



The Agile Firm Model in Hong Kong and the Pearl River Delta

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Executive Summary

It is the purpose of this report to present and discuss findings from two surveys of electronics firms in HK and the PRD. The paper examines how the agile firm model works and whether it can be transformed into a sustained competitive advantage on world markets. Agility refers to a combination of flexibility and informality in business practices which enables firms to adapt to changing industry and market conditions in a highly competitive and rapidly changing business environment.

Strategic Orientation and Performance

Most firms in HK and the PRD are facing *increasing competition* in the market of their main product, while changes of government regulations and the volatility of prices and demand are hard to predict. Most *changes in industry and market conditions* are better anticipated by firms in HK or by HK-owned firms in the PRD. When customers require a quick *expansion of production capacity*, the hiring of workers is the most serious bottleneck.

Firms in HK are using a more diversified *mix of strategies* than firms in the PRD as a result of more sophisticated processes of strategy formulation. Smaller firms are often short-term-oriented. Informality, c.f. *personal networks*, are more important for doing business in the PRD than in HK. Most firms use them more as an opportunity to increase flexibility and responsiveness than as a necessity to survive in an uncertain institutional environment. In the future, firms will still capitalise on informality in accordance with the agile firm model to increase their flexibility.

Firm strategy has a significant impact on *performance*. Innovation- and improvement-oriented strategies result in significantly higher growth rates than short-term orientation. However, many companies are still able to perform well without applying the latest technology and radical innovation. Firms in the PRD with a HK link perform better than those without.

Customer-producer relations

Customer-producer relations are analysed to determine whether *informal modes of interaction result in higher flexibility*. The electronics industry in HK and the PRD is *well connected to global markets*. They have to adapt to the flexibility required by leading global firms. In this context, firms in HK apply informal modes in their customer producer relations, but always in combination with more formal modes. This is their way of increasing flexibility.

Firms in HK organise their *relations to customers on a market basis* to achieve flexibility, but they prefer *full control of their producers* in the PRD. Recently, more firms in HK have been cooperating with Chinese producers instead of expanding their own production facilities. When firms in HK select *cooperation partners*, they apply a combination of formal and informal modes to flexibly

choose the most appropriate option. Firms need to *minimise negotiation time* to compete on a global scale. Our survey results indicate that cooperation based on informal modes of understanding can guarantee a quick and flexible response on global markets. Half of the firms in HK settle *conflicts with producers* by negotiations based on informality in order to keep privacy and confidentiality. Informal modes increase the choice of options to solve disputes.

The Role of Agility for Innovation

Firms operating in HK and the PRD are encouraged to engage in more innovation activities to cope with intensified competition. These activities, however, require long-term capital investment and innovation outcomes usually involve a high degree of uncertainty. The agility concept is expected to play an important role not only in allowing rapid adjustments to market volatility and new market needs, but also in aiding the innovation operation of firms in HK and the PRD.

Our analysis finds that firms in HK and the PRD indeed tend to apply certain informal methods to better utilise the great behavioural scope of external sources and cooperation partners, which can then increase their flexibility with respect to different aspects of innovation activities. However, not all informal factors are of the same importance in this regard. “Long-term business relationships”, “expertise” and “reputation” are the informal, but quality-related factors seen to have greater importance, compared to others such as “spatial proximity”, “cultural similarity” and “pure personal relationships”. Such differentiation may be attributed to the specific long-term and costly characteristics of innovation activities and different potential influences of different informal factors on the partners’ or information providers’ opportunistic behaviour as perceived by firms in HK and the PRD.

In addition, we have found that applying informal factors such as “reputation”, “expertise” and “long-term business experiences” in innovation activities is indeed advantageous for the sales performance of firms in HK. In contrast, such positive effects can not be found in case of the PRD. The extensive business networks and business experience of firms in HK may be one of the reasons for greater effectivity in turning the positive effects of informal practice into increased operational flexibility and further improvements in business performance.

Recommendations

We conclude that HK SMEs should continue to capitalise on innovative combinations of formal and informal business practices. If both are integrated, as suggested by the agile firm model, it will offer a unique possibility to transform the recent strengths of HK manufacturers into a sustained competitive advantage. Based on our data, we have derived recommendations as to how HK firms could *strengthen the agile firm model* and what they should do to *improve their competitiveness* in addition to being agile.

1 Introduction

The opening of China during the last thirty years has resulted in tremendous cross-border economic activities by Hong Kong manufacturers in the Pearl River Delta (PRD). The ‘front office-back factory’ business model has facilitated the rapid industrialisation of the PRD and the transformation of the HK economy towards sophisticated manufacturing-related business services (FHKI 2007). More recently, the competitiveness of the business model has been put under strain by forceful challenges changing the business environment in the PRD: rising production costs, upgrading pressures, new regulations for export processing businesses, labour shortages, more employee-friendly labour laws, and environmental issues. On the global scale, the oil price hike, quality concerns, economic downswing in major customer markets, and new competitors at other locations are major issues.

Against this background, it is the purpose of this report to present and discuss findings from two surveys of electronics firms in HK and the PRD conducted in 2007 and 2008. The project is based on the agility hypothesis which supposes that business in highly competitive environments depends on competencies and resources of firms to capitalise on formal and informal business practices alike in order to gain flexibility. The results of our analysis may help to better understand how the HK-PRD business model developed and how it may be able to sustain its competitiveness in the face of new challenges.

The agile firm model: In emerging economies such as China, economic activities of many companies are still located at the lower end of the value chain. Cost efficiency usually outweighs the requirement of advanced technological capabilities in such an environment. In this context, agility refers to a combination of flexibility and informality in business practices. Agility can be defined as flexibility achieved by informal business practices. Informality refers to the nature of social ties and codes, while formality is characterised by explicit rules, for example oral versus written arrangements, open-ended versus precise agreements, personal versus impersonal processes. In this paper, informality is not used with negative connotations, but rather as a term indicating a zeal for economising transactions. Flexibility is a firm’s ability to adapt itself to changing industry and market conditions in a highly competitive and rapidly changing business environment.

Structure of the report: Chapter 2 gives an overview of the two surveys which is followed by an analysis of industry and market conditions, strategic orientations, and performance. Chapter 3 focusses on customer-producer relations. Chapter 4 analyses to what degree the firms interviewed are engaging in innovation and upgrading activities to sustain their long-term competitiveness. The final chapter provides recommendations on how to remain competitive by using agile firm organisation.

Data and methods: The data for this paper has been collected from two surveys of electronics firms in HK and the PRD. The electronics industry has been selected because it is the most important manufacturing industry in the PRD and closely connected to HK via cross-border business models. The electronics industry covers a broad range of activities from household appliances and consumer electronics to semiconductors and integrated circuits. It consists of companies which produce parts and components, and companies which assemble final goods. In the HK survey, 3,000 randomly sampled companies from the HKTDC database were contacted and 104 firms were interviewed by the Social Science Research Centre of Hong Kong University. In the PRD survey, firms were selected from the Guangdong Electronics Company Catalogue 2007 (Dongguan) and from a list of the Statistical Bureau of Guangzhou (Guangzhou) in special industrial districts with a high density of electronics firms. In total, 222 interviews were carried out. 116 of these firms are located in Guangzhou, 89 in Dongguan, and 18 in adjacent districts. In addition to the surveys, we conducted in-depth interviews with large electronics companies in Hong Kong and with experts in HK and the PRD, for example with bankers, lawyers, traders, politicians, and academics.

2 Strategic Orientation and Performance

Description of the sample and the HK-PRD link: 79 out of 104 companies in HK are wholly HK-owned firms, 14 are joint ventures with HK firms, and 11 firms have no owner from HK. 124 firms in the PRD are wholly Chinese-owned companies, 74 are wholly foreign-owned and 19 are joint ventures; 5 did not disclose their ownership. 39 companies out of 222 in the PRD are HK-owned. Firms in HK are on average 14 years old and have been active in the PRD for 11 years. Firms in the PRD are just 9 years old on average, Chinese-owned just 7 years.

All firms in the HK sample have producers in the PRD. This was ensured by the sampling criteria. These producers can be managed by the HK firm via ownership, networks, or the market. The different forms will be analysed in chapter 3 on customer and producer relations. Since the PRD sample consists of firms with various types of ownership, the HK link could occur on different levels. For example, 18% of the firms are HK-owned, 40% of the firms have their most important customer in HK and 65% have at least one out of 16 possible linkages with HK¹.

All HK operations of firms in HK have less than 100 employees, since we used this threshold as the sampling criteria for HK SMEs in the HKTDC database. The sizes of the PRD operations of firms in HK and the PRD are compared in Table 2.1. Since labour-intensive production is carried out

¹ Besides more obvious connections such as ownership or various trading links, firms in the PRD could be connected to HK via sourcing, marketing, financing, etc.

there, the employment figures are significantly higher than in HK. Chinese firms in the PRD are significantly smaller than firms with non-Chinese owners. However, most of the larger Chinese-owned firms have a HK link which results in the significantly larger size of these firms in comparison to firms without any HK link.

Table 2.1: Employees of firms in the PRD

employees	firms in HK (n=89)	firms in the PRD (n=213)					
		total	ownership			with HK link	without HK link
			Chinese	HK	other		
500 and above	30%	26%	13%	47%	39%	39%	4%
100 - 499	30%	38%	36%	32%	47%	38%	38%
1 - 99	39%	36%	52%	21%	14%	23%	58%

Note: Figures may not add up because of rounding in this and all subsequent tables

Source: own survey

Industry and market conditions in HK and PRD: In this section we will analyse how the interviewed companies assess the intensity of competition in their market and the predictability of changes in industry conditions, for example price, demand, availability of labour. The results reveal a high degree of competitive pressure and the need for firms to adapt quickly to unforeseen changes.

The overwhelming majority of firms in HK and the PRD are experiencing increasing competition in the market for their main product. At the same time, most firms indicated that their major markets are still growing, with significant differences between HK (51%) and the PRD (67%). Younger firms are more often active in growth markets while older firms may find it more difficult to enter emerging markets.

Table 2.2: Predictability of changes of industry conditions

industry condition	firms in HK (n=104)	firms in the PRD (n=222)					
		total	ownership			with HK link	without HK link
			Chinese	HK	other		
price	2,8	2,9	3,1	2,6	2,7	2,8	3,2
volume	3,0	3,0	3,1	2,8	2,9	2,9	3,2
quality requirements	1,9	2,4	2,6	2,2	2,4	2,3	2,6
delivery times	2,0	2,2	2,3	1,8	2,1	2,2	2,2
resources/supplies	2,3	2,6	2,8	2,5	2,4	2,4	2,9
availability of workers	3,0	3,0	3,1	2,8	2,9	3,0	3,0
regulations in PRD	3,6	3,3	3,4	2,9	3,2	3,2	3,4

note: average score on a scale from 1 (very predictable) to 5 (not predictable),

bold figures indicate a significant difference at the 5% level for Chinese- and HK-owned firms

Source: own survey

The companies were asked to assess the predictability of changes for a set of industry conditions. Government regulations in China were said to be the least predictable condition (Table 2.4). The required quality of products and delivery times are apparently easy to predict, while labour supply is less predictable. Price and volume of orders are prone to quite unforeseeable changes. Therefore,

firms have to adjust very quickly to these conditions, for example by scaling up their facilities or by increasing efficiency. This is a major reason for the need for agility for firms operating in the PRD.

A comparison between firms in HK and the PRD reveals that being in or connected to HK increases the predictability of industry conditions. Chinese firms in the PRD indicated the lowest overall predictability. A major reason for this result could be the close connection of HK firms to their global customers.

If firms have to expand their production capacity very quickly, workers are the most serious bottleneck. HK-owned firms in the PRD generally find it much easier to expand production capacity than their Chinese counterparts whose most significant problems are finance and expertise for mastering a quick expansion.

Strategic orientation: The firms in both surveys had to choose which of six generic strategic orientations best fits with their company. The results have to be interpreted along with the consideration that HK-owned firms are, on average, more advanced in terms of technological and market development than Chinese firms. Due to long-lasting links to customers on the global scale, HK firms have had much more time to implement advanced and specialised strategies. Within the PRD, foreign-funded and HK-Macau-Taiwan-invested enterprises are carrying out innovation activities more regularly and spend a larger share of their revenue for these activities than Chinese-owned firms (Kroll, Schiller 2008).

Table 2.3: Strategic orientation of firms in the HK and PRD surveys

strategic orientation		firms in HK	total	firms in the PRD (n=216)		
		n=102		Chinese	HK	other
innovation	long-term upgrading	36%	56%	53%	62%	57%
	new brands and trends	12%	7%	5%	8%	10%
improvement	entering niche markets	14%	3%	4%	3%	2%
	follower of emerging trends	10%	8%	11%	5%	7%
short-term orientation	just responding to orders	16%	12%	14%	10%	7%
	short-term opportunities	13%	14%	13%	13%	18%

Source: own survey

Table 2.6 shows that the strategy mix of firms in HK differs significantly from that of firms in the PRD survey. Firms in the HK survey are using a much more diversified mix of strategies, which is especially reflected by higher shares for new brand introduction and for entering niche markets. The high share of firms with a long-term upgrading strategy in the PRD could reflect the fact that basic technological and marketing capabilities have to be achieved by many recently founded firms there. A short-term orientation is especially relevant for smaller companies in the HK survey.

Informal aspects of firm strategies: The analysis of industry conditions revealed that uncertainty arises, for example, from volatile volumes and prices, and from government regulations. Uncer-

tainty can be reduced by strategies that are based on informal governance modes, for example business networks or open-ended contracts. 68% of the firms in HK confirmed that personal networks are more important for doing business in the PRD than in HK, 23% did not see a difference, and only 8% thought that informality is more important in HK.

The reasons for using personal business networks and other forms of informal governance are two-fold: on the one hand, they could serve as a substitute for formal governance, since the institutional framework in the PRD is still far less sophisticated than that of Hong Kong and the transition to a market economy is yet incomplete (c.f. World Bank 2006 and Transparency International 2008), and on the other hand, the barely predictable changes in market conditions and the need to react quickly and flexibly to these changes are making economic transactions more efficient if they are based on a certain degree of informality. If informality is used as an opportunity to increase the flexibility of a firm, it is the indication of an agile business model.

Table 2.4: Reasons for fulfilling business tasks via personal networks in the PRD

firms in HK (n=104)	total	founded before 2001	founded in 2001 or later
to increase the operational flexibility	63%	62%	69%
to respond quickly to customer demands	61%	60%	62%
to substitute for missing laws and regulations	56%	60%	42%
to substitute for formal business rules	48%	54%	31%
to reduce risks and uncertainty	39%	41%	35%

note: percentage of 'very important' (1) and 'important' (2) on a scale from 1 (very important) to 5 (not important)

Source: own survey

The results in Table 2.4 show that most firms are using personal networks as an opportunity to increase the firm's flexibility and responsiveness. Informality born of necessity is even less important for younger firms due to improvements in the institutional environment. At the same time, the importance of opportunity informality does not decline. We conclude that informality will remain an important element of business strategies in both HK and the PRD.

Table 2.5: Tasks which are fulfilled via personal relations to government officials in the PRD

firms in HK (n=104)			
permissions for production/investment	56%	expansion of company size	34%
solving business disputes	52%	access to resources	31%
access to buildings, land	51%	financial support from government	23%
sales concessions	49%	access to workers	23%
access to business-related information	36%		

note: percentage of 'very important' (1) and 'important' (2) on a scale from 1 (very important) to 5 (not important)

Source: own survey

Personal relations to government officials are especially important for opening new businesses or production facilities in the PRD (Table 2.5). As soon as a production facility has been successfully set up, the need for personal relations to the government decreases significantly. Access to workers or the expansion of existing production facilities is less likely to be realised via informal govern-

ment relations. As mentioned above, personal relations to the government do not necessarily mean corruption or cronyism, but they acknowledge the fact that many official procedures are not yet efficient enough to allow for sufficient flexibility in global markets.

Firms in HK have also been asked to assess the importance of personal networks in the PRD in the future. The results are inconclusive. 39% think that they will be more important, 39% expect less importance. This supports the proposition that informality in the PRD will not disappear over time, even though the business environment is improving. Firms will still capitalise on the opportunity to use informality in accordance with the agile firm model to increase their flexibility.

Performance: This final section of the general overview relates some of the factors that have been discussed above to some rather simple performance measures. We used the average annual growth rate since 2002 for sales and profits. In order to increase the response rate for the questions about performance, we did not ask for the exact figure, but defined four classes: decline (<0%), marginal growth (0-2%), modest growth (2-10%), and high growth (>10%). The influence of single factors on performance has to be interpreted with caution since additional explanatory variables might be hidden, for example if larger firms have a better performance than smaller ones, this might be due to the fact that larger firms could realise economies of scale or because they are more often pursuing innovation-oriented strategies. These interrelations can be identified by multiple regression models which are beyond the scope of this paper.

Table 2.6: Share of firms with high and modest growth by ownership and strategic orientation

	total	ownership			strategic orientation		
		Chinese	HK	other	innovation	improvement	short-term
firms in HK (n=103)							
sales	69%	...	...	...	80%	74%	78%
profit	55%	...	...	...	59%	60%	41%
firms in the PRD (n=207)							
sales	78%	76%	82%	82%	86%	71%	68%
profit	55%	49%	56%	67%	64%	36%	47%

note: average annual growth rate since 2002, high >10%, modest 2-10%, marginal 0-2%, decline <0%

Source: own survey

The distribution of firms among the growth classes differs significantly between the two samples for sales and profits. Table 2.6 reveals that firms in the PRD realised higher growth rates than firms in HK. The better sales performance in the PRD could be a result of the high ratio of intermediate goods that have to be imported by firms in the PRD which lack sufficient capabilities to produce technologically advanced products themselves.

Firm strategy has a significant impact on sales and profit growth as also shown in Table 2.6 for three summarised strategic orientations. Firms that are actively oriented towards innovation or improvements have a significantly higher rate of growth than firms with a short-term orientation in

both samples. In HK, the majority of short-term-oriented firms realise marginal growth or decline in sales and profits. Firms with improvement strategies perform better in terms of sales than their innovation-oriented counterparts, but profit performance is better for the innovation-oriented companies: This finding confirms that increased efficiency is achieved by innovation. However, innovation-orientation is connected with higher risks. This is documented by a higher rate of declining performance for innovation-oriented firms in comparison to improvement-oriented ones.

The fact that different degrees of upgrading result in good performance can be seen as a reason for the strategic diversity in HK. Many companies are still able to perform well without applying the latest technology and the most radical approaches towards innovation. Therefore, policy initiatives aiming solely at the support of high-tech industries do not fit with the recent situation of the electronics industry in HK. Instead, the fostering of upgrading activities at all technological levels seems to be more appropriate.

High growth rates in the PRD are only reached by innovation-oriented companies. The share of declining performance is even lower for innovation-oriented companies than for the others. Surprisingly, innovation seems to have a more positive effect in the PRD than in HK. Once again, it has to be kept in mind that innovation activities might occur on a different level in the PRD than in HK. Despite the above mentioned political and regulatory risks, the achievement of basic technological capabilities seems to be essential for PRD firms.

A greater efficiency of innovation-oriented growth is documented for firms in the PRD. The difference between innovation- and short-term-oriented firms is larger for profits than for sales. However, it is worth noting that short-term-oriented firms in the PRD are performing better in terms of profit growth than improvement-oriented ones. Apparently, the recent transitory stage of the PRD economy still leaves sufficient opportunities for short-term strategies and for innovation-oriented strategies simultaneously.

If firms in the PRD are compared according to ownership, HK-owned firms are reaching higher sales and profit growth than Chinese firms. Other foreign-funded firms are growing fastest in the PRD. A HK link has a positive influence on sales and profit growth. 81% of firms with a HK link reach modest and high sales growth as opposed to 71% without such a link. In terms of profit growth, the difference is even bigger with 62% to 44%.

3 Customer-Producer Relations

As firms cannot survive as single units in the globalised world, they are integrated into network structures. A major competitive advantage of the firms in HK and the PRD is the excellent and

well-functioning firm network there. This section seeks to analyse and highlight the special structure of relations between firms and their customers and producers in HK and the PRD production network. Firstly, the spatial distribution of customers and producers will be outlined. Secondly, the organisation of relations to customers and producers will be analysed and finally, the way firms in HK and PRD smooth their relations by informal modes will be examined.

The integration of HK and the PRD into the world economy: The integration into the world economy can be illustrated by examining the spatial distribution of customers and producers. Firms in HK and the PRD were asked to indicate the location of their most important customer and producer. HK firms' most important customers are mainly located in final markets, meaning North America (23%) and Europe (22%). The international embeddedness of firms in HK requires flexibility in terms of speed and creative solutions to compete on the international market.

In contrast, 40% of all firms in the PRD have their most important customer in HK. Final markets of surveyed firms in the PRD (China: 38%, North America and Europe: 23%) differ substantially from the location of their most important customer. This illustrates that firms in HK have an essential role as a customer for products manufactured in the PRD. Firms in HK and the PRD work on different steps in the global value chain system. Only some firms in the PRD take on a position in the global value chain comparable to firms located in HK. Conversely, firms in HK mainly indicated their most important producer to be located in the PRD. Thus, firms in HK indicated that Shenzhen and Dongguan each host 39% of the main producers. In comparison, only 3% of surveyed HK firms' producers are located in Guangzhou.

As the business models connecting firms in HK with Shenzhen and Dongguan are expected to be similar, the PRD survey was conducted in Guangzhou and Dongguan to give a comparison. 41% of the firms in the PRD survey are located in Dongguan and another 53% are located in Guangzhou. Despite the extensive international distribution of customers, the production networks of electronics firms in HK and the PRD are locally concentrated. This could be an essential characteristic for the agility of firms in the PRD.

Modes of organising customer producer relations in HK and the PRD: Firms in HK mainly organise their production in the PRD within their own company (full control). But they could also choose to organise their production in joint ventures (equity cooperation), in which they decide to cooperate with another firm and share the ownership of the production unit. Firms can have a dense cooperation without shared ownership (non-equity cooperation). Cooperation of any type always implies a lot of understanding and trust between firms. Thus, cooperation needs more informal modes to make it work successfully. When firms act on markets, they only have buying and selling agreements without any further cooperation or commitment.

55% of all surveyed firms in HK completely control their PRD factories (see Table 3.1). 16% have a joint venture partner and another 16% work in dense cooperation with a PRD-based firm which carries out the production process. In contrast, surveyed firms in HK prefer market-based relations with their global customers (66%). Electronics firms in the PRD survey mainly receive orders from customers in HK (65%). Only 18% of the surveyed firms are affiliates of HK-based firms. Despite over half of all surveyed firms in HK having their own affiliates in the PRD, they only account for a small part of all firms in the PRD. When firms in the PRD survey indicated how they organise their relationship to their most important producer, 65% indicated buying supplies from independent producers.

Table 3.1: Organisation of customer and producer relations of firms in HK and the PRD

	to most important...	n	Full control (wholly owned affiliate)	Equity cooperation (e.g. Joint Venture)	Non-equity cooperation	Market (just placing orders)	sum
Firms in HK	customer	104	2%	4%	28%	66%	100%
	producer in the PRD	104	55%	16%	16%	13%	100%
Firms in the PRD	customer in HK	88	18%	10%	7%	65%	100%
	producer	215	9%	6%	20%	65%	100%

Source: own survey

When firms in HK first moved production to the PRD, the legal environment lacked laws to protect trading processes. Firms based in HK decided to fully own and control plants in the PRD. As laws improved in the PRD, business uncertainty decreased. Our survey shows that firms based in HK obviously started to rethink the organisational modes applied to producers in the PRD.

Analysing the data about how long firms in HK have already worked with their producers in the PRD, a new trend becomes obvious. Only 40% of firms in the HK survey which have worked with their producers for 10 years or less indicated being supplied by a wholly owned plant in the PRD. Instead, firms more often apply equity (17%) or non-equity cooperation (26%) (see Table 3.2). Firms in HK tend to concentrate on brand building, innovation, product development and marketing rather than the extension of their factories. Qualified Chinese firms can take over the role of the most important producer.

Table 3.2: Organisational form and years of working experience of surveyed firms in HK

	6 years or less	7-10 years	11-16 years	17+ years	in total
Full control	40%	47%	69%	100%	55%
equity cooperation	17%	16%	23%	0%	16%
non-equity cooperation	26%	21%	4%	0%	16%
market	19%	16%	4%	0%	13%
total	100%	100%	100%	100%	100%

Source: own survey

Competitive advantages gained by smoothing relations via producer selection: Because firms in HK indicated that cooperation partners in the PRD were becoming more important, the selection criteria for producers were analysed focussing on relations set up after 1997. Surveyed firms in HK ranked the different selection criteria for producers on a scale from (1) very important to (5) not important. An objective selection criterion was expertise. *Expertise* was ranked third in importance for HK firms in selecting producers (2.07). Selecting a producer according to their reputation is also an objective measure, but it carries more informal elements than expertise. A *good reputation* is of second importance when HK firms select producers (2.04). A selection based on *previous experience* and *personal relationships* is very individual/personal and can be taken as an informal mode. Previous experience (2.00) is of highest importance, whereas personal relations (2.48) are only of medium importance. Informal elements seem to be important in selecting producers and ensuring smooth relations, although formal criteria count as well.

Table 3.3 Criteria of HK firms for selecting their producers in the PRD

	importance ¹	correlation			
		(1)	(2)	(3)	(4)
(1) expertise	2.07	1	0.578 ⁺⁺	0.662 ⁺⁺	0.098
(2) good experiences in previous business	2.00		1	0.575 ⁺⁺	0.369
(3) good reputation	2.04			1	0.308
(4) existence of personal relationships	2.48				1

+ = The correlation is significant on the level of 0,01

++ = The correlation is significant on the level of 0,05

¹ mean value, 1 = very important to 5 = not important

Source: own survey

A correlation analysis shows the connectivity between formal and informal modes. If the figure (correlation coefficient) in the matrix in Table 3.3 is close to 1, firms which reported a high importance of one criteria also reported a high importance of another criteria. If the figure is close to 0 no correlation between the criteria can be assumed. It is apparent that firms which ranked expertise (more formal) highly, also very often emphasised the importance of good experiences in previous business (informal) and good reputation (more informal) (correlation 0.578 and 0.662). This leads to the conclusion that firms in the HK survey tend to combine formal and informal criteria to select new producers.

Flexibility in relations: Thus, efficiency of customer producer relations can be measured by the time they need to agree on order details before the production process starts. When customers decide to place an order with an electronics firm in HK, they want to keep the time to negotiate contractual details short as it delays the start of the production process. Table 3.4 shows that firms in HK which cooperate with their customers need only seven days to work out contractual details. When customers' relations are market driven, firms negotiate for about 13 days before the production process can start. After firms in HK have received orders from international customers, they have to negotiate with their producers in the PRD because they need supplies from them. When firms in HK have

their own production sites in the PRD, only two days are necessary to pass on final product specifications or delivery schedules before the production process can start. When firms in HK organise their production in a joint venture, it already takes six days before final details are agreed upon with the management of the joint venture. Firms in HK which have reliable cooperation partners in the PRD only need four days to finalise details. When firms in the HK survey rely on market relations with their producers, it takes them seven days to work out price, delivery time and product quantity and quality before the production process can start.

Table 3.4 Negotiation time with customers and producers

organisational form	n=76	days of negotiation with customers (mean value):	n=74	days of negotiation with producers (mean value):
full control	2%	na	46%	2
equity cooperation	1%	na	19%	6
non-equity cooperation	36%	7	22%	4
market	61%	13	13%	7
total	100%		100%	

na = not available, sample too small

Source: own survey

Cooperation with customers provides a basis for quicker exchange than market relations, although the majority of firms in HK do not take advantage of cooperation. Cooperation requires more mutual understanding and personal effort to maintain, but it seems to enhance firms' flexibility. There is no doubt that firms having their own production sites minimises the time needed to pass on orders, but reliable producers in non-equity cooperation also reduce the time of negotiation. The advantage of self-owned (sometimes expensive) production sites to maintain flexibility is vanishing.

Dispute resolution: Despite firms selecting their producers carefully and working out appropriate contracts to safeguard trade, disputes can still occur. Dispute resolution can be very formally organised when firms go for litigation. However, firms can also decide on alternative dispute settlement. They might negotiate, mediate or arbitrate with their producers. Negotiation is the most informal mode of solving disputes. When negotiation does not lead to a satisfying result, firms can go for mediation. Mediation is more formal than negotiation, but still provides more informal elements than arbitration. Arbitration can follow mediation or negotiation when no solution is reached. Arbitration is a direct alternative to litigation, but it is confidential and ensures privacy. Its character tends to be less formal than litigation. 45% of the surveyed firms in HK indicated that, until now, they have only used negotiation to settle disputes with producers (see Table 3.5). 11% have used negotiations followed by mediation and 44% reported that they also consider arbitration and litigation for dispute resolution. Nearly half of the firms in HK rely only on informal dispute resolution processes. In contrast, firms surveyed in the PRD more often negotiate only with their producers (62%). Another 27% move on to mediation when disputes occur. Only a few firms go for arbitration and litigation with their producers. Firms in the PRD keep very strictly to negotiation only. This can

be explained by the lack of quality and reliability of the Chinese court system. Firms are forced to solve conflicts informally amongst themselves.

Table 3.5 Modes of dispute resolution of firms in HK and the PRD

	firms in HK	firms in the PRD
negotiation only	45%	62%
negotiation and mediation	11%	27%
negotiation, mediation, arbitration and litigation	44%	11%
total	100%	100%

Source: own survey

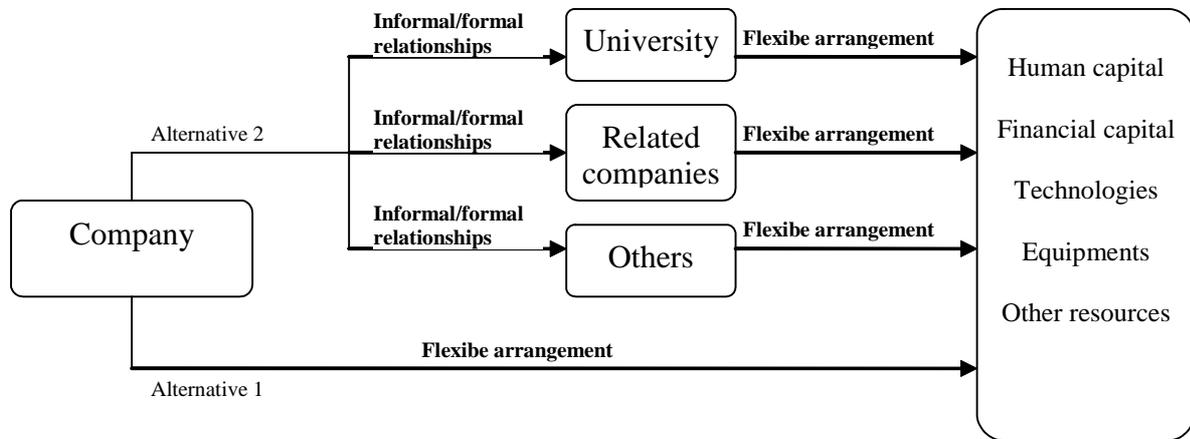
The survey in HK shows that a functional legal system encourages more firms to find the appropriate dispute resolution process. Although HK firms can use courts, most firms still prefer negotiation as an informal mode of solving disputes, because in many cases this is more appropriate. Negotiation is quick and often cheaper in comparison to taking the dispute to court. Negotiation relies on good will to reach an agreement confidentially. This increases the probability of staying with the reached agreement later on, even if it is not legally binding. But if negotiation fails, at least half of the firms surveyed in HK move on and use the entire spectrum of dispute resolution mechanisms to solve disputes. They tend to use formal and informal modes of dispute resolution at the same time. This makes them flexible while providing the chance to choose the appropriate mode of solving disputes.

4 Role of Agility for Innovation

To cope with intensified competition, firms operating in HK and the PRD are encouraged to engage in more innovation activities. According to the Oslo Manual from the OECD, innovation refers to the implementation of a new or significantly improved product, process, marketing method or organisational method in business practices, workplace organisation or external relations (OECD 2005). Innovation activities, however, normally require long-term capital investment and the innovation outcomes usually involve a high degree of uncertainty and risk. The agility concept is expected to play an important role not only in allowing rapid adjustments to market volatility and to great changes in market needs, but also in aiding the new innovation operations of firms in HK and the PRD. Agility, as mentioned in the introduction, refers to adequate combinations of informality and flexibility in business operation. It is expected that firms' operational flexibility will be increased by applying adequate informal business practices in organising complicated innovation activities in several different areas. This chapter will first briefly introduce the possible alternatives for integrating agility into innovation activities. Following that, we will go through different aspects of innovation, such as sourcing innovation-related information, governing overall innovation activities, deciding on innovation partners and protecting innovation outcomes to clarify the agility model

applied by firms in HK and the PRD. Finally, we will analyse whether more “agility in innovation” indeed leads to better business performance of firms.

Figure 4.1: Agile organisation of innovation



Source: own draft

Alternatives for realising “agility in innovation”: Two possible alternatives for realising “agility in innovation” are sketched in Figure 4.1. Firstly, firms can try to utilise their own advantages and economic powers to flexibly rearrange and allocate necessary resources for innovation internally or directly over markets. As a second alternative, firms may gain more behavioural flexibility indirectly via their stable relationships with relatively powerful cooperation partners for innovation. Stable relationships make it easier for companies to profit from their partners’ large behavioural scope in rearranging human and financing capital and acquiring, for example, essential technologies, either over markets or within their own hierarchical governance structures. Such relationships go beyond formal contractual arrangements and can be supported by several different kinds of informal factors, such as family ties, personal relationships, investor relationships, long-term business relations and established reputations of firms. Noteworthy is that the first alternative might be more advantageous for relatively large companies with strong market power. In the case of HK and the PRD, where SMEs are much more prevalent, the second alternative should be more relevant.

Integrating agility in innovation in HK and the PRD: Before clarifying how informal factors are applied in different aspects of innovation by firms in HK and the PRD, innovation types carried out by them should be identified. As shown in Table 4.1, the product innovation is assessed with the highest importance among all four different innovation types by firms in HK and in the PRD.

Behind product innovation, technological advancements, which may only be realised in the long term, are normally required. In addition, product innovation involves several business operations from procurement, R&D, and production to marketing and logistics. This again increases the execution complication and time requirement for carrying out product innovation. Therefore, in order to be still able to rapidly cope with high market volatility and preference changes of customers, opera-

tional flexibility is indeed of substantial importance for firms in HK and the PRD. Firms in HK, however, have long been well known for their high operational flexibility. Their experiences of agility in low-tech production may help to reduce the requirements upon them to adjust production processes to better integrate agility into new innovation operations. In contrast, firms in the PRD may need to make greater changes in this regard. This is also reflected in the relatively high importance of process innovation for firms in the PRD, compared to that for firms in HK.

Table 4.1: Importance of different innovation types²

Innovation type \ average importance ¹⁾	Firms in HK n=90	Firms in PRD ²⁾		
		Total n=155	CN-owned n=82	HK-owned n=29
Product innovation	1.8	1.4 (138)	1.3 (73)	1.4 (24)
Process innovation	2.4	1.6 (143)	1.6 (75)	1.5 (26)
Organisational innovation	2.9	2.5 (127)	2.7 (66)	2.2 (24)
Marketing innovation	2.4	2.3 (129)	2.3 (67)	2.3 (24)

Note: 1) mean value, 1-very important, 5-not important

2) figures in brackets refer to the number of firms applying the corresponding innovation type.

Source: own survey

Long-term business relationships substantial for absorbing information sourced externally: The informal practices of firms in HK and the PRD used to increase their innovation flexibility is analysed at first with respect to sourcing innovation-related information. Our survey results show that both internal and external sources are used by firms in HK and the PRD. It is in line with our expectation that firms in HK and the PRD may not be economically powerful enough to rely only on their own engagement in sourcing innovation-related information. In contrast, utilising the great scope of innovation capabilities of external sources for innovation may be more advantageous for increasing their innovation flexibility (alternative 2 in Figure 4.1).

To explore the role of informal factors for innovation, firms in the PRD were asked to assess the importance of 8 factors for efficiently absorbing the information sourced externally (Table 4.2)³. Four informal, one semi-informal, and three formal criteria were considered. “Few contractual constraints” was deemed by a moderate share of firms to be very important or important, implying that firms tend not to cover every step of external sourcing by formal rules. The incomplete contracts should be advantageous for firms’ behavioural flexibility in this regard. In addition, “long-term business experiences” was seen to be very important or important by the second largest share of firms, while equal degrees of importance were assigned by the three smallest shares of firms to the

² Innovative firms in PRD were asked only to evaluate the importance of innovation types actually undertaken, while innovative firms in HK had to assess the importance for all four innovation types, based on the assumption that innovative HK-firms may engage more or less in all four types of innovation considered.

³ We only considered the behaviour of firms in the PRD in this regard, based on the assumption that external sources are especially relevant for firms in the PRD to compensate for their relatively low technological capabilities.

other three informal factors considered. This implies that not all informal relationships are seen as equally relevant for firms for enhancing their flexibility with respect to sourcing innovation-related information. The specific requirements of innovation on substantial capital investment and the inherently high risks may be the driving forces behind such differentiation. “Long-term business relationships” would help to build subtle mutual trust between firms involved, which can, in turn, informally discipline the opportunistic behaviour of firms and reduce uncertainties facing innovative firms. In contrast, “spatial proximity”, “cultural similarity” and “pure personal ties” may also help to reduce interaction difficulties between firms involved, but the potential effects may not be strong enough for firms to establish mutual trust needed for innovation activities.

Table 4.2: Criteria for efficient absorption of external knowledge – firms in the PRD

n=106	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1 very important	28%	9%	6%	3%	21%	19%	21%	9%
2 important	31%	9%	12%	8%	27%	23%	14%	15%
3 some importance	28%	30%	32%	23%	23%	28%	26%	27%
4 little importance	6%	19%	13%	15%	9%	11%	10%	14%
5 not important	7%	33%	37%	52%	21%	19%	28%	34%

Note: informal criteria: (2) spatial proximity, (3) cultural similarity, (4) personal relationships with external sources, (5) long-term business experiences, semi-formal criterion: (8) few contractual constraints, formal criteria: (1) own innovation gap between firms and their external sources, (6) personnel supports of external sources, (7)“financial support of external sources

Source: own survey

Reputation, expertise and business experiences most relevant for partner selection: The agility in innovation can be further analysed with respect to overall organisation of innovation processes. For firms in HK, all four organisational forms – “own R&D”, “cooperation innovation”, “reverse engineering” and “direct acquisition” are of similar importance, while the importance of a firm’s own R&D is clearly of higher importance than the other three organisational modes for firms in the PRD. However, cooperation innovation still plays an important role in the case of the PRD. It indicates that firms in HK and the PRD depend on their own activities and external expertise to organise innovation activities. This result reinforces the high relevance of alternative 2 (Figure 4.1) for agility in innovation in HK and the PRD.

Whether innovation cooperation may lead to successful innovation outcomes, who the cooperation partner is and whether cooperation relationships can be maintained relatively stably all play substantially important roles. To explore the relevance of informal practice for innovation flexibility in this regard, firms in HK were asked to assess the importance of six informal factors and one formal factor. We found that the criteria “good reputation of the partners”, “partners’ expertise” and “good experiences in previous business” were deemed to be very important or important by the three largest shares of firms (Table 4.3). In contrast, “existence of personal relationships”, “to get along well with local workers/suppliers”, and “to get along well with public officials” were assigned the same degree of importance by much fewer firms. “Required by Chinese laws”, as the only formal factor

considered, was the least important reason for firms in HK to engage in innovation cooperation with certain partners in the PRD. The low importance of this formal factor indicates that business operation in the PRD is now less constrained by formal regulations, while the differing importance between various informal factors for deciding on cooperation partners may again be attributed to the specific long-term characteristics of innovation activities and different potential influences of different informal factors on partners' behaviour as perceived by firms in HK.

Table 4.3: Criteria for selecting innovation partners in the PRD – firms in HK

n=51	required by CN law	expertise of partner	business experience	reputation of partner	personal ties	get along w/ workers/suppliers	get along w/ public officials
1 very important	4%	37%	35%	31%	4%	4%	4%
2 important	2%	29%	31%	41%	26%	24%	12%
3 some importance	16%	22%	26%	20%	30%	30%	22%
4 little importance	12%	8%	6%	4%	16%	12%	14%
5 not important	67%	4%	2%	4%	26%	31%	49%

Source: own survey

Formal rules and legal actions more relevant for protecting innovative outcomes: Firms engaging in innovation activities aim to realise valuable innovation outcomes. We examined how firms act towards the risks of product piracy in order to learn more about the role of informal and formal factors for securing innovation rents of firms. We found that firms both in HK and in the PRD would prefer cheaper innovation projects due to the existing risks of product piracy and imitation, but they would not lower their innovation efforts in general. Most of the responding firms tend to rely on more formal factors, such as “locations with better legal system” for the case of HK (28%) and “apply for IP” for the case of the PRD (75%) in order to protect their products from piracy or imitation. The preference for formal institutions over informal ones can also be recognised in the relatively high popularity of “more comprehensive contracts with partners” in both cases (22% for HK, 16% for the PRD), and in the extremely low popularity of “choosing members of personal networks as partners” for the case of the PRD (4%). Noteworthy is that the latter is chosen by a higher share of firms in HK (14%). This can possibly be attributed to the stronger stability of personal networks of firms in HK, to which long-term business relationships and working experiences have contributed.

Our analysis does not only clarify the integration of agility into innovation in HK and the PRD. We also found that applying some informal factors such as “reputation”, “expertise” and “long-term business experiences” in innovation activities is indeed advantageous for the sales performance of firms in HK. In contrast, such positive effects can not be found in case of the PRD. The extensive business networks and business experiences of firms in HK may be one of the reasons for greater effectivity in turning the positive effects of informal practice into increased operational flexibility and further improvements in business performance.

5 Recommendations

We have derived recommendations for action from the results presented above that might help HK SMEs to *strengthen the agile firm model* and to *improve their competitiveness*.

Actions to strengthen the agile firm model

1. *Capitalise on cross-border business activities in an innovative way:* Firms in HK and the PRD still gain a significant advantage from cross-border business relations with or via HK, for example due to better market access, a more intimate knowledge of global demand, or a sophisticated set of financial and other business-related services. HK firms should continue to capitalise on the opportunities of their intermediary role in the future.
2. *Use informal strategies as an opportunity:* Many firms view informality as an inferior business strategy when compared with highly formalised ways of doing business in Western economies. However, our results suggest that informality is an opportunity to increase flexibility and responsiveness, even if business environments are improving and formal ways of doing business are becoming more feasible.
3. *Improve predictability of changing market conditions:* The need to quickly adjust production processes often arises from difficulties in predicting changes in market conditions. HK firms have an edge over their competitors in this respect. HK firms should closely interact with global customers and open additional informal communication channels to increase the efficiency of formal forecasting systems.
4. *Transform the organisation of customer-producer relations:* A wholly-owned production plant in the PRD is still efficient, but close cooperation with Chinese producers turned out to be a more flexible alternative. Firms in HK should concentrate on their competitive advantage (product quality, marketing, innovativeness) and further outsource mass production to reliable partners in the PRD.
5. *Combine formal and informal when selecting a production partner in the PRD:* Informal modes, such as personal contacts, are a reliable and quick way to select producers. However, firms in HK should also pay attention to objective measurements such as expertise and quality. Thus, we recommend that firms in HK establish an efficient selecting and recruitment system for producers to ensure high quality and flexibility in their production processes.
6. *Prefer using semi-formal but reliable modes of dispute resolution, for example arbitration:* Negotiation and mediation seem to be initial steps and promise quick solutions, but they do not generate enforceable legal titles. Firms should thus consider using arbitration more frequently.

This semi-formal mode of dispute resolution is more discrete than going to court, but ends with an enforceable title. Legal services in the field of arbitration are another advantage of HK.

Actions to improve competitiveness in addition to being agile

7. *Sustain operational flexibility while carrying out innovation activities:* With intensified competition, firms in HK and the PRD are forced to innovate in order to gain an additional advantage over their competitors on the global market. It is often argued that innovation, which normally requires long-term capital investment, may deteriorate HK firms' traditional comparative advantage in flexibly and rapid reaction to market requirements from both producer as well as customer sides. Our analysis shows that an adequate application of informal factors in different aspects of innovation activities may increase firms' operational flexibility and therefore be crucial for firms both in HK and in the PRD to cope with the intensified competition and aggravated market volatility in the future. Moreover, our analysis finds that not all informal factors are of the same importance for realising "agility in innovation".
8. *Implement appropriate upgrading strategies:* Upgrading of the recent cross-border business model is not restricted to emerging high-tech sectors or to radical technological innovations. The recent business environment also rewards building up basic technological capabilities by using appropriate technologies. The use of these technologies is especially promising if it is combined with innovative organisational or marketing models. The co-existence of different strategic orientations might even be an advantage during the transition of the PRD, since such a diversification reduces risks.
9. *Organise innovation processes more flexibly via informal arrangements:* The flexibility of innovation activities may be increased by informal, but quality-related factors such as "long-term business relationships", "partners or information providers' reputation" and their "expertise", instead of relying mainly on family ties or pure personal relationships. In addition, the findings on the relatively high importance of formal institutions for protecting innovation outcomes suggests that innovative firms in HK and the PRD should not neglect the legal protection warranted by formal rules.
10. *Use adequate sources for innovation-related information:* Adequate combinations of informal practices in sourcing innovation-related information are expected to be highly relevant for firms in HK and the PRD in order to remain competitive in the global market. Critical factors identified by our study are trusted relations to reliable innovation partners which are supported by legal safeguards for innovation outcomes as provided by the legal system in HK.

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