	-.13	-.13	.07	.09	.13	-.09	-.18	-.13	-.17	.36**	
F14 It is not practical for us to plan more than six months ahead	3.56	1.92	-.03	.22*	2.6**	.32**	.16	.27**	.29**	.27**	-.04	-.02	.09	.24**	.22*	.22*	.56**	.59**	.15

Visual examination of the matrix, aided by the shading, suggests an appropriate pattern of correlations. In order to examine that further an exploratory factor analysis was first carried out across the eighteen items using principal components and a number of alternative rotation algorithms (varimax, promax, equamax) in order to establish the underlying factor structure. Following that first analysis, three items were deleted. The first (E1 in Table 6.5) cross-loaded onto both CEO dominance in decision-making and Paternalism, which was not surprising in the light of its wording. The other two (F1 and F13) had no loadings above .4 on any factor and were deleted for that reason. The exploratory factor analysis which followed their deletion is shown in Table 6.5.

As the Table shows, the second EFA revealed a completely 'clean structure' – no cross-loadings or high loadings on inappropriate factors - and all of the scales had Cronbach alpha reliability co-efficients which exceeded the benchmark of .7.

As noted in Chapter 4, the use of exploratory factor analysis to "confirm" the existence of underlying factors which correspond to the theoretical constructs being measured, coupled with satisfactory Cronbach alphas, is often regarded as sufficient to demonstrate the measurement properties of the data collected. Having taken the measurement process this far, it would be possible to simply calculate scales for each construct by taking the mean score of the indicating items. That would allow the relationships between strategy variables and CFB characteristics to be explored

through simple correlation and regression techniques. On the other hand, that approach takes no further account of measurement error and rules out the use of more powerful techniques in structural equation modelling. Furthermore, EFA assumes "unidimensionality" and does not test for it. In order to check the dimensionality of the five CFB constructs the fitting of a "measurement model" using confirmatory factor analysis (CFA) is more desirable. As noted in Chapter 4 that raises a number of issues. The most direct approach would be to fit a five factor measurement model to the data. However, that model would be relatively large, raising questions concerning the adequacy of the sample size. As in Chapter 4, the alternative adopted here is to follow the approach adopted by Klein et al (1998). First, 'congeneric' measurement models were fitted for each of the five CFB constructs, with the results shown in Table 6.6.

Table 6.5 Exploratory Factor Analysis And Reliability Statistics For Factor-Based Scales Measuring The CFB Dimensions

Factor 3: CEO Dominance in Decision-making Cronbach alpha = .85	Factor Loading	Item-total Correlation	Alpha if Delete Item
*E1 In this company, the boss makes most decisions**			
E2 In this company, the boss does not spend much time consulting with middle managers before making a decision	.83	.67	.83
E3 This business relies heavily on one person making the decisions	.87	.76	.74
E4 In this company, employees are not given authority to make decisions by themselves	.81	.71	.79
Factor 5:Paternalism Cronbach alpha = .73			
*F1 In this company the boss is personally involved in what is going on**			
F2 In this company, employees are expected to accept the boss's decisions	.71	.51	.71
F3 In this company, employees frequently have to ask the boss for instructions	.84	.61	.58
F4 In this company the boss acts like a father-figure for the employees	.73	.58	.63
Factor 4:Networking Cronbach alpha = .72			
F5 We exchange business knowledge and information with other watch companies	.79	.45	.73
F6 We get information about business opportunities from our social contacts	.86	.70	.42
F7 Everyday we make use of our personal business contacts	.64	.49	.69
Factor 1: Personalism of Networking Cronbach alpha = .84			
F8 Most of our new business is generated by introductions and personal referrals	.77	.61	.85
F9 The relationship with our customers and suppliers is a personal one	.89	.73	.75
F10 All our business contacts are based on personal relationships	.86	.77	.71
Factor 2: Short-termism Cronbach alpha = .85			
F11 We rarely plan more than 6 months ahead	.89	.76	.74
F12 We always plan more than 6 months ahead -RC	.88	.78	.72
*F13 Most of our effort is focussed on improving performance over the next six months**			
F14 it is not practical for us to plan more than 6 months ahead	.74	.60	.89

*Item was deleted. Kaiser-Meyer-Olkin measure of Sampling Adequacy: .76.Barlett's test of Sphericity: Approx. Chi-Square 869.8 Sig. 0.00)

Table 6.6 Confirmatory Factor Analysis For Single Construct Models Of CFB Characteristics

Construct	No. of Items	N per fitted Parameter	Construct Reliability
COE	3	20	.85
PATER	3	20	.74
NETWRK	3	20	.76
SHTERM	3	20	.86
PERSONAL	3	20	.84

As the constructs were all made up of three items, the congeneric models were just-identified and hence fit statistics could not be calculated. However, the analysis does provide clear evidence in support of convergent validity in that the item loadings were all high (only one falling below .7) and the construct reliabilities were almost identical to the Cronbach alphas from Table 6.5, all of them meeting the conservative benchmark of 0.7.

While the congeneric models are useful they pay no attention to external consistency – the relationship between the indicators for one construct and those for another. Hence they do not provide a test for uni-dimensionality. Nor do they provide a means of estimating the correlations amongst the constructs, which are of key importance here and which are required for a discriminant validity check. In order to provide that information each of the congeneric models was "fixed" and a full measurement model was fitted for the five characteristics of the CFB. That model fitted well having chi-square per df = 1.365, TLI = .950, CFI = .950 and RMSEA = .055.

Having demonstrated the unidimensionality and reliability of the constructs, they could be measured by using factor scores. That is not recommended for direct application because the principle of factor indeterminacy shows that such scores can only be estimated, not calculated directly and different estimation methods can rank the same observations differently on the same factor (Bollen 1989,p.305). However, in the context of structural equation modelling the latent variables/factors may be included as dependent or independent variables and the paths amongst them estimated as part of a structural or measurement model. Alternatively, 'factor-based scales' may be constructed for each of the strategy constructs, by simply summing the items which indicate each construct and taking their mean (in order to base each measure on an underlying 7 point scale). Table 6.7 shows the means and standard deviations for each of the factor-based scales, and the correlation matrix for both the factor based scales and the factors (taken from the freely estimated two-construct measurement models).

Table 6.7 Descriptive Statistics And Correlations For CFB Constructs
(Correlations above the diagonal are for the factors, as in the freely-estimated two-construct measurement models. Correlations below the diagonal are for the factor-based scales. Means and SDs are for the factor-based scales.)

	Mean	S.D.	CoV	1	2	3	4	5
1. CEO	3.84	1.62	.42		+.57**		+.43**	+.22**
2. PATER	4.66	1.22	.26	+.48***			+.40**	+.31**
3. NETWRK	4.24	1.23	.29	+.17*	+.16*			+.31**
4.SHTERM	3.86	.74	.19	+.22**	+.21**			+.31**
5. PERSONAL	3.31	1.49	.45	+.20**	+.24***	+.30***	+.26***	

CoV = co-efficient of variation = S.D/Mean

These results provide a number of insights. First, with respect to discriminant validity, the maximum correlation between any two constructs is +0.57, between the latent

variables for CEO dominance in decision-making and Paternalism. That poses no evident threat to discriminant validity and, if a more formal test is needed, placing a 90% confidence interval around the correlation for the factor scores it does not include a correlation of unity (Anderson 1987).

Second, the figures in Table 6.7 also show that there was substantial variation across the sample in respect of the CFB constructs measured. The co-efficients of variation ranged from .19 for SHTERM to .45 for PERSONAL and .42 for CEO.

6.6 Conclusions on the Measurement of CFB Characteristics

This chapter has identified five key characteristics of Chinese Family Business and has demonstrated that those five characteristics have been measured with appropriate levels of reliability, convergent validity and discriminant validity. It remains for the following chapter to address the third research question for this study by examining the links between these CFB variables and those representing the business strategies adopted by Hong Kong watchmaking firms.

Chapter 7 Strategy and the CFB

7.1 Introduction

Having measured five key characteristics of the Chinese Family Business in Chapter 6, it remains to investigate the relationship between these characteristics and the strategy variables developed and measured in Chapter 4. Those variables were:

Cost Leadership/ Emphasis on Efficiency (EMPEFF)

Price Leadership (PRICE)

Product Line Breadth (SCOPE)

Marketing Intensity (MKINT)

Intelligence Gathering/Environmental Scanning (ENVSCAN)

In addition to those five constructs, two additional aspects of strategy have been included in this part of the analysis, in recognition of Hong Kong's unique position with respect to the Chinese Mainland and the strategic choices provided by that position. The first of these is *China as a Source of Resources.* That construct was intended to tap the importance which firms place on the Chinese mainland as a means of accessing cheap labour, land and facilities. Following the discussion in Chapters 2 and 3 it is anticipated to have positive associations with those dimensions of strategy which represent the 'traditional' approach, negative associations with the 'up-grading' strategy variables and positive associations with the characteristics of the Chinese Family Business. The second was *China as a Market*, representing the extent to which

firms seek to develop new markets on the Mainland, suggested as part of the overall up-grading strategy by the Hong Kong Trade Development Council (HKTDC 1998). That construct was anticipated to have positive associations with the 'up-grading' strategy variables, most notably marketing intensity and environmental scanning, negative associations with the 'traditional' strategy variables and negative associations with the characteristics of the Chinese Family Business.

Neither of these constructs has been measured before and therefore two sets of questions, each made up of four items, were developed to measure them. The same procedures were followed as for the other variables. As Chinese wordings were not available for the questionnaire items new ones were developed and the procedures recommended by Bhalla and Lin (1987) were followed in order to secure conceptual equivalence. Each statement was first written in English, then translated into Chinese and then back-translated by two independent translators. There were only minor disagreements over wordings and these were easily resolved .

As the set of strategy variables had been extended, the exploratory factor analysis reported in Table 4.3 was re-run, with the additional items added in, giving the results shown in Table 7.1. That produced very similar results to the original analysis and showed that there were no problems with cross-loading between the original five strategy constructs and the two additional dimensions. However, that factor analysis included 27 questionnaire items and the sample size was only 120, thereby violating the requirement that there should be at least 5 observations per variable (Hair et al

1998). A series of five further factor analyses was therefore run, each time deleting one of the initial five strategy constructs in order to meet the sample size requirement while testing to see if there were any problems with cross-loadings between the strategy constructs and those representing the Mainland China dimensions. The results were encouragingly robust, with all of the factors appearing as anticipated in every EFA in which they were included, with no cross-loadings.

Having used the EFA as a preliminary step, the Cronbach alpha co-efficients were calculated for the two Mainland China Strategy dimensions, both of which exceeded .90, showing a very high degree of reliability.

As noted in the previous Chapters, it would be acceptable to proceed directly to calculate the factor-based scales and use them alone as the basis for the analysis. However, there are several advantages in taking a further step by using confirmatory factor analysis to test the measurement models and then incorporating those models in a second-order factor model, as explained below. The next step taken, therefore, following the procedure in Chapters 4 and 6, was to fit single factor 'congeneric' models for the two Mainland China dimensions. Those are shown in Table 7.2. As those results show, both of the 4-item constructs fitted well in respect of four of the five fit measures : chi-square per degree of freedom; TLI; GFI; CFI. The point estimates for the RMSEA were less than satisfactory, but the confidence intervals were wide and on balance the models were deemed acceptable in terms of fit. Construct reliabilities were very high.

Having tested the five initial strategy constructs in Chapter 4, the five dimensions of the Chinese Family Business in Chapter 6 and the two additional Mainland China Strategy variables, it is then possible to examine the relationships amongst them. A first approach is to examine the correlation matrix for all twelve constructs, as shown in Table 7.3.

Table 7.1 Exploratory Factor Analysis And Reliability Statistics For Factor-Based Scales Measuring The Strategic Dimensions

Factor 1 Cost Leadership/Emphasis on Efficiency (EMPEFF) Cronbach alpha = .71	Factor Loading	Corrected item –total correlation	Alpha if Delete Item
C1 Operating the factory at full capacity	.713	.47	.66
C2 Operating efficiency	.819	.68	.57
C3 Efficiency in getting materials and components	.615	.45	.67
C4 Reducing production costs	.613	.37	.69
C5 Efficient delivery to customers	.582	.41	.68
Factor 2 Scope (SCOPE) Cronbach alpha = .84			
C6 Offering a broad line of products	.847	.72	.76
C7 Offering a wide variety of products	.899	.82	.66
C8 Meeting the needs of all potential customers	.758	.59	.89
*C9 Selling to a small group of target customers**			
Factor 3 Price Leadership (PRICE) Cronbach alpha = .80			
C10 Selling at low prices	.842	.69	.72
C11 Pricing below other firms in the industry	.856	.72	.70
C12 Being a price leader	.672	.48	.82
C13 Offering a lower price for the same quality	.775	.60	.76
Factor 4 Marketing Intensity (MKTINT) Cronbach alpha = .68			
C14 Heavy spending on advertising	.696	.46	.68
C15 Intensive marketing effort	.780	.55	.63
C16 Building strong brand identification	.775	.48	.51
Factor 5 Intelligence Generation/ Environmental Scanning (ENVSCAN) Cronbach alpha = .76			
C17 Meeting customers to identify their future needs	.804	.627	.67
C18 Doing market research	.716	.596	.68
C19 Asking customers to assess the quality of our products	.828	.646	.66
C20 Collecting information on the industry	.600	.399	.79
Factor 6 China as a Market (CHINMKT) Cronbach alpha = .95			
C21 Selling watches in Mainland China	.832	.772	.96
C22 Developing the Mainland China market	.959	.929	.91
C23 Increasing sales in Mainland China	.969	.951	.91
C24 Finding new customers in Mainland China	.920	.873	.94
Factor 7 China as a Source of Resources CHINRES) Cronbach alpha = .93			
C25 Producing in China to keep costs down	.916	.872	.89
C26 Using lower cost facilities in China	.810	.727	.94
C27 Using cheaper labour in China	.925	.880	.89
C28 Using cheaper premises in China	.920	.862	.89

Table 7.2 Confirmatory Factor Analysis For Single Construct Models : Mainland China Dimensions

Construct	No.of Items	N per fitted Parameter	Chi-square per df	TLI	GFI	CFI	RMSEA	Construct Reliability
CHINMKT	4	15	2.61	.983	.978	.994	.116[a]	.95
CHINRES	4	15	2.01	.986	.983	.995	.092[a]	.93

[a] These are point estimates. The 90% confidence intervals are large and include acceptable values.

Table 7.3 also allows a first approach to answering the third research question posed by this study, by showing the correlations between the strategy variables on the one hand and the measures for CFB characteristics on the other. If the characteristics of the CFB are supportive of more 'traditional' business strategies, there should be a pattern of positive correlations between the CFB characteristics and those dimensions of strategy which are associated with the 'traditional' approach - Price Leadership (PRICE) and Cost Leadership (COST/EMPEFF). If the CFB characteristics also lead firms to regard Mainland China as a source of resources there should also be positive correlations between China As Source of Resources (CHINRES) and the CFB characteristics.

Similarly, if the characteristics of the CFB are inimical of 'up-grading' strategies, and of the development of the Mainland Chinese Market, there should be a pattern of negative correlations between the measures of those characteristics and the measures for Marketing Intensity (MKINT) , Environmental Scanning (ENVSCAN), Product Line Breadth (SCOPE) and China As Market (CHINMKT).

TABLE 7.3
DESCRIPTIVE STATISTICS AND CORRELATIONS
FOR STRATEGY AND CFB CONSTRUCTS

(Correlations above the diagonal are for the factors, as in the freely-estimated two-construct measurement models. Correlations below the diagonal are for the factor-based scales. Means and SDs are for the factor-based scales.)

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. COST/EMPEFF	6.07	.79		+.26**			+.29**							
2. SCOPE	5.47	1.24	+.31**			+.26**								+.25**
3. PRICE	4.04	1.33						+.41**	+.26**		+.32**			+.23**
4. MKINT	3.73	1.32	+.17*	+.22**			+.43**				-.28**		+.37**	
5. ENVSCAN	5.30	1.05	+.23**			+.34**				+.22*	-.36**			-.19*
6. CEO	3.84	1.62			+.38**				+.57**		+.43**	+.22**		
7. PATER	4.66	1.22		+.15*	+.21**			+.48**			+.40**	+.32**		
8. NETWRK	4.24	1.23					+.25**	+.17*	+.16*			+.31**		
9.SHTERM	3.86	.74				-.16**	-.21**	+.22**	+.21**			+.31**		+.28**
10. PERSONAL	3.31	1.49						+.20**	+.26**	+.30**	+.26**			
11.CHINMKT	2.56	1.59				+.32***			+.15**					
12.CHINRES	5.68	1.42		+.29***	+.20**						+.20***			

As the Table shows, there is quite strong support for these propositions, notably:

- Price Leadership had significantly positive correlations with Chief Executive Dominance, Paternalism, and China As Resources. Those results apply to both the factor-based scales and the factor models. Price Leadership was also positively related to Short Termism when using the correlations for the factors, though not for the factor-based scales.

- Marketing Intensity was significantly negatively related to Short-Termism and significantly positively related to China As Market, for both types of measure.

- Environmental Scanning was significantly negatively related to Short Termism (both approaches) and to China As Resources (in the factor model, though not for the factor-based scales).

On the other hand Networking is an important characteristic of the Chinese Family Business which was significantly positively correlated with Environmental Scanning. None of the CFB characteristics were significantly correlated with Cost Leadership, although that might be partly accounted for by the very limited variance in that dimension – cost leadership is of the highest importance for Hong Kong watch firms and varies only slightly from firm to firm, having the lowest co-efficient of variance, at .13.

While approaching the research question through the correlation matrix offers a simple and direct approach to the analysis it necessarily deals with individual pairs of variables in isolation, paying no attention to the relationships amongst the variables which are together being used to characterise the CFB. However, the broad proposition being tested here is not only that each individual CFB dimension is related to each dimension of strategy, but also that the underlying nature of the CFB itself has such links. A more sophisticated approach, which makes use of the measurement models already fitted, is therefore to conceptualize "Chinese Family Business-ness" (for want of a more elegant title) as a higher-order factor which itself determines the five dimensions associated with it. The analysis can then proceed in two stages.

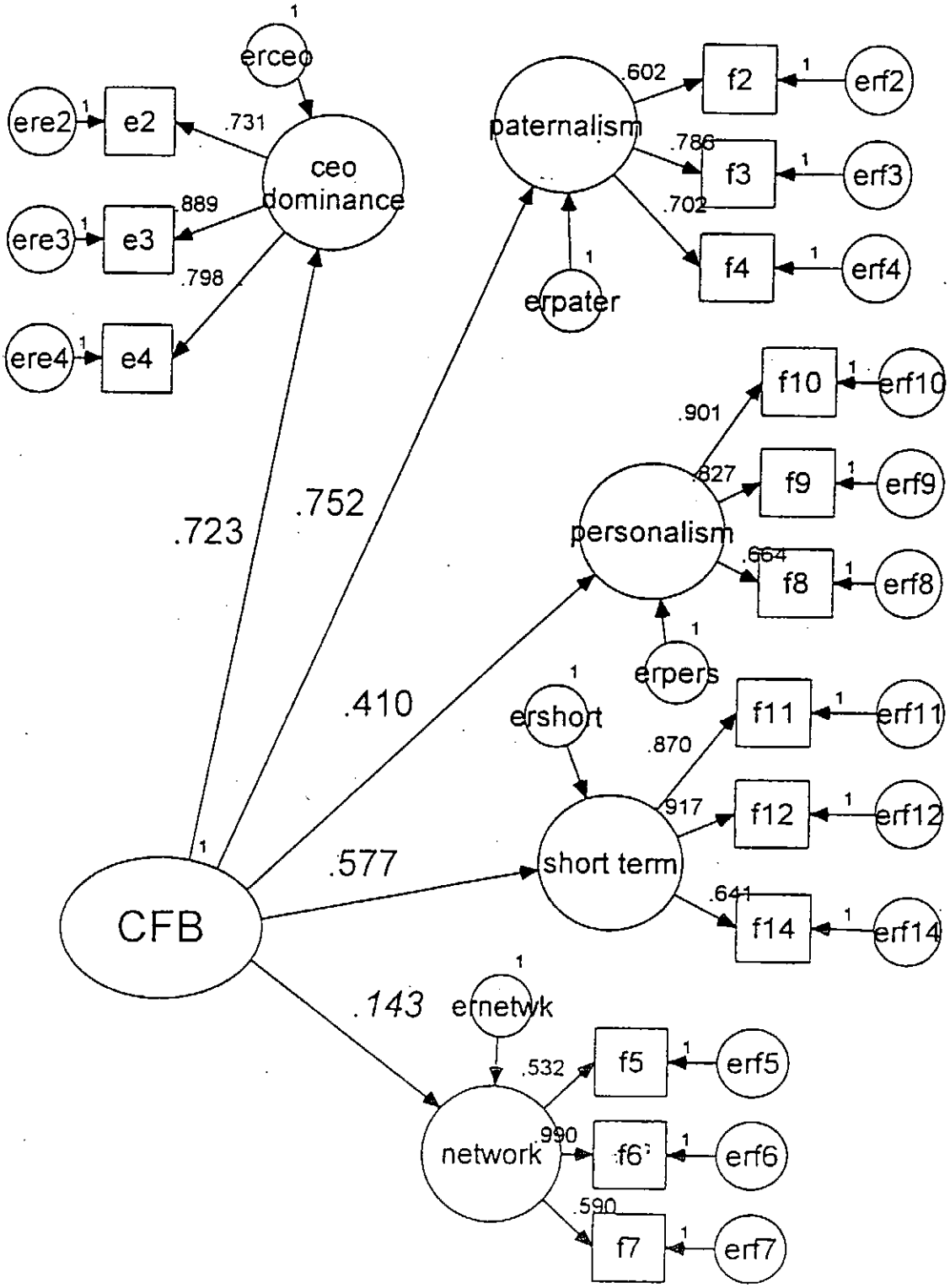
In the first stage a second-order factor model was fitted in which one second order factor, denoted CFB, determines the five CFB dimensions, represented by their congeneric measurement models (which are fixed in order to allow sufficient observations per parameter estimated). The results are shown in Figure 7.1.

As Figure 7.1 shows, the second-order factor model fitted very well with chi-square per df = 1.42, CFI = .940, TLI = .940, RMSEA = .059. The paths from the second-order CFB construct to four of the first-order constructs were highly significant (Pr < .01) with one exception. That exception was Networking, whose path from CFB was not significant, even at the 10% level.

That result was surprising in view of the importance ascribed to networking in the literature on the CFB and it warrants further investigation in future studies. However it is clear that as an empirical matter in this study the higher-level construct which underlies the other four variables, and which explains a large part of their variation (56.6% for Paternalism, 52.2% for CEO dominance, 16.8% for Personalism and 33.3% for Short-termism) is not significantly related to Networking. That finding is confirmed in that if the path from CFB to Networking is constrained to equal zero, the change in chi-square (1.603 for one degree of freedom) is not significant. In other words the fit for the more constrained model in which the path co-efficient from CFB to Networking is fixed at zero is not significantly worse than that in which the path from CFB to Networking is freely estimated.

Having found that Networking was not related to the CFB construct, it was deleted from the model, which was then re-run, showing slightly improved fit statistics and path co-efficients almost identical to those shown in Figure 7.1. In the next and final step, the paths from CFB to the individual CFB characteristics were fixed (in order to retain that model of the CFB) and then the seven strategy constructs were added, as shown in Figure 7.2 .

Figure 7.1
Second-order factor model with CFB
determining the 5 "fixed" congeneric models
Chi -square per df = 1.42;CFI = .94; TLI = .94;
RMSEA = .059



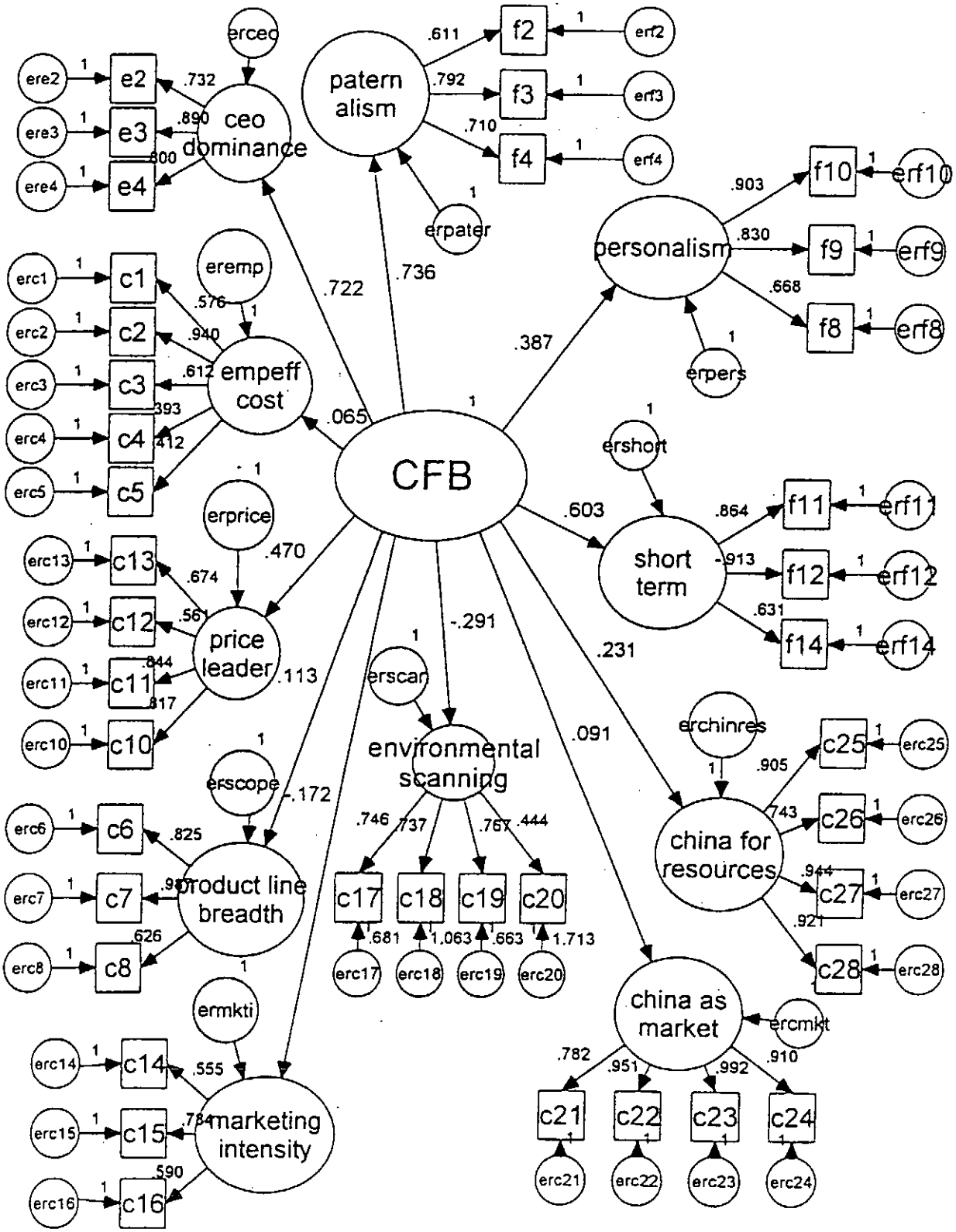


Figure 7.2
"CFB" determines 4 CFB characteristics
and 7 strategy dimensions
Chi -square per df = 1.33;CFI = .904; TLI = .907;
RMSEA = .052

As those Figures show, the models fit well, which is unsurprising as most of the co-efficients are drawn from the well-fitting congeneric measurement models, leaving just the path co-efficients and error terms to be estimated. Table 7.4 shows the standardized co-efficients for the paths from CFB to each of the strategy variables, and their significance, as found in the final model, represented in Figure 7.2.

Table 7.4 Standardized Path Co-Efficients From CFB To Strategy Constructs

From CFB to:	Standardized Co-efficient
Cost Leadership/Emphasis of Efficiency	.065
Scope/Product Line Breadth	.113
Marketing Intensity	-.172
Price Leadership	.470***
Intelligence Gathering/Environmental Scanning	-.291**
China As Source of Resources	.231**
China As Market	.091

***/** significant at 1%/ 5%

Of the paths from CFB to the seven strategy variables, just three are significant. The co-efficient from CFB to Price Leadership is significantly positive, as is that from CFB to China as Source of Resources. The co-efficient from CFB to Environmental Scanning is significantly negative. The paths from CFB to Marketing Intensity, Product Line Breadth, Cost Leadership and China as Market all had insignificant co-efficients.

These results are somewhat mixed in respect of the light they cast on the relationship between the characteristics of the Chinese Family Business and Hong Kong firms' approach to business strategy. On the one hand, the three significant relationships

found are all consistent with the broad proposition that "CFB-ness" is negatively associated with the adoption of 'up-grading' business strategies and positively associated with more 'traditional' strategies and with using Mainland China as a source of resources. There are no refutations of that broad proposition in the form of significant relationships having the opposite signs to those anticipated. On the other hand, for three of the five strategy variables, and one of the Mainland China variables, no significant link was found. There was no evidence that being a CFB is positively associated with Cost Leadership or negatively related to Product Line Breadth, Marketing Intensity or China as a Market. (Marketing Intensity had the expected negative co-efficient and approached but did not exceed significance).

In conclusion, it has proved possible in the context of the Hong Kong watchmaking industry to measure a set of characteristics which have been described in the literature as the central features of the Chinese Family Business, to measure a set of business strategy and Mainland China strategy variables and to examine the relationships amongst them. The results provide some support for the view that there is a natural association between the CFB and 'traditional' Hong Kong business strategies, specifically Price Leadership and China as Source of Resources. Similarly, there is support for the view that there is a tension between the nature of the CFB and business strategies based upon 'up-grading', particularly Environmental Scanning. However, other relationships were not found, suggesting that having the characteristics of a CFB does not necessarily restrict strategic choice in those respects.

Chapter 8 Review of Conclusions, Contribution, Limitations and Directions for Further Research

8.1 Review of Conclusions

This study has used the Hong Kong watchmaking industry as a setting in which to focus on two key issues. The first concerns the performance implications of 'up-grading' business strategies based less on securing low cost and price leadership and more upon intelligence-gathering, broader scope and more intensive marketing, when compared with the 'traditional' Hong Kong approach. The OLS and SEM results found some support for the 'up-grading' hypothesis in that the degree of emphasis placed on the price leadership dimension of strategy had a significantly negative relationship with the 'effective adaptation' dimension of performance (both OLS and SEM), while the extent of intelligence gathering had a significantly positive effect (SEM results only). However, while the regression and path co-efficients referred to were significant, the strategy variables explained only a very small proportion of the variation in that dimension of performance. The OLS results (but not SEM) also produced a result refuting the 'up-grading' hypothesis in that performance interpreted as 'satisfaction with achievement of objectives' was positively related to the traditional 'emphasis on efficiency' strategy and negatively related to 'scope', which is associated with the up-grading prescription. Overall, when the different dimensions of strategy were treated as independent variables that may affect performance, the

results provided little encouragement to those who advocate up-grading and who believe that it is inevitably accompanied by significantly better performance.

When the alternative 'configurational' approach was adopted, and the sample divided into two groups of firms, one made up of those whose strategies more closely matched a profile of 'traditional firms and one containing those that matched an 'up-grading' profile, there were no significant differences to be found across the groups in any of the three dimensions of performance which were examined. Taken together, therefore, the results cast doubt on the appropriateness of the call for up-grading that has characterised much of the discussion on industrial policy in Hong Kong and many other countries that have access to significant supplies of cheap and relatively unskilled labour.

The second issue on which this study focussed concerned the relationship between the characteristics which define the Chinese Family Business (CFB) and the business strategies adopted by Hong Kong firms. The key results for that part of the research were two-fold. First, the nature of the Chinese Family Business can be appropriately measured and represented as a second-order factor model in which "CFB-ness" is a second-order factor which determines a set of first-order factors, which in turn determine the observed responses to the questionnaire items. Second, if the same higher-order factor model is extended to include the strategy variables as additional first-order factors which are also reflective of "CFB-ness" the model continues to fit the data well and three significant relationships were found between the higher-order

factor and the strategy variables. Those relationships were that "CFB-ness" had: a positive relationship with price leadership; a negative relationship with environmental scanning, and; a positive relationship with using Mainland China as a source of resources. All of those relationships are consistent with the broad proposition that "CFB-ness" is negatively associated with the adoption of 'up-grading' business and positively associated with more 'traditional' strategies. There were no significant relationships pointing to a positive link between "CFB-ness" and any of the strategies associated with up-grading.

8.2 The Contribution Made By These Results

These results contribute to our understanding in two respects. First, they provide a link between the debate on the relative merits of comparative advantage versus up-grading or 'competitive advantage' at national level, exemplified by the arguments over Porter's *Competitive Advantage of Nations*, (Davies and Ellis, 2000), and the relationship between strategy and performance at the level of the individual firm. As such, they provide micro-level support for analysts like Lin et al (1996) who have argued that China's reform process has been so successful because it has been based on the country's comparative-advantage, often mobilised and made operational by foreign investors from Hong Kong. The support provided is relatively weak, because there was no evidence of a strong negative relationship between up-grading and performance. Nevertheless, the findings show that in an industry which is highly successful in the global marketplace moving away from competition based upon

comparative advantage does not bring the performance benefits which are often claimed for it. The results similarly reflect the conclusion of Brouthers et al (2000) in the 'triad' nation environments that superior performance accompanies the adoption of strategies that are a good "fit" with the firm's national environment. While these conclusions might seem self-evident to many observers, they are potentially important for policy-makers in Hong Kong and in other nations where politicians and business leaders are tempted by the apparent requirement to 'up-grade' and where potentially damaging resource allocations may be made (Warr, 1994).

The second contribution has been appropriately to measure some of the key characteristics that define the Chinese Family Business (CFB) and then to relate them to the business strategies adopted by Hong Kong firms. Although the CFB has been a major contributor to the success of East Asian industry, very little quantitative work has been carried out involving measurement aspects of the phenomenon and there has to date been no empirical work designed to examine the links between the characteristics which define the CFB and the business strategies adopted by it. Hence, this second contribution adds to the literature on organizational types and the relationship between culture, organizational type and strategic choice. In particular it sheds light on the way in which the 'strategic choice' exerted by Hong Kong firms is partly restricted by the characteristics of the CFB. Firms that exhibit those characteristics to a relatively high degree tend to adopt the 'traditional' approaches to competition, perhaps because they naturally dispose them towards certain resource allocations. A firm which has a short-term outlook, a dominant Chief Executive, and a

high degree of paternalism and personalism is well-configured to achieve efficiency and keep price down by closely monitoring production and commercial tasks. However, it is ill-disposed towards activities which require a longer-term view and a more outward focus, like scanning the environment, marketing and increasing product and market scope.

8.3 The Limitations of This Study

In common with every other study, this research has a number of limitations. They may be divided into two categories. The first concerns the need for caution in interpreting the results and the second concerns technical limitations of the methodology.

Perhaps the most important issue in respect of interpretation arises from the fact that the analysis has been 'variance-based', and the variance in question may not be large enough to represent genuinely substantive differences. The first key finding is that the adoption of 'up-grading' strategies does not lead to improvements in performance because the Hong Kong watch firms that scored higher on 'up-grading' did not exhibit superior performance. However, it could be argued that the firms in the sample, and Hong Kong watch firms in general, have not yet made sufficient progress away from the traditional approach to reap the performance benefits of a up-grading. On that interpretation the variation in strategies is relatively limited, with all firms following the "traditional" approach. The variation amongst them is simply variation

within a narrowly circumscribed range of strategic choices, arising at least partly from measurement error and survey methodology. After all, if every watch firm in Hong Kong were in truth adopting exactly the same strategy, there would still be measured differences along the strategy dimensions. To some extent the analysis here has addressed that issue (p.88) by comparing the co-efficients of variation found in the current sample with those found in other studies. That shows the variation found in Hong Kong to be of the same order as that found in US and Korean studies. Nevertheless, the threat to interpretation remains.

Even if Hong Kong watch firms do exhibit meaningful differences in respect of their strategies, not simply attributable to measurement problems, it needs to be recognised that the strategy measures used here represent the perceived importance placed by senior executives on the different dimensions of strategy. They therefore represent the companies 'intended' strategies which may differ from their 'realized' strategies (Mintzberg 1978). As noted on p.114, the actual prices reported showed no significant difference between the 'traditional' group of firms and the 'up-grading' group, which contradicts the difference found between them on the 'price leadership' dimension of strategy as measured. That may indicate that while the 'up-grading' group aspires to move away from the OEM posture they have not yet done so. Examination of the proportion of sales made under firms' own brand names showed that 'up-grading' firms had 'realized' their intention in that respect relative to firms pursuing the 'traditional' approach because fewer of them were totally dependent on customers brand names. However, even the 'up-grading' firms were still heavily dependent on

others' brand names. While the 'up-grading' firms were significantly different in the statistical sense from their 'traditional' counterparts in respect of the strategies intended they may not have moved substantively very far from the Hong Kong stereotype.

This may be interpreted in two ways. For the committed supporter of up-grading strategies it might be taken to show that Hong Kong firms have not yet made sufficient progress away from the traditional position to reap the performance benefits of a new approach. That would be a statement of pure faith but it is an interpretation that is consistent with the results presented here. Alternatively, it might simply reflect the fact that Hong Kong firms occupy a specific and large market niche, at the bottom end of the price spectrum. They are very successful in that niche, variations in realized strategy are bounded by it and within that limited 'strategic space' there are no significant performance differences between firms intending to 'up-grade' and those maintaining the 'traditional' strategy. Whichever interpretation is correct, there is ample room for further research.

In addition to this central problem of interpretation, which is shared by many variance-based studies, the current work has a number of other interpretive limitations. All studies that treat business performance as a dependent variable are problematical, for fundamental reasons described by March and Sutton (1997). In particular, as Child (2000) has pointed out, the direction of causation might possibly be reversed, with performance determining the strategies adopted. For instance, the

SEM results found a negative relationship between 'price leadership' and performance in the correlations and SEM results. Firms placing a greater emphasis on price leadership had weaker performance. That has been interpreted here as showing that price leadership leads to poor performance, a result that supports the 'up-grading' prescription. However, correlation does not prove causation and it might be argued that poor performance leads firms to place more emphasis on price leadership as a 'strategy of last resort', the direction of causation being reversed. Such problems of interpretation cannot be resolved but they need to be kept in mind when presenting the results.

The second category of limitation is made up of those concerning the technical details of the methodology. Restricting the analysis to a single industry provides a means by which industry effects can be controlled for (Namiki, 1989) and is resource-efficient for a study having limited funding. However, at the same time it raises questions of generalizability. The watch industry was chosen because in many ways it is 'typical' of the Hong Kong manufacturing sector and it is not unreasonable to suggest that the results may extend to other sectors. Nevertheless, generalizability remains to be demonstrated through further studies.

The sample size (N=120) represents a high response rate at 35% and is more than adequate in that respect. However, it is still relatively small and provides limited statistical power. Hence there is the possibility of Type II error whereby the small sample size produces false-negative results, finding no significant relationships when

in fact such relationships do exist in the population. Statistical power has been examined (pp.103, 111) and found to be acceptable for the detection of large or medium sized effects but the sample size was not large enough to detect small effects which might exist in the population.

The choice of constructs used to represent both strategy and the characteristics of the Chinese Family Business required decisions based to some extent upon subjective judgment to be made. In both cases the set of potential variables was very large and needed to be reduced in size in order to reduce respondent fatigue and protect the response rate (Dillman 1978). For the strategy variables, a sub-set of five was chosen, designed to provide broad coverage of the strategy domain while drawing on established constructs that have been pre-tested in a range of contexts, including Asia, and which reflected the debate on 'traditional' versus 'up-grading' strategies. While the criteria guiding their selection were made explicit (pp. 65-66) and the choice is defensible, other variables also meet those criteria and might have been included. Most notably it might have been helpful to include an explicit 'innovativeness' dimension. Similarly for the characterisation of the Chinese Family Business. Harjani (1999) identified and measured fifteen variables drawn from the qualitative literature. That represented too large a set of constructs and hence a sub-set of five was chosen by examining the literature for statements linking CFB characteristics with their strategies. That process necessarily involved an element of subjective judgment and it would have been more satisfactory, if impracticable, to have included the full set of fifteen variables.

8.4 Directions for further research

Although this study has made a contribution to the debate on 'traditional' strategies versus 'up-grading', on the measurement of CFB characteristics and on the CFB/strategy relationship, there is an ample room for further research. Some directions for that research have been indicated by this study's limitations.

First, it would be useful to extend the analysis to other industries in Hong Kong, and to other locations where the 'up-grading' versus 'traditional' debate has been taking place. While studies involving multiple industries would raise the problem of industry effects, a series of single-industry studies would address the question of generalizability. If industries containing a larger number of firms were examined then larger sample sizes would also be possible, addressing the problem of statistical power and Type II error. The Hong Kong electronics industry offers an interesting prospect in that respect. The 'up-grading' debate has also been in evidence in other Asian countries, including China, India, Indonesia, Thailand and the Philippines. In each of those cases there is an argument to be made that 'comparative advantage' remains a more appropriate guide to the disposition of resources and that 'up-grading' is a serious mistake. Hence it would be valuable to extend the analysis into those countries. They are also the location for Chinese Family Businesses, which would allow further exploration of the second and third research questions addressed here.

Second, it would be useful to employ a richer interpretation of both the traditional versus up-grading strategies and the Chinese Family Business characteristics by including a larger set of constructs to represent both of these broad ideas. In respect of the alternative strategies, there is ample room to include measures for both technological and organizational innovativeness, which would more fully represent the 'up-grading' debate. For the CFB it would be useful to include all fifteen of the variables that have been identified and previously measured. In both respects there would be a cost in terms of questionnaire length, respondent fatigue and the response rate. However, with additional resources those problems might be overcome, perhaps through direct administration of the questionnaire in an interview situation, as where Child et al (2000) were able to administer a 20 page questionnaire to 615 Hong Kong firms over a six month period.

Thirdly, it would useful to investigate the question of the relationship between 'intended' and 'realized' strategies. If and when firms in Hong Kong and Asia intend to change their strategies away from the traditional OEM, cost and price-based model, what are the barriers to the realization of that change in their strategic choice, are those barriers overcome and how? The analysis presented here has shown a statistical connection between CFB characteristics and certain strategies but the precise nature of the organisational mechanisms that link the two remains unclear. They might be usefully explored through more in-depth qualitative analyses of firms who are in the process of attempting to make changes.

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Appendix 1 Covering Letter

January 1999

Dear

Hong Kong's watch companies are globally very successful but very little is known about their characteristics and operations. We are carrying out an academic research project to begin filling this gap in knowledge.

In order to complete our project we need to collect data from a properly selected sample of companies. Your company has been chosen by a scientifically correct process and we would be very grateful if you could complete the enclosed questionnaire and return it to us in the pre-paid envelope attached. We have included both English and Chinese versions of the questionnaire, so that you can choose whichever is most convenient.

We have pilot-tested the questionnaire and it should not take more than 15 minutes of your time to complete. No commercially important information is required and the data will be used for academic purposes only.

Your response is very important to us and we value your participation very much. As a small token of that value we will donate $HK 20 to a charity for every complete questionnaire received. If you would like to nominate a charity, please just write the name on the survey form when you return it.

If you would like a copy of the Research Report when it is complete we would be glad to provide it for you.

Thank you

Howard Davies	Ma Suk-Ling, Catherine
Professor	Researcher

敬啓者:

現今，香港在全球的中，低檔成表製造上已具有領導地位。但是，有關該行業的市場環境特性，營運及商業表現等資料實爲不足。因此，本學系現正進行一項學術研究計劃去填補有關資料的不足.

爲了完成整項研究，我們以抽樣形式選擇有關公司爲調查目標。而貴公司已被挑選爲訪問目標其中之一。因此敬希 貴公司鼎力幫忙。 隨此函附上中' 英文版問卷各一份，貴公司可選擇其中一份來做作答。妥後的問卷,請用已附上郵費之回郵信封寄回本學系。

此問卷只雖花 貴公司少於十五分鐘便可完成。貴公司並不需要填寫任何商業上的重要資料，並且所有得到的資料是會絕對保密。

由於 貴公司的參與對我們的研究是有十分重要的影響。因此，爲表示對 貴公司的謝意，當收回每一份完成的問卷,我們會捐贈港幣20元到慈善機構。如貴公司喜歡對這些善款有個命名，當完成問卷時，只須在最後一頁填寫所命名的名字便可。
凡參與學術研究的公司,均可在研究完成後,獲取有關研究報告書的摘要乙份。

多謝

戴偉思	馬淑玲
教授	研究員

RESEARCH ON THE HONG KONG WATCH INDUSTRY

Appendix 2

This questionnaire is part of an academic research project. Your individual responses will be kept confidential and used only in collective form. Thank you very much for your time and help.

Part A: General Information about Yourself

1. What is your position in the firm?
   - ☐ Owner
   - ☐ General Manager
   - ☐ Managing Director
   - ☐ Other _____

Part B: General Information about your Company

2. How many full-time employees does your company have currently?
   In Hong Kong_____ In Mainland China _____
   Other countries, please specify_____ In Total _____

3. How many years has your firm been operating in the watch industry? _____
4. How many years has your firm been operating in China? _____

5. Which of the following are made by your company? (Please tick as appropriate)

Complete watches		Watch movements	
Watch cases		Other watch parts	
Watch bands or straps		Other products, please specify	
Watch dials			

6. Please indicate the approximate percentages for the following questions. (Please tick as appropriate)

	0-5%	6-10%	11-30%	31-50%	51-70%	71-90%	90%+
What % of your output by VOLUME is produced in China							
What % of your output by VALUE is produced in China?							
What % of your output by VOLUME is sold in China?							
What % of your output by VOLUME is sold under your own brand name?							

7. Please indicate the price range for the complete watches you produce. This means the ex factory (fob price) to your immediate customers.

Price per unit for your most expensive model : US$ _____
Price per unit for your lowest cost model: US$ _____
The average price per unit for your best selling watches: US$ _____

8. Which of the following market(s) does your company sell to? (Please indicate the approximate percentages for the following question)

Hong Kong	North USA	Mainland China	Western Europe	Japan	Others, Please specify

PART C: Business Operations

PLEASE RATE THE IMPORTANCE WHICH YOUR COMPANY PLACES ON EACH OF THE FOLLOWING.

	Not Important At All			Some Importance			Extremely Important
1. Operating the factory at full capacity	1	2	3	4	5	6	7
2. Operating efficiency	1	2	3	4	5	6	7
3. Efficiency in getting materials and components	1	2	3	4	5	6	7
4. Reducing production costs	1	2	3	4	5	6	7
5. Efficient delivery to customers	1	2	3	4	5	6	7
6. Offering a broad line of products	1	2	3	4	5	6	7
7. Offering a wide variety of products	1	2	3	4	5	6	7
8. Meeting the needs of all potential customers	1	2	3	4	5	6	7
9. Selling to a small group of target customers	1	2	3	4	5	6	7
10. Selling at low prices	1	2	3	4	5	6	7
11. Pricing below other firms in the industry	1	2	3	4	5	6	7
12. Being a price leader	1	2	3	4	5	6	7
13. Offering a lower price for the same quality	1	2	3	4	5	6	7
14. Heavy spending on advertising	1	2	3	4	5	6	7
15. Intensive marketing effort	1	2	3	4	5	6	7
16. Building strong brand identification	1	2	3	4	5	6	7
17. Meeting customers to identify their future needs	1	2	3	4	5	6	7
18. Doing market research	1	2	3	4	5	6	7
19. Asking customers to assess the quality of our products	1	2	3	4	5	6	7
20. Collecting information on the industry	1	2	3	4	5	6	7
21. Selling watches in Mainland China	1	2	3	4	5	6	7
22. Developing the Mainland China market	1	2	3	4	5	6	7
23. Increasing sales in Mainland China	1	2	3	4	5	6	7
24. Finding new customers in Mainland China	1	2	3	4	5	6	7
25. Producing in Mainland China to keep costs down	1	2	3	4	5	6	7
26. Using lower cost facilities in Mainland China to keep down costs	1	2	3	4	5	6	7
27. Using cheaper labour in China	1	2	3	4	5	6	7
28. Using cheaper premises in China	1	2	3	4	5	6	7

Part D: The Business Environment

	Very Few Changes			Some Changes			Very Many Changes
1. Over the past year, how many important changes have occurred in the behaviour of key.....							
suppliers	1	2	3	4	5	6	7
competitors	1	2	3	4	5	6	7
customers	1	2	3	4	5	6	7
governments or officials	1	2	3	4	5	6	7

PLEASE INDICATE THE EXTENT TO WHICH YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS.

	Strongly Disagree			Neutral			Strongly Agree
2. Our company works with many different types of customer and supplier	1	2	3	4	5	6	7
3. Our customers vary a great deal in respect of the products, the prices and the quality they want	1	2	3	4	5	6	7
4. Our company needs to be familiar with many different technologies	1	2	3	4	5	6	7
5. It would be easy for our customers to find an alternative supplier	1	2	3	4	5	6	7
6. We have a large number of competitors	1	2	3	4	5	6	7
7. Other companies often try to take away our customers	1	2	3	4	5	6	7
8. Competition in this industry is very fierce	1	2	3	4	5	6	7
9. The technology in this industry is changing rapidly	1	2	3	4	5	6	7
10. New technology give us good opportunities for profit	1	2	3	4	5	6	7
11. A large number of new products have been made possible by technological breakthroughs in this industry	1	2	3	4	5	6	7

Part E. The Role of the Boss in Your Company

1. In this company, the boss makes most decisions.	1	2	3	4	5	6	7
2. In this company, the boss does not spend much time consulting with middle managers before making a decision	1	2	3	4	5	6	7
3. This business heavily relies on one person in making decisions.	1	2	3	4	5	6	7
4. In this company, employees are not given authority to make decisions by themselves.	1	2	3	4	5	6	7

	Strongly Disagree			Neutral			Strongly Agree
Part F. The Nature of the Company							
1. In this company the boss is personally involved in what is going on.	1	2	3	4	5	6	7
2. In this company, employees are expected to accept the boss's decisions.	1	2	3	4	5	6	7

3. In this company, employees have to frequently ask the boss for instructions.	1	2	3	4	5	6	7
4. In this company the boss acts like a father-figure for the employees.	1	2	3	4	5	6	7
5. We exchange business knowledge and information with other watch companies.	1	2	3	4	5	6	7
6. We get information about business opportunities from our social contacts.	1	2	3	4	5	6	7
7. Everyday we make use of our personal business contacts.	1	2	3	4	5	6	7
8. Most of our new business is generated by introductions and personal referrals.	1	2	3	4	5	6	7
9. The relationship with our customers/suppliers is a personal one.	1	2	3	4	5	6	7
10. All our business contacts are based on personal relationships.	1	2	3	4	5	6	7
11. We rarely plan more than six months ahead.	1	2	3	4	5	6	7
12. We always plan more than six months ahead.	1	2	3	4	5	6	7
13. Most of our effort is focussed on improving performance over the next six months.	1	2	3	4	5	6	7
14. It is not practical for us to plan more than six months ahead.	1	2	3	4	5	6	7

Part G: Performance

1. We are very satisfied with the overall performance of our enterprise	1	2	3	4	5	6	7
2. We are very satisfied with our performance relative to our competitors	1	2	3	4	5	6	7
3. We have been very successful in achieving our strategic objectives	1	2	3	4	5	6	7
4. Our company does a good job in anticipating problems	1	2	3	4	5	6	7
5. We do a good job of keeping up with changes	1	2	3	4	5	6	7
6. Our company implements changes very quickly	1	2	3	4	5	6	7
7. When emergencies occur this company copes very successfully	1	2	3	4	5	6	7

Please rate the performance of your enterprise, now and in the last two years, in respect of the following objectives:

	Very Poor Performance			**Average**			**Excellent Performance**
8. Total Sales	1	2	3	4	5	6	7
9. Market Share	1	2	3	4	5	6	7
10. Total Profits	1	2	3	4	5	6	7

香港表業發展之研究

Appendix 3

香港理工大學商學系現正進行一項有關香港表業發展的學術研究。此項調查中的一切資料絕對保密。閣下或貴公司的名稱都不會刊登於研究報告中。
非常多謝你的寶貴時間及幫助。

第一部份：關於你個人的資料

1. 被訪者職位是?
   - ☐公司持有人
   - ☐ 經理
   - ☐ 行政董事
   - ☐ 其他 _____

第二部份：關於貴公司的資料

2. 貴公司現時僱用的全職員工人數是?
   在香港境內：_____ 中國境內：_____
   其他地方，請說明 _____ 總數：_____
3. 貴公司經營表業行業有多久? _____
4. 貴公司在中國經營表業行業有多久? _____

5. 以下那一類是貴公司現時所製造的產品 (可選多於一類)?

手表		表肉	
表殼		其他表部分	
表帶		其他產品, 請說明	
表面			

6. 請選出最接近的百份比去回答以下的問題

	0-5%	6-10%	11-30%	31-50%	51-70%	71-90%	90% +
貴公司的成表佔幾多百份比 (以產量計算) 是在國內製造的							
貴公司的成表佔幾多百份比 (以價值計算) 是在國內製造的							
貴公司的成表佔幾多百份比 (以產量計算) 是在國內銷售的							
貴公司的成表佔幾多百份比 (以產量計算)是用自己公司的牌子銷售的							

7. 請列出貴公司所製造的成表價錢範圍.

貴公司最貴的款色, 每單位的售價是： 美金$

貴公司最廉價的款色, 每單位的售價是： 美金$

貴公司最暢銷的成表, 每單位的平均售價是： 美金$

8. 以下那一(幾)類是貴公司現時所銷售的市場? (請用最接近的百份率回答)

香港	北美	中国国内	西歐	日本	其他市場，請說明

第三部份.商業策略

請評價貴公司對以下各項的重要性

	完全不重要						非常重要
1. 滿負荷生產	1	2	3	4	5	6	7
2. 生產效率	1	2	3	4	5	6	7
3. 採購零件及原料的效率	1	2	3	4	5	6	7
4. 削減生產成本	1	2	3	4	5	6	7
5. 運送貨品給客人的效率	1	2	3	4	5	6	7
6. 提供多種產品種類	1	2	3	4	5	6	7
7. 提供廣泛產品的系列	1	2	3	4	5	6	7
8. 迎合所有可能的顧客的需要	1	2	3	4	5	6	7
9. 售賣予一小撮主要顧客	1	2	3	4	5	6	7
10. 用低價錢售賣	1	2	3	4	5	6	7
11 定價較其他公司為低	1	2	3	4	5	6	7
12. 成為價錢領導者	1	2	3	4	5	6	7
13. 提供同樣品質但定價較低	1	2	3	4	5	6	7
14. 大量的花費在廣告方面	1	2	3	4	5	6	7
15. 密集式的市場努力	1	2	3	4	5	6	7
16. 建立強列的牌子認識	1	2	3	4	5	6	7
17. 與顧客會面確認他們未來所須要的產品	1	2	3	4	5	6	7
18. 做市場研究	1	2	3	4	5	6	7
19. 要求顧客對於我們的產品質素進行評估	1	2	3	4	5	6	7
20. 搜集同業資料	1	2	3	4	5	6	7
21. 到中國售賣成表	1	2	3	4	5	6	7
22. 發展中國市場	1	2	3	4	5	6	7
23. 增加中國市場的銷售	1	2	3	4	5	6	7
24. 在中國尋找新的顧客	1	2	3	4	5	6	7
25. 到中國生產為了減低成本	1	2	3	4	5	6	7
26. 為了減低成本, 利用中國較低成本的設備	1	2	3	4	5	6	7
27. 利用中國較廉價的工人	1	2	3	4	5	6	7
28. 利用中國較廉價的房產	1	2	3	4	5	6	7

第四部份. 商業環境

	非常少的轉變			有些轉變			非常多的轉變
1. 在過去一年，對於以下有關方面的行為，有幾多重要的轉變已經發生...							
供應商	1	2	3	4	5	6	7
競爭對手	1	2	3	4	5	6	7
顧客	1	2	3	4	5	6	7
政府或官員	1	2	3	4	5	6	7

請用以下級別來顯示閣下對以下問題的看法：

	非常強烈不同意			中立			非常強烈同意
2. 我們的公司與很多不同種類的顧客及供應商合作	1	2	3	4	5	6	7
3. 我們顧客對產品, 價錢及所需求的服務程度也有很大的不同變化	1	2	3	4	5	6	7
4. 我們的公司須要熟悉幾種不同的科技技術	1	2	3	4	5	6	7
5. 我們的顧客, 可容易找到其他的供應廠商	1	2	3	4	5	6	7
6. 我們有很多競爭對手	1	2	3	4	5	6	7
7. 其他公司經常嘗試奪去我們的顧客	1	2	3	4	5	6	7
8. 這行業內的競爭十分強烈	1	2	3	4	5	6	7
9. 在這行業, 科技轉變迅速	1	2	3	4	5	6	7
10. 新科技提供我們賺利潤的好機會	1	2	3	4	5	6	7
11. 在這行業, 大部份的新產品皆由科技突破而產生	1	2	3	4	5	6	7

第五部份. 老闆在公司所扮演的角色

1. 在這公司, 老闆作出大部份的決定	1	2	3	4	5	6	7
2. 在這公司, 不論作出任何決定之前, 老闆亦沒有利用太多時間與中層經理商討	1	2	3	4	5	6	7
3. 這公司非常依賴一個人作出決策.	1	2	3	4	5	6	7
4. 在這公司, 僱員沒有被給予權力作出決定	1	2	3	4	5	6	7

第六部份. 公司的性質

	非常強烈不同意			中立			非常強烈同意
1. 在這公司, 老闆會親自的牽涉下一部將會發生的事情	1	2	3	4	5	6	7
2. 在這公司, 僱員 期望的接受老闆所作出的任何決定	1	2	3	4	5	6	7
3. 在這公司, 僱員經常詢地問老闆的指示	1	2	3	4	5	6	7
4. 在這公司, 老闆會扮演類似 僱員 的父親姿態	1	2	3	4	5	6	7
5. 我們會與其它公司交換商業消息及情報	1	2	3	4	5	6	7
6. 我們是透過社交活動去獲得商業機會的消息	1	2	3	4	5	6	7
7. 我們每天都利用我們私人的商業 聯繫	1	2	3	4	5	6	7
8. 我們大部份的新客是經私人的介紹及推薦而造成的	1	2	3	4	5	6	7
9. 我們與顧客 / 供應商 的關係是私人性質的	1	2	3	4	5	6	7
10. 我們公司所有的商業聯繫是建基於私人關係的	1	2	3	4	5	6	7
11. 我們甚少有多過六個月的計劃	1	2	3	4	5	6	7
12. 我們經常有多過六個月的計劃	1	2	3	4	5	6	7
13. 我們大部份的努力都集中於改善在未來六個月的業績	1	2	3	4	5	6	7
14. 對於我們公司來說, 多過六個月的計劃是不設實際的	1	2	3	4	5	6	7

第七部份. 商業表現

1. 我們十分滿意本公司的整体表現	1	2	3	4	5	6	7
2. 與我們的競爭公司比較下, 我們十分滿意本公司的表現	1	2	3	4	5	6	7
3. 我們十分成功達成商業策略上的目標	1	2	3	4	5	6	7
4. 我們公司在預料問題方面的功夫做得很好	1	2	3	4	5	6	7
5. 我們在適應轉變方面的功夫做得很好	1	2	3	4	5	6	7
6. 我們公司對轉變實行應變非常迅速	1	2	3	4	5	6	7
7. 當有緊急事故發生, 本公司能成功地應付	1	2	3	4	5	6	7

請評價貴公司在過去兩年內在以下各方面的表現情況:

	十分差的表現			一般的表現			有卓越的表現
8. 總銷售額	1	2	3	4	5	6	7
9. 總市場占有率	1	2	3	4	5	6	7
10. 總利潤	1	2	3	4	5	6	7