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AWARENESS OF STRATEGIC INFORMATION TECHNOLOGY
AMONG SMALL BUSINESSES IN
THE HONG KONG SERVICE SECTOR

by

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MBA PROJECT REPORT
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ABSTRACT

Information technology (IT) can be said to bring strategic or competitive advantages to firms (McFarlan, 1984). Areas where IT can leverage strategy include interorganizational systems, information enabled partnerships, and business process reengineering (BPR). Although research in Strategic Information Systems (SIS) has tended to focus on large firms, small firms can benefit in similar ways (Fuller, 1996). Small firms differ from large ones in that they lag behind in IT implementation, and that owner/managers tend to be the key decision makers in strategy and IT matters. Despite these differences, the use of IT as a competitive tool is important for small firms. This is especially true in light of the global trend in mergers, where more and more industries are dominated by larger and larger firms. Two ways in which small firms can leverage IT is through strategic alliances with other small firms and as links in larger firms supply chains.

This has particular relevance to small service firms in Hong Kong, which has transformed from a manufacturing economy to a service one over the past decade. More than 98% of all firms in Hong Kong are small, and they have contributed much to Hong Kong's growth and dynamism. In general, small firms are thought to be an important source of new job creation and innovation to economies.

A series of interviews was conducted with owner/managers of small service firms in Hong Kong, to determine whether or not IT was used strategically. Findings indicated that while IT was used and considered important to some extent, it was not used strategically.
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Chapter I

Introduction

Hong Kong is in the midst of change - political, economic, business, and cultural. Factors such as the historic return to China on July 1, 1997; the sharp descent in the entire Asia regional economy; and plummeting stock market in the autumn and winter of 1997 have contributed to a dynamic change in the face of Hong Kong.

It is not the first time Hong Kong has faced change, however. Once known as an inexpensive base for manufacturing, HK enjoyed prosperous years as a manufacturer for the world's industries, in particular the garment industry. But factories fled west as labor costs increased, moving plants and machinery to China even as borders opened up there. Thus it became necessary for HK to reinvent itself as a service center.

1. Background of Study

1.1 Hong Kong as a service center

In fact, the transformation began before manufacturing disappeared. As a major tourist center, HK's hotel and tourism industry, part of the service sector, enjoyed unprecedented success. The finance industry, yet another service industry, grew in leaps and bounds during the 1970s and 1980s, making Hong Kong today a world financial center.

Over the past decade, service sectors began to overtake manufacturing. Today, businesses in these sectors now employ more than six times as many workers as those in manufacturing. Import export is the largest employer in the service sector, with other major service industry groups comprising retail trade, restaurants and business services. Table 1 shows the distribution among the main employment sectors in Hong Kong.
Table 1

Major Employment Sectors in HK as of 1996

<table>
<thead>
<tr>
<th>Major Employment Sectors</th>
<th>Number</th>
<th>Percentage of workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale, retail and import/export, trades, restaurants and hotels</td>
<td>1.03 million</td>
<td>34%</td>
</tr>
<tr>
<td>Finance, insurance, real estate and business services</td>
<td>386,940</td>
<td>13%</td>
</tr>
<tr>
<td>Community, social and personal services</td>
<td>310,099</td>
<td>5.8%</td>
</tr>
<tr>
<td>Civil Service</td>
<td>183,110</td>
<td>5.5%</td>
</tr>
<tr>
<td>Transport storage and communications</td>
<td>176,319</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

Source: Hong Kong - A New Era (A Review of 1997) Information Services Department, Hong Kong

In contrast, the manufacturing sector employed approximately 11.4% of the workforce as of the end of 1996. By the end of the first half of 1998, this sector accounted for less than 9%. In addition, over 80% of Hong Kong’s GDP now comes from the services sector.¹

This role as a service center is strongly promoted by the government of the HKSAR. A recent speech by the Financial Secretary, Donald Tsang, highlights this. He articulates a vision for the 21st Century in which Hong Kong will continue its development as a world class, high value-added service economy and the premier services center in the region.²

1.2 The role of small business in HK’s economy

How does this reflect on HK’s businesses today? While big businesses may have the financial and other resources to maintain leading-edge capabilities in the service sector, small businesses do not. Yet over 98% of Hong Kong’s businesses are

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¹ From the Statistical Digest of the Services Sector, HKSAR Census & Statistics Department, 1998
² Full speech available at the Hong Kong Government website, http://info.gov.hk/isd/speech
categorized as small businesses. At the end of 1996 for example, there were over 280,000 small and medium enterprises (SMEs) in Hong Kong. They constituted 98.09% of the enterprises in Hong Kong. Together they employed 59.93% (1,407,167 persons) of the total workforce. While there is no legal definition of what constitutes a small business in Hong Kong, the general rule of thumb is less than 100 employees. In fact, many of these small businesses have less than 50.

Yet even though they account for over half the workforce, the position of SMEs in Hong Kong can be weak. The economic downturn illustrates this. Of the 300,000 firms of this type in HK at the end of 1997, over 10 percent had closed and another 10 percent were expected to follow by the end of 1998. Thus the ability to transform becomes critical to their survival, and to the continued dynamism of HK.

1.3 Significance of SMEs in the economy
In general, small businesses are thought to play a critical role in many economies. Since the mid-70s, small and medium enterprises (SMEs) have been increasingly important in job creation, because in many sectors barriers to entry of new firms were reduced. In addition, small firms are thought to be innovative and entrepreneurial (Rovere, 1996), as witnessed by the high technology sector. Giants such as Microsoft, Apple and Intel all started out as small, innovative enterprises. In the US for example, small businesses generate two-thirds of all new jobs, produce nearly 40% of US gross domestic product, and are a very important source of technological innovation. In addition, it is estimated that small-firm-dominated sectors will contribute about 60 percent of new jobs from 1994 to 2005, in contrast to large firms, which are expected to contribute 15 percent. About 88 percent of these jobs will be in retail trade or services.

3 From the Hong Kong Government's information website, at http://www.info.gov.hk/sme
4 $26 offer for small businesses described as 'useless' Rose Tang, South China Morning Post,
The HKSAR government is aware of the importance of small business, and in 1997 set up a Small and Medium Enterprises Committee to address issues related to SMEs. Key initiatives include the launch of programs to encourage the private sector, especially small and medium-sized enterprises, to engage in electronic commerce, identify ways to improve SMEs' access to and use of new technologies, in particular information technology.⁶

But it is not simply that there are many small businesses in Hong Kong -- their role in the development of Hong Kong has been crucial. Cheah and Yu (1994) argue that entrepreneurs springing from small businesses are responsible for the dynamics of Hong Kong's economy. Indeed, they are responsible in a large way for the development of this economy. Siu and Martin (1992) also note that small businesses play a major role in Hong Kong's economy, and found that establishments employing fewer than 50 people contributed substantially to providing employment (although it must be noted that their study focused on the manufacturing sector). It would seem that promoting and encouraging small business is vital to Hong Kong's continued development.

Despite the importance of SMEs to economies, their competitive stance remains poor. In addition, recent trends in globalization and mergers have created vast organizations, further threatening the existence of small firms. 1998 alone has seen the creation of some of the largest firms in the world, in banking, pharmaceuticals, and many other industries. In oil for example, Exxon and Mobil have merged to form the second largest oil company in the world. It is estimated that by the end of this century, 3 to 4 giant private oil groups and just a few state companies will dominate the oil world⁷.

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⁵ From the US Government Small Business Administration Website, at http://www.sbaonline.sba.gov/ADVO/stats/fact1.html
⁶ From the Hong Kong Government's information website, at http://www.info.gov.hk/sme
⁷ Mega-projects fuel fight for strength as prices plummet South China Morning Post (no author)
3 December, 1998
1.4 How do small businesses fit in?
At first glance, it would seem that the odds are stacked against small companies. But there are many ways in which small firms can fit in industries dominated by huge corporations.

One very important way small businesses work within industries dominated by large players is as links in the supply chain. Indeed, the 90s have seen very large firms shed their non-core competencies, selling off or subcontracting non-essential functions to other firms, including smaller ones.

A second way small businesses can function within industries dominated through large ones is through strategic alliances or interorganizational linkages. Bonk (1996) mentions that the ability to share resources is especially important for SMEs to participate in global markets. Alliances among small firms with complimentary skills and resources can have a variety of effects, including accelerating market entry, broadening product lines, enhancing skills, and lowering costs.

1.5 Strategic use of information technology
But becoming a supplier for a large firm, or banding together with other small firms to enter a market is not easy for a small business. Small businesses lack a great deal of resources to function effectively in these environments. As a supplier, a small firm must meet the requirements of its large customer. For example, an April 1997 Business Week article shows how Dell has one of the most successful ecommerce operations going. Dell’s secret has been speed, and it is now "applying the same brutal time standard to its supply chain." Thus even small businesses in Dell’s supply chain must meet its requirements. How to meet speed and efficiency requirements? Information technology (IT) provides at least part of a solution.

Mattei (1994) suggests that IT may be the one tool that puts small companies on even competitive par with both domestic and global organizations of any size. But it is the
use of IT in a strategic way that allows this evening of the playing field. In the US industrial sector, for example, SMEs have a larger innovation rate than in other sectors (Rovere, 1996). This is especially true in the high technology sector. SMEs grouped in networks allow obstacles to innovation, such as lack of resources and capital, to be overcome. Thus with IT facilitating this network, small businesses can compete with and surpass much larger corporations. IT allows small businesses to connect with each other to form alliances, to connect to larger firms systems as links in their supply chains.

At a glance, Hong Kong seems to lag behind. A South China Morning Post article reports that in the Asia-Pacific region in general, nearly 80% of the small businesses have yet to adopt IT as a significant tool. In Hong Kong, the Hong Kong Productivity Council (HKPC) reports that there is widespread fear of the use of computers, known as the "IT barrier."8

In addition, while small enterprises in the manufacturing sector seem to be implementing new computerized technology, the commercial and service sectors lag behind (Julien & Raymond, 1994).

2. Research Problem
Thus we have the following picture of Hong Kong. It is rapidly becoming a service-dominated economy. More than half the businesses in this economy are small. On a global perspective, however, mergers of huge companies have led industries to being more and more dominated by very few large firms. Information technology can leverage the strategic/competitive stance of small firms even in industries dominated by big players. It is therefore worth asking:

8 Chetham, Andrew Intel joins Productivity Council to defeat barriers against computers, South China Morning Post, 18 March, 1998 HKPC general manager Vincent Li fears that Hong Kong will be left behind in terms of business efficiency due to this problem.
3. Objectives of Study

In order to get some answers to the above, it is important to find out: how small business owner/managers view the importance of information technology to their businesses; if small business owner/managers are aware of the strategic aspect of information technology; if any elements of strategic information systems are being used, even if not formally recognized as such; what is the potential for use of IT strategically by these businesses; how open owner/managers might be to adopting such use.

Specifically, this paper will seek to determine:

1. the position of the firm on McFarlan's strategic grid -- how owner/managers view the importance of IT to their firm

2. whether or not IT has a place in the firm's strategy (using IT competitively or strategically might imply a firm having a strategy in the first place. Thus finding out if the firm (a) has a strategy in place and (b) whether or not IT plays a role in this strategy would seem to be useful. It should be noted, however, that not having an articulated strategy does not imply that there are no strategic considerations involved. A small business owner or entrepreneur in particular may be working and making decisions based on ideas which may qualify as strategy, whether or not he or she identifies them as such.)

3. what owner/managers consider to be the biggest problems/drawbacks in the use of IT in their firm

4. whether or not any formal SIS systems are in place and being used by these firms (based on the list of formally defined SIS systems such as EDI, etc.)

5. whether or not informal SIS systems are in place - for example, computer links between firms, etc.

6. finally, it would seem important to find out the role the Internet plays in these firms. While the Internet/WWW is still too new a phenomenon for there to be much academic literature on, there is no question that it is of huge importance. In
particular, it is an inexpensive and extremely accessible option for small firms, and may replace many of the formal SIS systems & concepts.

This paper does not attempt to be a comprehensive study on the use of SIS in Hong Kong's small service businesses. Rather, it is more of a beginning stage of such a study. Studies on IT use in HK's small businesses have until recently focused on the manufacturing sector. Given that HK's economy is now a service one, moving IT research in this direction seems critical.

In addition, given that the Hong Kong Government has spearheaded initiatives to encourage use of IT in SMEs, through organizations such as the HKPC and Trade Development Council (TDC) this paper might provide directions for more focused support from these organizations.

4. Format of the Study Report
A literature review was conducted to provide a historical background relating to the developing use of computers in business and how strategic information systems (SIS) developed. Ways in which information technology (IT) is used strategically are discussed, in particular as detailed by McFarlan (1984). A discussion of how small business differ from large ones in the use of IT, and how they can incorporate SIS systems is included. Finally, the review provides a look at how the Internet enables small businesses.

The methodology of this study consists of a series of interviews with owner/managers of small service-related businesses. A series of questions was asked to determine the way their firms use IT, the owner/managers' perception of the importance of IT, their familiarity with any strategic information systems, and so on, to determine whether these firms were using IT strategically or to gain competitive edge.
Each interview is then summarized in the Findings section, and an analysis of the results follows. Finally, limitations of the study and implications/suggestions for further research conclude the report. The appendix includes the list of interview questions, and a summarized transcript of each interview.

4.1 Definition of terms

The following are some of the key technologies used in Strategic Information Systems. Many overlap each other: for example, document imaging systems would be used in a paperless office, while LANs, WANs and Intranets would be incorporated into a knowledge base, and so on.

*Document Imaging Systems*: The use of IT to handle paper documents or their electronic equivalents. These systems allow the digital image of a document to be stored, retrieved, and transmitted more easily than a paper page.

*DSS (Decision Support Systems)*: Computer based systems that help decision makers confront and make decisions on problems through direct interaction with data analysis and models.

*EDI (Electronic Data Interchange)*: The computer-to-computer exchange of standard business transactions including payment/remittance, request for quotations, receiving advice, purchase order change requests, and even corporate trade payments.

*EIS (Executive Information Systems)*: Can be viewed as a type of DSS that provides access to summary performance data, and offers functions which support the major responsibilities and activities of top executives.

*Expert Systems*: A type of analysis or problem-solving model implemented on a computer, that deals with problems the way an "expert" does. The solution problem involves consulting a base of knowledge or expertise to reason out an answer based on characteristics of the problem.

*Groupware*: Systems & technologies that support communication and interaction among people as they work in groups. Some of these systems center around communication and interaction among

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group members, and decision making and problem solving as a group. Lotus Notes is one of the most popular groupware packages.

**Intranet**: A company-wide information system like an internet, but accessed and used internally by a firm.

**IT** (Information Technology): A general definition from Earl (1989) is that comprising computing, telecommunications and automation technologies. For the purposes of this paper, IT is defined as personal computers (PCs) and connected technology such as LAN, WAN, scanners, printers, computer-connected fax machines, and email.

**Knowledge Bases**: Knowledge management focuses on the processes and the people involved in creating, sharing and leveraging knowledge in the organization to support business strategies, for example, creating an online directory detailing the expertise of individual workers and making it available to all employees, or setting up Internet-based discussion groups and work teams to collaborate on problem-solving.

**LAN** (Local Area Network): PCs linked together within one company, generally sharing a common server which stores company data, allows multiple use of printers, and so on. At its simplest level, a LAN is made up of two or more PC's connected within the same building complex. The PC's are typically connected with net cards and cables. Thus each PC in the network can utilize all resources (hard disks, printers, etc.) on the net. A LAN typically has a diameter (the maximum distance between any two stations) limited to less than a few kilometers and is entirely owned by the user.

**MIS** (Management Information Systems): The term used for the department in an organization which manages the IT functions. More generally refers to the management of IT systems and functions.

**Paperless Office**: Systems which replace the traditional paper flow in an office. Involves scanning all paper documents into a system, which incorporates management of retrieval. Thus everything from an office memo to a payroll voucher to a purchase order flows through the organization in electronic form.

**SME** (Small and Medium Enterprises): Definitions of these businesses vary, in particular for small businesses. For the purposes of this paper, we define a small business as that having 100 employees or less.
Video Conferencing: In information technology terms, using a computer to send and receive video, audio, and text in real time. At its simplest level, video conferencing can be just one PC with a video camera sending the data via the Internet. Video conferencing reduces the need for physical presence in meetings, speeds up communications, and reduces the need for space and time resources on staff.

WAN (Wide Area Network): A data communications network that spans any distance and is usually provided by a public carrier. Essentially, a wider version of a LAN, but with the intermediary communications being handled by a third party such as a telecom company.
Chapter II

Literature Review

1. Developing Role of Computing in Business

Computers have played an increasingly important part in business over the years. In the United States, their first uses in the 1950s and 1960s were to automate routine administrative functions. During this period, the emphasis was on using computers to improve operational efficiency (Sprague and McNurlin, 1993).

With the advent of IBM mainframes in the 1960s-70s, the focus turned to organizational effectiveness, developing sophisticated corporate databases, for example, to provide more accurate information to management (Wan, 1993). From this period as well, more advanced applications combining computers and telecommunications were developed, and by the early 1980s, the term "information technology" (IT) was increasingly used to reflect this integration.

The emergence of the personal computer (PC) again changed the way organizations used information technology, driving costs way down, and putting the power of computing on individuals' desks, rather than in the complete control of IT departments. It also allowed small businesses, which had previously not used IT because of cost and lack of technical knowledge, to start incorporating computing into their business operations.

As computer systems and their uses shifted over time, so did the users of these systems. Along with end-users' involvement with information technology, management became a prime user of information technology (Sprague & McNurlin, 1993). The emergence of IT as an asset, a corporate resource like capital, human resources, or machinery captured the attention and involvement of senior management. Thus the awareness of IT by the very people determining corporate
strategy changed the way it was thought of and managed. The concept of Strategic Information Systems (SIS) emerged, giving IT a strategic role which emphasized both internal and external gains to the firm via information technology.

Today, computers have become indispensable and inseparable from business. Without computing in many industries, business would be impossible; retail banking, for example, would completely breakdown (Earl, 1989). The current furor over the Year 2000 problem (computers not being able to calculate dates correctly beyond the year 1999) and its relevance to banking, Internal Revenue departments and so on highlights this critical aspect.

A useful summary of the way IT has evolved is provided by Earl (1989), who separates the first 30 years of computing, which he labels the DP (Data Processing) era, from the newer horizons, tagged the IT era, in the following table:

<table>
<thead>
<tr>
<th>Distinctor</th>
<th>DP Era</th>
<th>IT Era</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial attitude to IT</td>
<td>A cost</td>
<td>An investment</td>
</tr>
<tr>
<td>Business role of IT</td>
<td>Mostly support</td>
<td>Often critical</td>
</tr>
<tr>
<td>Applications orientation of IT</td>
<td>Tactical</td>
<td>Strategic</td>
</tr>
<tr>
<td>Economic context for IT</td>
<td>Neutral</td>
<td>Welcoming</td>
</tr>
<tr>
<td>Social Impact of IT</td>
<td>Limited</td>
<td>Pervasive</td>
</tr>
<tr>
<td>MIS thinking on IT</td>
<td>Traditional</td>
<td>New</td>
</tr>
<tr>
<td>Stakeholders concerned with IT</td>
<td>Few</td>
<td>Many</td>
</tr>
<tr>
<td>Technologies involved in IT</td>
<td>Computing</td>
<td>Multiple</td>
</tr>
<tr>
<td>Management posture to IT</td>
<td>Delegate/abrogate</td>
<td>Leadership/involvement</td>
</tr>
</tbody>
</table>

2. Strategic Information Systems

For all the importance of IT to corporations and its ever-expanding applications, until McFarlan (1984) and others in the 1980s proposed that the way IT activities were staffed, managed, controlled and led made a competitive difference, the strategic role
of IT was not considered. Although management had become more involved in using IT, it was still staffed and controlled by IT specialists who spoke a technical language not shared by general managers. But some companies were taking IT into the strategic realm, and McFarlan showed that those companies were reaping competitive advantages because of it.

In order to understand how IT can be a strategic advantage it is useful to look at what strategy means. McFarlan and others have used Porter's (1979) view of a company and its environment to incorporate IT into the strategic view. In this view, a firm must understand the five forces at work in an industry, and continuously position itself in relation to these five forces: the bargaining power of suppliers, the bargaining power of customers, the threat of new entrants, the threat of substitute products or services, and the position of current competitors.

In the area of strategic information systems, one of the most often discussed examples is SABRE, the on-line reservation system of American Airlines. This was not simply an innovative, highly efficient system which allowed fast and secure flight reservations. It was in fact a way to "lock out" competitors in the industry. Peoples Express Airlines learned this to their disadvantage. While initially offering a cost-competitive product -- by eliminating in flight meals, baggage handling, and other such services (Mintzberg & Quinn, 1992) -- Peoples Express eventually lost their market due to inefficient scheduling and reliability; they did not have the resources to develop a system competitive to SABRE. American Airlines and others tied into their systems ultimately were able to provide reliability and efficiency through SABRE. Thus IT was used to eliminate or reduce the threat of new entrants. In addition, American Airlines increased customers switching costs and at the same time provided very fast and reliable customer service by insisting that travel agents use SABRE for all reservations. (Powell & Dent-Micalef, 1997).
2.1 Differing views

It should be noted here that there are some dissenting voices as to the strategic importance of IT. It is becoming increasingly apparent that companies achieve a poor return on investment (ROI) for their IT systems. Further, there is little to link productivity with the use of IT. de Jager's (1995) study revealed that there is nothing to show in terms of productivity for all the billions of dollars spent on computing. One reason for this is a lack of coherent management of computing and systems. In the US, economist Stephen Roach notes that a near $1 trillion investment in information technology by US service industries in the 1980s failed to increase productivity (Freedman, 1996).\(^\text{10}\)

In addition, the view of the firm may lead to differing opinions. Powell & Dent-Micalef (1997) took the resource-based view of the firm in considering how IT helped to achieve competitive advantage. They, as well as other researchers, argue that IT alone does not "produce sustainable competitive advantage." Studies seemed to indicate that there was no clear connection between technology and performance, for example. This view may also explain why some firms leverage IT and some firms don't.

2.2 Where and how IT can be a competitive advantage

Despite these differing views, however, it is clear that in some way at least, IT can leverage a firm's competitive stance. McFarlan\(^\text{11}\) identifies three different domains where IT can be a competitive advantage.

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\(^{10}\) Interestingly, the same article noted a relationship between company size and productivity. When service companies began to downsize and reduce staff numbers in the 1990s, productivity gains turned up. The assumption is that smaller companies, being more flexible, can put technology to better use by offering more flexible services, and more efficiently.

\(^\text{11}\) From the introduction to *Competing Through Information Technology*, Jelassi, 1994.
The first domain is *interorganizational systems*. These are systems which link two or more firms together; a firm with its customers, suppliers or other industry players. Examples of this kind of linking include EDI (electronic data interchange), which connects a firm with its suppliers through online ordering, for instance. Teleconferencing, interactive video and online planning are further examples of this kind of strategic system. Benefits of these systems include improved inventory management costs, reduction of administrative work (freeing up staff for sales activities and better customer service, for example), shorter order cycles, etc.

With staff less caught up in routine procedures and more in touch with customers, companies can better respond to market requirements. Day (1994) points out that staying close to the customer allows companies to better anticipate and respond to changing market conditions, and thus enjoy long-run competitive advantages and superior profitability.

The second domain is *information enabled partnerships*. These are systems which allow firms to share data for strategic marketing. In general, the firms are not competitors. In Hong Kong, we have examples of this in Hong Kong Telecom's Bonus Points Scheme, which allows users to accumulate points towards benefits in Cathay Pacific and other airlines mileage plans. Thus two or more companies not in the same market can share customer databases, tailoring marketing schemes to better pinpoint potential customers.

The third and final area where IT can be a competitive strength is *business process reengineering (BPR)*. IT can be instrumental in transforming organizational infrastructure, through the use of groupware like Lotus Notes to share work-development processes and capture knowledge systematically. It can speed up planning and decision-making through decision support systems and executive information systems which allow management to capture key data in a timely and pertinent way.
Earl (1989) summarises the use of IT as a strategic weapon as follows:
1. To gain competitive advantage
2. To improve productivity and performance
3. To enable/improve ways of managing and organizing
4. To develop new business

2.3 The strategic grid
For a firm to position itself competitively using IT, it must first understand what its current and future IT situation is. McFarlan (1984) provided a 'strategic grid' to determine the role IT plays in an organization, and then whether or not that role is a strategic one.

![Figure 1: McFarlan's Strategic Grid](image)

In this model, a firm's IT systems are positioned along two dimensions: strategic impact of existing systems and strategic impact of applications development (that is, future systems impact).

In quadrant 1, support, current systems have little strategic impact and will remain that way. These systems are perceived as having simply a support function, do not receive significant investment, and are managed at a mid- to low-level in the organization structure.
In the *factory* quadrant, information systems are much more crucial to the firm, but do not have a future strategic impact. For example, a manufacturing plant may use automated systems, which it relies on for production, but plans to simply upgrade these when necessary, and will not change the function or role of the systems.

Companies in the 3rd quadrant, *turnaround*, have not relied on information systems much in the past, but are in the process of making them more critical to their business. That is, reliance on systems will be important to continued survival. Jelassi (1994) uses the example of retail store chains, which must connect with each other and share POS systems, inventory management and so on. Future strategies for companies with systems in this quadrant will increasingly tie in IT capabilities.

The final and most *strategic* quadrant represents companies that both critically depend on existing systems, and who need to develop future applications that are equally critical. "If information systems have always been crucial to the organization and the future is dependent on them, or shaped by them, the IT activity may truly be seen as strategic" (Earl, 1989). These companies have made significant investments in IT infrastructure. Additionally, there is a strong linkage between IT and business strategy (with senior management involvement), medium and long-term IT projects are being planned, and they use a value-analysis approach to evaluate IT investments (Jelassi, 1994).

This grid essentially provides a snapshot of a firm's dependence on IT, both present and future. A firm may move from the factory quadrant to the turnaround quadrant as customers, suppliers, or competitors dictate. The growing importance of EDI (Electronic Data Interchange) in supply chain management is one such driver.

So we see that that IT can provide competitive and strategic advantage to firms, if perhaps not as uniformly as McFarlan (1984) proposes. Powerful examples are given for the strategic leverage IT has given major players such as American Airlines.
Indeed, much of SIS theory was originally developed around these large organizations and the way they use IT. The presence of an IT department is assumed; of IT professionals who can at the very least provide technical expertise. But how does this fit with small businesses?

3. Small Business and IT

As in many other areas of management, small firms do not conform to the theories and methods prescribed for large corporations. They have different operational situations, different lines of control, and certainly different resources and capabilities from large firms. And correspondingly, they have different sets of problems. Two particular areas with relation to information systems illustrate the difference. The first is that IT usage in small firms seems to lag far behind that of large firms, and for the most part, is centered on administrative functions and support tasks. The second is that layers of management are generally non-existent in small firms, and the owner/manager(s) tend to drive all decision-making, strategic, IT-related or otherwise. In keeping with this, there is a lack of IT management and development in small firms.

3.1 IT usage in small firms

A popularly-held view is that small firms lag far behind large ones in incorporating and using IT. A survey in the US by Arthur Andersen's Enterprise Group in 1997 reveals some interesting figures. For example, while 41% of 953 small companies surveyed said all office-based staff had a computer on their desk, a full one-fifth reported that their companies used no computers at all. In general, the survey points out that small companies are diverse in their use of information technology.12

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12 Mangelsdord, Martha E. *A computer on every desk*, Inc. Jan. 1998. Over half the businesses surveyed said they had upgraded their systems in the past 12 months, a marked increase from the previous 2 years.
Chen (1993) in a study of how computer use has changed over a 8-year period in small businesses in the UK, found that computers are primarily used for basic and operational purposes rather than decisional purposes. Accounting and word processing are the most common. Evidence for this is the dominant use of accounting and word processing software.

Even when use of IT goes beyond transactional, it does not reach a truly integrated level. Li (1997) found in a study on marketing information systems in the US that even when some kind of computerized marketing system is used, firms still do not integrate their marketing plans with information system plans. They rely on internally-generated data from their accounting systems, for example, and do not computerize data collected externally. The same study also found that very few small businesses used email to communicate, even with branches.

Cragg and Zinatelli (1995), in an 8-year study of small firms, also found that insufficient attention paid to management of IS. Computer training tended to be limited to the initial period of use of a new system, and was limited to operation only. Staff receiving this training were not given a broad view of computers, which discouraged the consideration of other applications or even of improvements to the existing environment. This tended to inhibit overall IT development. So while many firms had experienced growth in the number and type of IT applications, there had been little change with respect to the management of IT in small firms.

Again, the prominent view seems to be that IT use is not strong in Hong Kong. A research project at the University of Hong Kong\textsuperscript{13} seems to indicate that Hong Kong's small businesses are not IT-oriented. Their view is that small businesses in Hong Kong are traditional Chinese family businesses and not users of high technology. In

\textsuperscript{13} Ure, John et al. Information society in Hong Kong and other Asian "tiger" economies, Hong Kong, Information and the Structure of Business. Telecommunications Research Project, University of Hong Kong http://www.trp.hku.hk/trp/
these businesses, the practice is to keep information in the hands of a small family group. There is a lack of investment and learning in technologies which may be key to future success.

There are differing views however. Haigh, Chan, et al. (1990) in earlier research found that only 23% of small-scale manufacturing industries in Hong Kong did not use computers, although their study did not extend to the service sector.

Additionally, Naylor and Williams (1994), disagree with the notion that small firms limit their IT usage to transactional processing. In a study of 30 small and medium-sized enterprises pulled from companies in the Merseyside area of England, results indicated that although some of the companies seemed to lack formal IT strategies, most were well informed in IT matters were not restrained in development through lack of resources. The 7 firms benefiting most from their information system had gone beyond elementary software applications and developed more analytical approaches.

3.2 Importance of owner/manager

Large firms have layers of management. Small firms are often run by one person, the owner of the firm. In a large firm, the strategy maker will have technical staff to work with in incorporating IT into the firm's strategy. In a small firm, the owner/manager makes all the decisions. Thus the owner/manager's views on IT are critical.

Thong and Yap (1995) found that CEO characteristics played a key role in use of IT in a small organization. This is in keeping with work done by Kotey and Meredith (1997), which suggests that owner/managers' personalities, in particular their values and goals, are indistinguishable from the goals of their businesses. Further indication of the owner/manager's importance is given by Jennings and Beaver (1997), who show that when small firms managers don't pay attention to strategic issues, it inevitably leads to poor performance or even failure.
In small and entrepreneurial organizations, power tends to be focused on the chief executive, who retains flexibility through discouraging formal controls (Mintzberg, 1992). Flexibility is also maintained in decision making, allowing for a rapid response. Likewise, strategy creation is the realm of the CEO, and the process tends to be intuitive and oriented to search for opportunities.

Kirby and Turner (1993), in their study of IT adoption in small retail firms in the UK, found that expertise of the owner/manager clearly facilitates the use of IT, while lack of appreciation of benefits of IT by owner/manager retards the use.

Small business owner seem to have a generally positive attitude toward computers, but are concerned about issues such as efficiency and the quality of information management, and don't have a complete "trust" of computers (Ray et al, 1994). Cragg & King (1993) show that in earlier research in computing in small business, it was revealed that the enthusiastic involvement of managers and employees who were open to change could encourage IT growth in small firms. In Hong Kong, Siu and Martin (1992) point out that it is in particular the Chinese family characteristic of networking which allows business to be sensitive and proactive to many business challenges.

Although small firms differ from large organizations in at least two major ways -- slower adoption of IT and owner/manager's importance in determining IT use -- these do not necessarily prevent the use of strategic IT in all small businesses. Indeed, small firms can use IT strategically in some of the same ways large firms can. And in some industries, use of IT more strategically can determine whether a small firm can stay in business.
4. SIS in Small Businesses

Fuller (1996) summarizes the theme of IT for competitive advantage carried out by other writers (primarily built on McFarlan's work). These arguments include viewing IT as a resource which small firms can use to behave like bigger firms; utilizing expert systems to provide knowhow for the inexperienced small business; IT-based production management in the manufacturing sector; IT-based marketing and decision-making. Other areas include access to markets through telecommunications.

In addition, some characteristics of small firms lend themselves to easier adoption of IT. One view is that small business, being flexible and having short communication lines will find that the management of changes created by the adoption of computers relatively simple to achieve (Fuller, 1996). This view is echoed in reverse by Li (1996). Small firms should take advantage of their organizational flexibility and effective communications, (both of which larger organizations tend to lack) and use their IT systems, in particular marketing information systems, to improve and bolster these two areas.

4.1 Interorganizational systems

Looking at the three domains described by McFarlan, the area of interorganizational systems seems to be where small firms can best implement IT strategically. One example is a small design firm in New York, which set up an audio-conferencing and on-line document sharing system with its more distant customers because it didn't have the staff to send out to them (Freedman, 1996).. The system allowed designers and customers to look at, discuss and modify designs directly on the computer, without physically being in each other's offices. By shrinking distances, IT allowed the firm to provide good customer service without a large staff.

Another example of using IT strategically in this domain is through EDI (electronic data interchange). As many small firms are part of supply chains (product or service), they are exposed to and adopt EDI more readily. Benefits of EDI occur at 2 main
levels (Sprague and McNurlin, 1993). The first is a non-integrated level, where there is a computer-to-computer link between the two firms. At this level, the link is limited, and firms must also do manual processing to transact their business. Cost efficiency can be achieved at this level, but overall benefits are limited. The second general level is application-to-application, where systems between the firms are linked. This level allows transactions to occur uninterrupted by manual processing, and benefits are much greater. This second level leads to an even deeper exchange using EDI, in which business processes at participating firms are changed.

A major driver for small businesses to adopt EDI is the changing nature of supply chain management today. Many large corporations now insist on suppliers connected via EDI. Business Week reports that in the US, companies such as Ford and Boeing require all suppliers to be linked to their systems. Small businesses tend to be EDI adopters rather than initiators. This is due in part to the relatively large investment necessary for EDI initiation.

Iacovou, Benbasat et al (1995) explored this in their study of small suppliers in a UK grocery chain. This empirical investigation suggests that a major reason that small companies become EDI-capable is due to external pressure, especially from trading partners.

4.2 Information enabled partnerships

A second domain (also discussed by McFarlan) where small businesses can use IT strategically is information enabled partnerships. While EDI develops relationships between a firm and/or its customers and suppliers, relationships among similar or complementary firms, even firms looked at as competitors, are also important for the survival of small business.

Bonk (1996) puts this into a global perspective, something extremely relevant to Hong Kong given its international status. The globalization of business is increasing
rapidly, making the ability to share resources especially important to SMEs that want to participate in global markets. One way to do this is through forming strategic alliances, short or long-term, with complementary skills and resources.

IT enables the forming of these alliances through on-line sharing of information, retrieval of internal and external databases, linking of financial data, accessing external information sources provided by governments, business organizations, universities and international organizations. Bonk (1996) uses the example of industry clusters in Italy, where IT enhances the flow of ideas between small firms with complementary skills and resources.

The main objectives in these kind of alliances should be capturing and transferring internal knowledge and best practices; increasing employees' capabilities; and capturing, transferring, and using customer and market information (Allerton, 1998).

4.3 Other strategic IT uses for small firms
Mattei (1994) shows that even very small companies with no special IT edge can apply information technology (IT) to gain a competitive advantage, in his case study of one small law firm in the US. There are many similarities between this case and the American Airlines SABRE case, indicating that small firms may be able to use IT in similar ways.

Not only was the IT application successful, but it allowed the firm to maintain the competitive advantage for nearly ten years. The firm had only 4 attorneys, very low capitalization, and no formal business plan. The managing attorney began his practice by focusing on low end of the market where fees were much lower. This created the need to make up smaller fees with higher volume, which in turn necessitated the need for automation. He chose to focus on bankruptcy and hired a consultant to evaluate the possibility of automating the bankruptcy forms. After being told it couldn't be
done, he hired a young programmer, bought a low-end inexpensive PC, and within a short time was handling 100 bankruptcies a month.

It is clear here that the owner/manager played the major role in developing this, and that he tied his IT application to a very specific strategy -- capturing a low-end market. This example may indicate that for IT to be successful in this kind of strategic application, the owner or firm must have a clear strategy and a good grasp of how technology can leverage this strategy. Examples like this among small firms are not common.

4.4 Lack of strategic IT critical in some industries

In the case where small firms are in direct competition with large firms, lack of appropriate technology can be fatal. Friedman (1996) found that the technology gap between large & small insurance agencies in US so large that small agencies are in trouble. One reason is the demand for more mobile salespeople. Large agencies can afford the use of handheld computers (now standard tools for agents) to make their salesforce mobile, but smaller agencies can't afford the cost or training expense. This puts smaller agencies right out of the market.

While these examples illustrate the potential of strategic IT, and the danger of not using it, the takeup by small firms is not large. Reasons are varied: lack of capital to invest in IT (as in the insurance example above), reluctance and or mistrust on the part of owner/managers. In addition, small firms tend to be less aware of the potential for IT to improve competitiveness. For this reason, analysts agree that a specific policy to diffuse IT in SMEs is needed (Rovere, 1996).

5. Importance of the Internet to Small Business

One area which may help expand the use of IT and eventually the strategic use is the Internet. The first example of the design firm (above) shows how IT replaced the need
for staff to service distant customers, yet at the same time allowed for the "personal" aspect of customer relationships to remain. IT helped "shrink" the distance between firm and client.

One very easy and obvious way to shrink distances through access to the Internet. Time Magazine\textsuperscript{14} reports that an estimated 700 million people will be connected to the Internet by the end of this century. And that connectivity translates into better business. In the same article, Hewlett-Packard estimates that making salespeople more mobile via the Internet has increased productivity and allowed them to spend more time with customers.

While studies are ongoing as to the role and usefulness of the Internet, it is perhaps too recent a phenomenon to have a place in academic literature yet. But there are indications that small businesses can benefit from it as much as or even more than larger businesses. As early as 1996, Business Week reported that small businesses and entrepreneurs have been more successful at doing business on the "Net" than large companies.\textsuperscript{15}

The Web allows equality in advertising, for example. Television advertising is far too costly for small businesses to think of, as are print advertising and large direct-mail drives, for example. But a creative Website, regularly updated, is well within the budget means of the small firm (Freedman 1996).

Small businesses seem to be adopting the Internet rapidly, as it is inexpensive and user-friendly. A Canadian survey found that usage by small businesses more than

\textsuperscript{14} Ramo, Joshua. \textit{Welcome to the Wired World}. Time Magazine, February 3, 1997. The author also points out that information advantages are now disappearing, and that "connectivity, in every sense of the word, promises to change international trade into a multilateral free-for-all." This certainly has implications for small businesses.

\textsuperscript{15} Rebello, Kathy \textit{Making Money on the Net}. Business Week, September 23, 1996. While large companies have had the technical staff and capital to make huge fancy sites, small companies lacking these resources have focused more closely on target customers.
doubled in 1996. Of regular users, 43% used the Internet to seek business information, and 26% had a Web home page for their business.16

Ng et al (1998) found that while the benefits to business of the Internet are still relatively unexplored, what is apparent is that the Internet allows businesses to enjoy a considerable cost savings to transactions, market research advantages, and the ability to establish a global presence fairly inexpensively, among others.

6. Summary

The role of computers in business has evolved over the decades from routine task automators to potent strategic weapon for firms. Aligning IT with strategy has become vital for the competitive life of firms. This view, although widely accepted, has seen some setbacks given the poor return on investment firms have discovered with their IT spend, and weak linkage between IT use and productivity.

A firm can identify its position with regards to IT by using McFarlan's strategic grid. Three general areas of strategic IT include interorganizational systems, information enabled partnerships, and business process reengineering.

Major studies in the area of SIS have focused on the larger firm. Small businesses do not conform to patterns observed in large enterprises. Adoption of IT seems to lag behind larger firms, and is limited to administrative areas primarily. However, some studies do indicate that small firms do and can use IT more effectively and strategically. One driver may be the owner/manager, whose role in the firm is central and who generally makes most IT decisions.

Nonetheless, strategic use of IT by small firms is possible and does exist. And while McFarlan's theories may have been developed on larger firms, they are applicable to

16 Internet works for small business. CA Magazine. 129(5): 1996 Jun/Jul. The study also found that regular users considered it a valuable resource.
smaller firms; in particular there are examples in 2 of the domains of strategic pertinent to small firms (Fuller, 1996). McFarlan's strategic grid is therefore of some use in determining whether or not small firms are using IT strategically.

Finally, although a relatively new phenomenon in terms of academic study, the Internet may be a great enabler of strategic IT use in small firms, through its availability, affordability and accessibility.
Chapter III
Methodology

1. Introduction
The literature review in Chapter 2 provided background information useful in choosing the methodology used to determine whether or not small service firms in Hong Kong were using IT strategically. As indicated, owner/managers make the major decisions in small firms, including those related to IT. Their attitudes and understanding of IT are often the deciding factors in IT adoption and thus strategic implementation. Thus it was felt that talking directly to owner managers would be the provide a fuller picture in this area, and provide better understanding of the role of IT in their firm.

2. Methodology Overview
This research relied on in-depth interviews with owner/managers of small service related firms in Hong Kong. Questions focused on issues related to the literature review in Chapter 2, in particular, where each firm fit on McFarlan's strategic grid based on the owner/manager's assessment of the importance of IT to their business; whether or not IT had a place in the owner/manager's strategy, if they had a strategy at all; what the owner/manager considered the biggest drawback in the use of IT and how that related to the strategic aspect; whether or not any strategic systems were in place in a formal or informal way; and finally, given the importance of the Internet, whether or not the firm used it and for what.

2.1 Data collection
The main data collection method was face-to-face, semi-structured interviews with managers of the small organizations. Interviewees were selected through introduction and recommendation. Some interviewees were known to the interviewer. The
interviews were tape recorded, and then transcribed. A summary of each interview transcript is included in this report.

2.2 Interview format

Although many research textbooks prescribe structured interviews, where sets of questions are "formulated before the interview and answered rather than considered, re-phrased, re-ordered, discussed, and analyzed," Fielding & Fielding (1986) point out that in fact not many field studies stick to this structured approach. Rather, informal interviews are more common, allowing interviewees to develop their answers more fully. In addition, the interviewer can bring his or her own relevant experience and other observations, making for a more contextual interpretation, indeed a more richer and complex set of responses (rather than answers) to the interview questions.

In addition, face-to-face interviews can provide more depth and completeness of information, opportunity for feedback, and much more participation on the part of the interviewee. Thus face-to-face, semi-structured interviews were chosen as the interview format.

2.3 Interview questions

With this in mind, a set of questions was developed beforehand, and the same questions were then asked of each interviewee. However, further and deeper responses were also encouraged during the interview. The interview questions were developed based on models from Owens et al (1996) to determine relationship between information technology and business performance in light of the literature review in Chapter 2, in the following way:

- Questions on success measurements and competitors' performance were asked to determine if the interviewees felt they had any competitive advantage over their main business rivals, in light of the literature indicating IT can provide a competitive edge.
- Questions on how IT was used within their company were asked to determine (1) how well the interviewee understood the technology being used in his or her company (2) who made the decisions about IT and (3) how comfortable the interviewee was with the IT used in his or her company. These were related to the literature on the owner/manager's importance to IT adoption and use. Questions on the Internet and Websites were related to literature indicating the Internet is of great importance to small firms.

- In light of the importance of *networks* of strategic alliances to small firms described by Bonk, 1996, questions relating to how the firm communicated with customers, suppliers or business partners were to determine whether or not there was any IT-relationship among these players.

- Questions on the role of IT in the company's strategy were straightforward

- Questions on whether or not databases were kept, and the way information was stored and shared in the company were put in order to determine how information was managed and shared, or whether it resided primarily in the hands of the CEO, as is indicated in research on small business owner characteristics, whether is was gathered and disseminated in any kind of systematic way.

- To determine whether or not the owner/manager had any strategy articulated, interviewees were asked IT systems designed or considered as a way to achieve this strategy or other business objectives.

- Finally, specific formal SIS concepts were given to see if the interviewee was familiar with them, and if they had any ideas about their usefulness to their firm.

In fact, the assumption was that these firms most likely did *not* use IT strategically, in light of the literature reviewed: small firms *tend* to be less aware of the potential for IT to improve competitiveness Rovere's (1996); small firms in the commercial and service sectors are under less pressure to computerize than the manufacturing sector (Julien & Raymond, 1994); few firms large or small can supply all the necessary professional technological input given the rapid techno-change in motion, but small firms have more problems in gaining external professional advice (MacPherson,
1997); areas for concern in small businesses are lack of attention paid to management of information systems and inadequate hardware and software (Chen, 1993).

Given this negative assumption, was there some base or groundwork present for the eventual adoption of strategic systems? Or, where there some clear barriers such as fear on the part of the owner/manager towards information technology, as assumed by some studies? If it was found that in fact some firms did use IT to competitive advantage, how was it used and what where some of the possible drivers for that use?

2.4 Range of interview subjects
As the purpose of this study was to get a picture of the status of strategic IT in small companies, a broad range of companies and sizes were chosen. The largest company had around 100 employees, and the smallest had 3. The companies were for the most part limited to the service sector, but ranged widely across it. Again, this was done to find the similarities existing in a cross-section of important business sectors in Hong Kong.

All interviews were conducted within roughly a one month period, with most occurring within a two-week period, so there was no longitudinal aspect to the study. Interviews were conducted off-site to prevent interruptions, and to allow interviewees to relax and think about their answers in a more leisurely fashion.

A total of 10 interviews were conducted, but 2 were ultimately discarded. It was found after interviewing that one owner had sold his share of the firm before the interview was conducted, and so his responses may have been affected by this. The second interview to be discarded was the only one done on-site (with the owner of a busy restaurant). As a result, the interview was continually interrupted by work demands, and a smooth set of question/responses could not be obtained.
The remaining 8 interviews used were with the following firms:

1. A travel agency, with the owner/manager
2. A direct marketing firm, with the owner/manager
3. A certified public accountants firm, with one of the managing partners
4. A pest control services firm, with the owner/manager
5. A jewelry wholesaler/manufactures, with the general manager
6. An IT provider, with the owner manager
7. A computer consulting firm, with the owner/manager
8. A trading firm, with one of the managing partners

All interviewees were Chinese, from Hong Kong. Two were women, and the rest men. Most interviewed were between the ages of 30 and 45. Most had been running their companies for under 10 years.
Chapter IV

Findings

1. Interviews

Each interview transcript is summarized in Appendix B, and general findings are included at the end of this chapter. Some of the key responses for each interview in terms of the literature review are as follows:

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Interview 1  Direct Marketing/Advertising Firm
Yim, KM       Managing Director, Thompson Solutions (HK) Limited, Hong Kong
               13 October, 1998

Importance of IT to the firm

In general, KM feels that IT is only important for the design side of the business, since all design firms use Macintosh computers these days. Otherwise, IT is not particularly important.

Place of IT in the firm's strategy

KM had no IT strategy per se, but he would like to use it, for example, when fiber optics get better, to have remote photo sessions. In this way, staff can stay in the office but have video attached to computer and can operate the sessions remotely so they don't have to run off to photo sessions all the time. He would also use fiber optics when it got cheaper to send huge graphics files quickly and easily; but too expensive to use now.

Biggest problems/drawbacks in the use of IT

He would like to use it more, but lack of technical knowledge is the biggest drawback. He wants his staff to learn how to use Access (a database program) which he thinks would be useful.

Any formal SIS systems in place and being used

No SIS systems. KM does not feel that these systems are important for him, because "we are small company and can tell each other information easily." Large clients may
at some point require them to use video-conferencing, in which case they would install it at that time. They are a small company, with easy access to each other's information, so don't need these kind of systems. KM Yim is future-oriented in his IT focus. Since his firm was a start-up, he spends all his time going after business and does not think of IT at all. But he thinks video-conferencing would come in handy as his firm grew and established overseas offices. Then file-sharing would also be important. Also, systems like tele-conferencing, executive information systems, and EDI would be useful only if he had branch offices overseas. Then these systems would be a way of managing "remotely."

Any "informal" SIS systems in place

No informal linkages. The only exchange of information between firms was via email, generally in the form of brief correspondence. Occasionally the staff sends a file via email. KM does not know of or discuss IT capabilities with his customers or suppliers or business partners. He said there was no need for this. Most of his clients were bigger advertising agencies, so if they requested something, for example a particular file format, he would use it. Otherwise, felt no need to know about others' IT. Thus there were no strategic IT connections of any kind with other firms or parties.

Role of the Internet

KM and his account services staff use the Internet to look up information on clients or potential clients to prepare pitches and presentations for new business. It is helpful in that sense, but not critical. Other staff don't use the Internet. He doesn't have a Website, but will eventually develop one for publicity purposes. It is not important to his business now.
Interview 2
Leung, Dennis
IT Reseller/Integrator
Manager, Interface Computer System Co., Hong Kong
15 October, 1998

Importance of IT to the firm
Dennis feels IT is critical to his firm, but from more of a product perspective than an organizational one. That is, since he sells IT, it is critical to his firm.

Place of IT in the firm's strategy
Since IT is a product, Dennis must keep up with latest in technology. Having similar IT systems and products as customers keeps the company up to date, so for IT strategy, simply staying on top and purchasing or accessing information about products is the extent of it.

Biggest problems/drawbacks in the use of IT
There are no particular drawbacks in using technology, except perhaps in keeping up with products and changes.

Any formal SIS systems in place and being used
No SIS systems. Although Dennis is knowledgeable about all these systems, he does not use them in his company, or if he does, it is only to test the system or product before installing it at a client's site. Because his firm is small, he feels all can share information. These kinds of systems are useful, but only to big international companies.

As for knowledge bases and expert systems, Dennis thinks the Internet plays that role, and his staff can use it systematically to retrieve information, solve problems and so on. In his experience, though, systems like paperless office can't be achieved, even though they work with clients in that direction. He feels people are too reliant on paper.

Any "informal" SIS systems in place
Some minor linkage with customers. Dennis and his technicians will connect to some customers' computers to perform checks and upgrades. In this sense; they have some informal IT connection with customers which allows them to provide customer
service. This depends on what kind of systems the customer buys from them though, and is limited to a few large customers. They do not connect with customers systems in any other way.

Role of the Internet

Only Dennis and the sales and technical staff use the Internet. But they rely on it heavily. In particular, they use the manufacturers' Websites, which provide new information daily about products and problems.

The Internet is used to keep up with current technology, a daily necessity in his business. Aside from collecting technical information, the Internet is also used to order equipment for customers. Major suppliers like Hewlett-Packard provide for ordering via their Website, and allow downloading of various kinds of upgrades and "fixes" (to correct bugs or errors in previously released hardware & software, for example.)

They also use the Internet to find equipment/supplies not available in Hong Kong, and then place orders directly to the US, for example, via these suppliers Websites. In this way, the Internet allows them to provide much better customer service, by allowing them to respond to customers requests in a timely way and provide products not easily obtainable in Hong Kong.

He also uses the Internet to find out information about a problem they encounter with a particular piece of software or system. If they cannot find the information, they "post" a question about it to a newsgroup or the manufacturers' Website. Eventually (sometimes within the same day), they will receive a response from someone (anywhere in the world) on how to fix it.

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Interview 3

Fong, F. Jewelry Wholesaler/Manufacturer
General Manager, Gem Focus (HK) Ltd., Hong Kong,
20 October, 1998

(This was the only firm not wholly a service company, as the firm also manufactured their own designs. Fong is also not the owner of the firm; the owner was not available for the interview. However, as general manager, Fong ran the day to day operations, and also managed all the IT functions of the company.)

Importance of IT to the firm

IT is moderately important to her company, but is not used daily.

Place of IT in the firm’s strategy

For Fong, operational effectiveness could be much improved by IT. Right now, her firm are developing a production/inventory system, which she feels will make the firm much more efficient. However, the owners are not very IT savvy, and one of them is really not comfortable with it, she feels. She is the one who pushed for improving systems, which they eventually agreed to. So she feels that IT will not have a major role in the firm's strategy.

Biggest problems/drawbacks in the use of IT

The biggest drawbacks are time to spend on developing systems, and lack of technical staff to support them.

Any formal SIS systems in place and being used

No SIS systems in place, although some of their major customers in the US use EDI with other suppliers. These customers have not yet asked Fong's firm to connect to their EDI systems, but if they do in the future, Fong feels she will have to implement it.

Any "informal" SIS systems in place

No informal linkages. Fong does not have any connections with customers or suppliers. They firm has one email address, but this is not used internally to communicate. It is only used for correspondence outside the company.
Role of the Internet

They do not use the Internet much in the office, although they use email. They have no Website, but sometimes look at their large customers' sites. Fong is thinking eventually to have a site, but has no time to put into it now. Her main concern IT-wise is the integration of the production and inventory systems now ongoing.

Interview 4

Li, Carsun  IT reseller/integrator
Director, Grande Technology Ltd, Hong Kong.
21 October, 1998

Importance of IT to the firm

IT is important in his company, but as a product more than something he relies on for the operation or running of his company. The company uses IT frequently.

Place of IT in the firm's strategy

As an IT provider, Carsun has to keep up-to-date with current technology. He is planning to setup his own Website, mainly for promotion purposes. He evaluates IT systems, keeping software up to date. He does not have a strategy, he says, but is looking more at the distribution side of the business, and is planning to open an office in Japan, to import certain types of popular computers. Thus he himself will become an importer and distributor. He also is planning to get into the education market, selling education-related hardware and later going into software development. But these plans don't necessarily require IT support within the company, or at least nothing different than what they have now.

Biggest problems/drawbacks in the use of IT

The biggest drawback is lack of technical knowledge among staff. The administrative staff, for example, are often not willing to use software which Carsun feels might be more efficient. He says he does not bother to force them to use it, though, as it is not that important. He prefers his staff not to be upset so much.
Any formal SIS systems in place and being used

No SIS systems. He is familiar with all the SIS systems listed, but aside from email and the Internet, doesn't think any are so important. He helps clients implement many of these systems, though. He tries to achieve some level of paperless office, but feels his staff can't get away from the tradition of paper, in particular the administrative staff. He has helped clients develop paperless office systems, though, and feels they use them successfully. Expert systems, executive information systems are not needed, because they are small company.

Any "informal" SIS systems in place

No informal linkages. Carsun does have a customer database in which he keeps a variety of information about each customer. He uses this as a marketing tool, tailoring advertisements and promotion offers to particular customers. He was only one of two interviewees to mention using a customer database in this way.

Role of the Internet

Like Dennis Leung of Interface, Carsun uses it on a daily basis, to keep up with current technology, a daily necessity in their business. The technical staff use the Internet daily, looking at suppliers Websites, getting new information and ordering products. Carsun himself does not use the Internet on a regular basis.

Interview 5

Chow, Charles CPA firm
Partner, Wong Brothers & Co, Hong Kong,
23 October, 1998

Importance of IT to the firm

IT is important to his business, but not critical. It is more customer-driven than not, but definitely allows work to be done more efficiently. It is used daily in his firm.

Place of IT in the firm's strategy

IT does not play a role in the firm's strategy at all.
Biggest problems/drawbacks in the use of IT
The major drawback is lack of technical expertise and vision, especially by the other partners in his firm. He thinks that will change as they start to retire.

Any formal SIS systems in place and being used
No SIS systems. He would like to use IT more creatively, but it is not a prime consideration with him now. His biggest concern is system reliability, and so he is still using Windows 3.1 and none of the computers are networked. He mentions however, that being a service sector, it is client-driven. "If our client, especially our very, very important clients we can't afford to lose, insist on having this type of communication, we've got to develop it."

Any "informal" SIS systems in place
No informal linkages. Not connected in any way to customers or suppliers or partners. He felt they were really using IT as a sophisticated calculator.

Role of the Internet
Charles uses the Internet to look up legislation (local & international), to check stock, property markets, exchange rates, some kinds of government information, and even weather when travelling. He is one of the few members of his firm to do so -- he uses his own personal email address for that.

He was the only interviewee to raise issues of security in connection with the Internet and email, most likely because of the confidential nature of his business. While he used email for some forms of communication with customers, he cannot send confidential information in that way, thus email is never the primary form of contact.

Interview 6
Kwan, Spenser
Pest Control Firm
General Manager, United Elite Services Ltd., Hong Kong,
28 October, 1998

Importance of IT to the firm
Although Spenser feels IT is important, at the moment his firm does not use it regularly.
Place of IT in the firm's strategy

No fixed place in strategy, but a later stage, using a handheld computer might be useful to the service staff, to have all treatment details in a system. Then the amount of work would be a lot less. He is currently using an IT-based scheduling system but is planning to eventually upgrade to a more sophisticated one. Efficient scheduling is vital to his business.

Biggest problems/drawbacks in the use of IT

Lack of technical staff and knowledge is a drawback.

Any formal SIS systems in place and being used

No SIS systems. Although familiar with some of the SIS concepts, Spenser sees no need for them in his business. In fact, one of his friends works for IBM in Hong Kong, which has a paperless office. But Spenser feels people still react more to a piece of paper than to something on a computer screen. He uses email a little, but not extensively. With only one office, he doesn't see a need for any.

Any "informal" SIS systems in place

No IT-related connections with clients or suppliers.

Role of the Internet

Spenser uses the Internet to look at technical information in his industry, but is not reliant on it.

Interview 7

Chu, Peter  Trading Firm
Marketing Director, Goldman International Ltd, Hong Kong,
3 November, 1998

Importance of IT to the firm

At this moment, not important. Everyone in his company uses PCs every day, but it is not vital to his business. He said they would not go bankrupt without it, they could still function without Internet, email with no problem.
Place of IT in the firm's strategy

He is now considering the purchase of a Macintosh computer to do some design work for some of the products he trades. The firms in China who manufacture the products don't have this capability, so he has to ask his customers to provide this. If he could take over the design side, he would be able to offer his customers a little more, he thinks.

He doesn't have business strategy per se. Key business objectives are to find more clients, right now. A second objective is to source products cheaply, and they have been able to do that. He doesn't utilize IT to achieve these, just "human network."

Biggest problems/drawbacks in the use of IT

The biggest drawbacks were technical knowhow among the staff

Any formal SIS systems in place and being used

No SIS systems. Peter uses email to a minor extent, and was familiar with some other concepts such as LAN, Paperless Office, Document Imaging Systems. He was in fact interested in document imaging systems, and had seen some of the hardware involved, but didn't think his company was at any level to be able to use it. He would use Video Conferencing through the Internet if the opportunity or need arose, especially to save costs. He thought it would be very economical and was interested in it to use eventually. Peter thinks that complete automation can lead to losing information. For example, with the paperless office, putting all their files into a computer would be dangerous if something happened. So he does not see the value of these kinds of SIS concepts.

Any "informal" SIS systems in place

No informal linkages. However, Peter managed to cut costs for himself and one customer in Japan by suggesting to them that they start using email to communicate. Cost was the major impetus in this case; using fax and telephone were driving up the trading firm's expenses considerably. Peter also had a strong relationship with this customer and could suggest using email as an alternative. Ultimately, both Peter and his customer were able to save money by using email to communicate.
However, there had been no further development, and Peter has not suggested to other customers to do the same.

**Role of the Internet**

Peter uses the Internet the least of all the interviewees. He does not use it as an information source for his firm. He does, however, "surf the Web" on his own and thus picks up ideas and information which may have some future relevance to the company. He does not have a Website and felt no need for one. In fact, he thought that there would be too much information on the Internet, thus making it difficult for a customer to differentiate. If every trading firm had a site, for example, there would be hundreds and hundreds of sites. How would a customer know which to choose?

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**Interview 8**

**Szeto, Connie**  
**Travel agency**  
Managing Director, Wind Travel Ltd, Hong Kong,  
25 November, 1998

**Importance of IT to the firm**

IT is vital to her business. She uses it daily, and relies on it extensively.

**Place of IT in the firm’s strategy**

Connie wants to expand her business, getting more customers and adding more staff. At the moment she does not have a strategy, but feels that the travel industry is saturated and not a good prospect for the future. So she is trying to think of what other lines of business she can get into. IT has no role in this at the moment.

**Biggest problems/drawbacks in the use of IT**

The biggest drawback is lack of technical staff, as the on-line reservation systems are rather complicated.

**Any formal SIS systems in place and being used**

No SIS systems. However, Connie uses an on-line reservation system which is in many ways like an EDI system. The use of this is industry-dictated. Without it, she could not run her business. The system connects directly with airlines, hotels, etc and automatically books tickets and other reservations. It automatically faxes an itinerary

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to customers, when they have booked tickets, and will print the tickets out when they are confirmed. The system will also automatically print & fax invoices when the ticket is confirmed. When email becomes more common, it is possible these systems will email this information automatically. Connie has a PC at home as well, and she can do all the functions from there. She uses this on the weekend, so that she doesn't have to go into the office.

Connie Szeto (travel agency) was aware that larger travel agencies used EDI with customers, but generally these customers were large firms who used travel services extensively. Use of EDI required the customers to get special equipment to print tickets on site for example. Connie felt none of her customers would be interested in this.

Any "informal" SIS systems in place

No informal linkages. Like Carsun, Connie keeps an up-to-date database of all her customers, noting their preferences, histories, remarks they make about places they have traveled to and so on. She uses this as a way to enhance customer service, rather than for marketing purposes. Many of her clients are long-term (some more than 10 years, for example) who moved with her from her former agency. This database allows her to anticipate their needs and requirements. She is training her staff person on how to utilize and update this database.

Role of the Internet

She uses the Internet often, especially for hotel information. Although the on-line system she uses also provides this information, it is not as up-to-date. In addition, the presentation of the material is much more attractive on the Websites, so she can print it out and forward it as is to her clients who need it.

Although she does not have a Website, she plans to develop at least a simple one once her new system is running smoothly. She is not sure how she will use it though. Connie uses email, for example, because her customers do, and some of them like to use it more than others.
2. Summary of Responses

Eight interviews were conducted with the following types of service companies:

Table 3
Types & Size of Companies Interviewed

<table>
<thead>
<tr>
<th>TYPE OF COMPANY</th>
<th>PERSON INTERVIEWED</th>
<th>SIZE (EMPLOYEES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT reseller/integrator (2 firms)</td>
<td>owner/manager</td>
<td>15</td>
</tr>
<tr>
<td>Jewelry wholesaler/manufacturer</td>
<td>general manager</td>
<td>44</td>
</tr>
<tr>
<td>CPA/audit</td>
<td>owner/manager</td>
<td>100</td>
</tr>
<tr>
<td>Trading</td>
<td>owner/manager</td>
<td>4</td>
</tr>
<tr>
<td>Travel agency</td>
<td>owner/manager</td>
<td>2 1/2</td>
</tr>
<tr>
<td>Direct marketing</td>
<td>owner/manager</td>
<td>8</td>
</tr>
<tr>
<td>Pest control</td>
<td>owner/manager</td>
<td>20</td>
</tr>
</tbody>
</table>

All firms used IT, primarily for administrative/operational purposes. None used any formal strategic information system.

All interviewees had been exposed to IT through other avenues (study, previous work experience) and seemed comfortable with it. Most had been running their companies for under 10 years. Of the 8 interviewed, all but one were owner/managers of their firm. The only one with no vested interest was the jewelry wholesaler, who as general manager reported to the 2 co-owners, but managed the day-to-day operations of the firm, and thus made many of the IT decisions. (This was the only case where the actual owner seemed to hold a negative view of IT, and didn't use it himself.)

All seemed fairly content with their IT systems and level of use. The only exception was the jewelry wholesaler GM, who had assumed when she first joined the company that they would implement more systems quickly. None of the interviewees saw the need at present for any of the typical strategic systems mentioned, such as EDI, knowledge bases, etc. In some cases though, responses indicated that if a big customer requested them to use a system (such as EDI) they would implement it. All
interviewed seemed comfortable with IT, used it themselves to varying degrees. Except for the two IT-related firms and the travel agency, none saw IT as being any more than moderately important to their business. In contrast, the travel agency and one of the IT-related firms and saw it as being vital to their business.

Some firms had a PC on every staff person's desk, some firms had staff members share computers. Two firms (one IT-related and the marketing firm) had an internal network, with email addresses for each employee. Only these firms also communicated internally via email. The remaining firms had a single email address for the firm, and communicated internally verbally or in writing (memos and so on).

All respondents used email with customers and suppliers, but more as a supplemental communication tool. Main forms of communication were still phone and fax. All but one (Peter Chu, trading company) used the Internet as an information source. Some used it infrequently, some fairly regularly, and some on almost a daily basis (the 2 IT-related firms). None of the interviewees had their own Website, however.

None of those interviewed were familiar with services offered by the TDC or HKPC related to information technology, nor saw any need for assistance from those organizations.
3. Position on the Strategic Grid

Figure 2
Position of Interviewed Companies on McFarlan's Strategic Grid

<table>
<thead>
<tr>
<th>Strategic impact of application development portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
</tr>
<tr>
<td>Support other 5 firms</td>
</tr>
<tr>
<td>Turnaround</td>
</tr>
<tr>
<td>HIGH</td>
</tr>
<tr>
<td>LOW</td>
</tr>
<tr>
<td>Strategic impact of existing operating systems</td>
</tr>
<tr>
<td>HIGH</td>
</tr>
<tr>
<td>Factory travel agency 2 IT resellers</td>
</tr>
<tr>
<td>Strategic</td>
</tr>
</tbody>
</table>

Looking at McFarlan's (1984) strategic grid, 5 firms interviewed would seem to fit in the lowest or support quadrant. The remaining three, the travel agency and 2 IT resellers were more reliant on IT and thus fit in the second or factory quadrant.

Some reasons for this low focus are as follows:

- No relation between business goals/strategy and IT; although some interviewees had plans to implement new software or systems in the future, these seemed to be mostly to improve operational efficiency and were not linked to specific goals or strategies. In fact, none of the respondents discussed clear strategies although the questions may not have brought out this area clearly enough.

- Little or no linking of systems, internally and externally (to clients/suppliers, e.g.) Only one firm (Dennis, IT reseller) had a direct IT link with some clients, to monitor their systems rather than to exchange information. Perhaps the one exception is Connie (travel agency) who uses a sophisticated on-line reservation
system. This connects her to a variety of parties, but its use is industry-driven, thus not necessarily a strategic initiative on her part.

- No systems management. None of the subjects had a staff person dedicated fully or even partly to IT management or development within the firm. Fong (jewelry wholesale) was the only respondent who felt the need for one. Time was given as the key reason why more effort was not put into thinking about IT. The two IT-resellers, who have the technical expertise, did not seem to plan or implement internal systems in their firm, and just used basic PC software. Their efforts were focuses externally, on customers and knowledge needed to support customers.

- Lack of technical staff or technical level of staff as a deterrent. Most respondents felt they would like their staff to be more facile with IT. Even for the two IT-related firms, their administrative staff were not that skilled. Carsun (IT reseller) complained of his accounts staff not willing to use newer or more comprehensive system, which meant he had to rely on less efficient means for analyzing accounts data of his firm.
Chapter V

Analysis & Implications

1. Analysis

The findings from the interviews seem to show that there was no strategic use of IT among the respondents. All seemed to be positioned in the lower two quadrants on McFarlan's strategic grid, indicating that IT did not play a current or future strategic role in the firms.

1.1 IT use in firms

All firms used IT. However, use varied from frequent to occasional. Some firms had only 2 PCs, for example, and used them for basic administrative functions. Communications within these firms were in person or by memo. Other firms had a PC for every staff person and communicated within the firm via email. Two firms used customer databases regularly, while others kept no databases, other than accounts records. This confirms much of the literature on IT use in small firms, which finds that computers are primarily used for basic and operational purposes rather than decisional purposes Chen (1993).

1.2 Role of owner/manager

All interviewees were the major decision makers with regards to IT, had a fairly positive attitude towards computers, felt they were necessary to their firm in at least some ways, and had plans to add to their existing systems. This reflects the findings of (Ray et al, 1994), that small business owner seem to have a generally positive attitude toward computers, but are concerned about issues such as efficiency and the quality of information management, and don't have a complete "trust" of computers. The pest control firm, jewelry wholesaler, and travel agency were all in the process of developing or integrating new systems, for example. At the same time, Charles Chow (CPA firm) was in no hurry to upgrade from Windows 3.1 to 95 because of fears of instability in the newer system.
1.3 Strategic systems

While there are examples in literature of small firms using strategic IT effectively, particularly in the domains of interorganizational systems, and information enabled partnerships, none of the firms interviewed used systems in these ways. There was a strong sense that at least some of the adoption of technology is client-driven. Charles Chow (CPA firm) mentioned adopting systems if an important client requested so. The jewelry wholesaler also felt that if large customers who used EDI asked her firm to implement it they would have to. Connie Szeto (travel agency) mentioned that the reason she used email was because of some of her clients liked to communicated in this way -- for other clients she only used fax or phone.

None of the interviewees mentioned formal strategic alliances with other firms, although the interview questions may not have revealed this. However, it was clear that some firms have at least informal relationships with other firms. Dennis Leung (IT reseller), for example, discussed an actual alliance with another small firm. This was to provide a complementary technical service (cabling installation) that his firm could not provide. The alliance was rather loose; each firm worked with each other when the opportunities arose, and had been involved in various projects together. They did not spend much time going after business together, though, he mentioned. They also did not share anything through IT.

Charles Chow (CPA) also mentioned, in relation to giving good customer service, that he had to be honest with clients about where his expertise lay. Thus if they needed a service that his firm could not provide (tax information on Europe, for example) he would refer them to an expert in that field.

Carsun Li (IT reseller) was also planning to branch out into the distributorship business, and setting up an office in Japan for this purpose, was working informally with a small firm in Japan to facilitate this.
None of these three used IT to facilitate these relationships.

1.4 Role of the Internet
The Internet played a role as an information source for most of the firms interviewed. In particular, the two IT-resellers relied on it very heavily, and used it extensively in keeping up to date on products, ordering from suppliers, and problem-solving. However, none of the firms had a Website, and only two of them had vague future plans to implement one. In these two cases (KM Yim, marketing firm and Connie Szeto, travel agency) the Website would be for promotional purposes. Some slightly negative attitudes towards the Internet also existed, with the CPA firm concerned about issues of confidentiality, and the trading firm owner (Peter Chu) thinking that there would be too much information on the Web for a Website to be useful to him.

2. Possible Reasons for Lack of Strategic IT Use
Some of the responses of the interviewees provided some possible reasons why IT was not being used strategically in their firms.

2.1 Perception that small firms don't need SIS
Size seemed to play a major role in perceived necessity of SIS systems, especially in relation to communications and information flow. Most of the respondents at some time during the interview said they were too small, they didn't need SIS systems; if they grew big, they might use them. This may relate to Bensaou & Earl (1998), who found that in their studies of Japanese firms and SIS, Japanese firms response was "if a human can do it better, why use a computer."

Dennis Leung (IT reseller) said his company is too small to use these things (SIS systems); only if they had branches or overseas offices, they would need them. His clients use them, and he has implemented some for them, but he himself does not need them. KM Yim (marketing) said the same thing. He felt systems like tele-
conferencing, executive information systems, and EDI would be useful only if he had branch offices overseas. Peter Chu (trading) also felt tele-conferencing might be useful some day to save costs.

Although Carsun Li (IT reseller) liked the idea of a paperless office, he felt EIS and other such systems where unnecessary for a firm his size.

It is interesting to note that size did not seem to play a role in the general use of IT. Thus the most sophisticated user, Connie Szeto (travel agency) was the smallest firm interviewed. She is able to "tele-commute" for example, because she has a computer at home linked into her on-line system. She simply transfers her office calls to her mobile phone, and is able to carry out most of her business from there. The only thing she can't do was issue tickets. She says she would like to develop a system which will allow her to be fully mobile, and looks forward to the time when she can do everything with a notebook computer and mobile phone.

In contrast, Charles Chow (CPA), the largest firm interviewed with 100 staff, said his firm was using IT more as a tool, like a sophisticated calculator, and was not integrated in any way.

2.2 Emphasis on customer relationship & lack of tie-in to IT
Five interviewees emphasized the importance of customer relationships, and indicated that this was a measure of success. Carsun Li (IT reseller) says that for him, "starting out as a client, ending up as a friend" is the best model for business. KM Yim (marketing) felt that a good reputation among customers, suppliers, and the industry in general was most important for success.

Good customer relationships were best achieved face-to-face or on the phone. The interviewees did not seem to see a relationship between IT and customer relationships/service. While some used email to contact customers, it was never the
primary form of contact. Charles Chow (CPA) said that considerations of security and legality constrained their use of IT, in particular email.

The general feeling was that as a small business, IT does not need to be relied on to achieve this closeness with customers, and can be a deterrent in fact. Spenser (pest control) thinks phone/voice communication provides better service. For example, email doesn't provide immediate response. His feeling is, if you send an email, you may be wondering if it has been received, time is spent waiting for a response, if it doesn't come, eventually the phone or fax will be used. The human contact is especially important. In a service business, Spenser feels you have to respond to a customer complaint well. "I tell my staff, a complaint is an opportunity." Computerized answering systems can't provide this; they only serve to make the complainer angrier.

Peter Chu (trading) also emphasized at various times during the interview the "human networking" aspect of business. He characterized business relationships as "tricky" and indicated they took a lot of effort.

Because of their size, small firms are close to customers, in fact. Peter Chu made himself aware of market trends, customer needs, end-user needs, by talking to people, looking things up and verifying them for himself. Thus he was in some sense "in the middle" of the market, in tune with his customers. He felt there was no way technology of any kind could replace that.

2.3. Informal information gathering / information sharing in firms
The interviewees all seemed to use various informal ways of acquiring information about customers, markets, and business in general. Charles Chow (CPA) uses committee and organization memberships to gain knowledge, for example. KM Yim (marketing) is also involved in many committees, and says these provide him with the opportunity to get business advice from other experts.
Peter Chu (trading) gets together with customers and a variety of business groups as much as possible. The day before the interview he had played golf with a Japanese business group from Osaka. He uses these occasions to find out about a wide variety of business-related issues, not just pertaining to trading.

Connie Szeto (travel agency) uses her customers to build up knowledge of travel information. Since she can't take many trips and fly on airlines, etc., constantly to gather first-hand information, she relies on feedback from customers to find out about problems, good deals, features, etc., of travelling. She uses this information to build up knowledge of specific customer's preferences, but also it provides her with information on the field in general.

These information sources seemed sufficient. Additionally, within the firm none of the firms interviewed seemed to have any systems-related way of disseminating information within the firm. Most relied on paper to pass information along, and did not have connections between systems, for example accounting and sales, as a way to provide information to different departments.

2.4 Lack of in-house technical staff who can help promote benefits of IT
Although the owner/managers made decisions about IT, they were also running their business, and the sense was IT decisions were not a high priority. No firm had a specific staff person responsible for building/maintaining in-house systems, for example. Even the IT resellers, who had the technical expertise, seemed to focus this on customers' systems and not their own.

3. Implications
As this study relies heavily on personal views of owner/managers, implications to be drawn are limited and may not be indicated in further research. A great deal of further
work is clearly needed to begin to provide directions. Some possible implications may be assumed, however.

On the positive side, contrary to the HKPC's contention that there was a fear of technology among small businesses in Hong Kong, none of the interviewees expressed any major fears. Indeed, all were more than comfortable with IT, felt it contributed to their business, were in the process of upgrading or adopting more, and in general, seemed open to suggestions on its use. At the same time, except for the two IT-related firms, all subjects said they didn't know that much about IT. Charles Chow (CPA) "I'm still learning; gathering additional information all the time." Most interviewees seemed to be in control of their IT systems.

This might indicate that given clear reasons and attainable goals in implementing strategic IT, in particular for increasing customers and growing their business, they might be open to such implementation. In particular, if support or resources were provided by government-related organizations, adoption of more strategic uses of IT in small services firms might grow.

On the negative side, except for the 2 IT-resellers, there is a lack of IT staff and technical support internally in the firms. Yet most firms consider lack of technical knowledge a major drawback. Use of strategic IT may imply a more sophisticated understanding and support of systems, requiring someone with a technical background to implement and manage. While firms may eventually feel the need to hire IT staff, there is currently a shortage of such staff. It is estimated that the SAR could be short of about 2000-3000 IT-trained professionals each year, and the number seems to be growing.¹ It would not seem likely that small firms could attract personnel. While outsourcing may be an option, the same problem might remain in that consulting firms which have adequate personnel would be too expensive for small firms to hire. However, it may not be necessary for firms to have IT professionals if

¹ Kristen, Mel HK lags behind in race to IT leadership, South China Morning Post, 25 November, 1998
their larger customers are driving the adoption of strategic IT (EDI for example) and can provide technical support.
Chapter VI
Limitations

There are a variety of limitations with this study, and because of this, it does not seek to be more than an initial look strategic information systems in Hong Kong's small businesses.

1. Validity
Since the data was collected through interviews, while providing perhaps a richer contextual framework, it also brings in the question of validity. Data can not be checked and verified easily, for example. Fielding and Fielding (1986) point out that this difficulty in data verification is widely assumed, since interview data is removed from direct experience. This does not mean it can't be done; follow-up techniques such as correlating interviews with other staff, physical inventory of systems, etc, may be used. However, due to time and resource constraints, no attempt was made in this paper to validate the responses.

2. Demographics
Other limitations include the lack of demographic uniformity among interviewees. Age, experience, education differed. Out of 8 interviewees, only two were female, for example. While all interviewees had a tertiary education, some had graduate degrees. In addition, some interviewees were educated in the US and Canada, and had international working experience, while others had HK-centered education and work backgrounds. Some interviewees had remained primarily in one industry, while others had work experience in several industries. While age varied, ranging from 32 to about 46, this difference was not felt to be a limitation in this context.

3. Company type/industry
Essentially, only service companies were used. (One company was involved in production, however. The jewelry manufacturer/wholesaler thus had production
concerns other companies interviewed did not.) Differences across industries could therefore not be determined in any way through this research. In addition, not all types of service industries were included.

In particular, no retail firms were included in the research. This is important in light of the fact that IT is used more extensively, and in a more sophisticated fashion even by small retail shops. It is generally accepted that IT is a clear source of competitive advantage in these firms (Julien & Raymond, 1994). Often, adoption of strategic IT is distributor or supplier driven. Kirby & Turner (1993) point out that effective IT adoption in small retail is often facilitated by the large supplier.

4. Economic situation
All interviews took place during a severe economic downturn in Hong Kong and the Asia region. These conditions may have influenced interviewees answers. For example, staff cuts had taken place in some firms before the interviews took place. Income had dropped dramatically for some firms. Business objectives and strategies seemed to be geared towards survival rather than growth, and attention paid to IT may have been limited because of this.

5. Interviewer bias
Finally, interviewer bias was a limitation. Given that the interviewer is also involved in the field of information technology, certain presuppositions may have been present. In addition, some of the interviewees were known to the interviewer. However, none were of a business nature (customer or supplier), and the interviewer had no in-depth knowledge about the interviewee's business.
Chapter VII
Conclusion & Further Study

1. Conclusion
In-depth interviews were conducted with owner/managers of small service firms in Hong Kong to determine if IT was being used to gain strategic or competitive advantage for their firm. Findings indicated that the firms did not use IT strategically. As indicated in the literature, IT use seemed to be primarily used for administrative or operational purposes, and their did not appear to be linkage between the firms' systems and any of their customers or suppliers. Most firms did use the Internet however, primarily as an information source. The owner/managers of these firms made all or most of the IT-related decisions in their firms.

2. Further Study
There is ample room for future work in this area. More quantitative work related specifically to small service firms is clearly indicated, focusing on certain areas within this sector such as advertising, accounting, of which there are many. A quantitative study might investigate numbers and types of computers being used, exactly what software and what version of software firms use, and so on.

Since information-enabled partnerships may be one area where SIS can be utilized, further study could focus on small firms relationships with other firms, the nature of these relationships and what areas could lend themselves to strengthening via IT.

In addition, the role of TDC and HKPC might be researched. Respondents did not use services from these two organizations relating to IT. Since there is strong government initiative to promote IT through these organizations, it might be worth looking at how the resources or programs being offered relate to small service-oriented firms, and what ways small firms could be made more aware of these resources.
This could be important in light of research on the diffusion of IT policy, and relevance of government support services to SMEs. Substantial money and energy worldwide has been invested in support services for the SME sector, as interest has grown in the development of small enterprises. However, evidence indicates that many of the programs and services designed to support small enterprises have reached and assisted only a minority of them (Sarder et al, 1997)
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Electronic Resources

Location: http://www.shef.ac.uk/~is/publications/inires/paper46.html

Information on Hong Kong
Location: http://www.info.gov.hk/

Information on US small businesses from the U.S. Small Business Administration's Office of Advocacy Website
Location: www.sba.gov/ADVO/stats
Appendix A

INTERVIEW QUESTIONS

This is a research project to study the awareness/usage of Information Technology in Hong Kong’s small businesses. Although information technology covers a wide area, you can think of it primarily as the use of computers and related technology, such as printer, scanners, networks, email, and so on, in your day-to-day business. Tell me a little about yourself, (Prompt - background, work history, education if you want to).

Tell me about your company (Prompt - What does it do, how many employees, branches)

To begin with, I’d like to ask you some questions about success.

How do you measure the success of your company? (Prompt - Income, # clients, expansion, # staff)

Do you feel your company is successful?

How do you feel your company is in comparison to your main competitor? (Prompt - Can you compare yourself to them based on the above measurements for success?)

Next, I would like to know how information technology is used in your company

Does your company use information technology?

Do you yourself use information technology? If so, what do you use?

Can you tell me what you information technology equipment you use (PC, MINI, #’s of machines)

Can you tell me about the applications (software) you use?

Who uses IT in your company (Prompt - all staff)?

How would you say the level of IT knowledge is in your staff (Prompt - can all staff use the same systems, software in the same role)

How do you decide which technology to use (Prompt - equipment, software)?

Do you have one staff person dedicated to managing the IT for your company, full-time or part-time?
What role do your staff play in making decisions about IT. (Prompt - do they suggest systems, software to you)

What do you use your information technology for?

Do you keep databases? If so, of what? What do you use them for?

Do you use email? Do all staff have their own accounts? If not, who does?

Do you use the Internet? For what?

Do you have a Website? What do you use it for?

Next, I'd like to ask you about IT in relation to communicating with people in your business

What are your main forms of contact with your customers?

Are you familiar with the IT capabilities of your customers?

Do you ever discuss IT capabilities with them?

Do you ever exchange information, or anything else with your customers by using IT?

What are your main forms of contact with your suppliers?

Are you familiar with the IT capabilities of your suppliers?

Do you ever discuss IT capabilities with them?

Do you ever exchange information, or anything else with your suppliers by using IT?

Is there anyone other than suppliers/customers who you exchange information with using IT?

Next, I'd like to ask you about the role of IT and your company's strategy

Can you identify any information systems strategy in your company?

Does using the internet play any role in your company's strategic process?

Do you evaluate the effectiveness of your information systems (if so, how and how often)
I'd now like to ask you about information and how you use it in your company

Does your company require a great deal of information to be competitive, or do you depend just on individual's knowledge and expertise? Please explain.

How is the individual knowledge communicated to other staff members? How is information passed around in your company?

Do you always know where information is in your company? Do you ever have any problems finding it?

Where do you get information from?

Let's talk about your business objectives, training and support

What would you say your company's main business objectives are right now? Do you have a current business strategy?

Do you use your information technology systems to achieve these objectives? Do you plan to in the future?

Do you provide training to your staff on IT?

Are you familiar with the Hong Kong TDC Small and Medium Enterprises Service Station?

Are you familiar with the Hong Kong Productivity Council's IT support services? Have you used them?
Are you aware of any other support organizations for IT related to your business?

SIS - In this section, I will ask you about some types of strategic information systems. Please tell me if you know about them, use them (and if so, how) or would like to use them

email

EDI (Electronic Data Interchange - for example, sharing information electronically between you and customer - like ordering supplies via computer connection and so on)

paperless office

executive information systems EIS
Expert Systems (These are systems that might, for example, in medicine, make a diagnoses for a patient, or design a piece of equipment for an engineering company, - which can provide the expert advice for something)

WAN (It stands for Wide Area Network)

LAN

Voice Systems

Document Imaging Systems (This is connected to paperless office - these systems put all your paper documents on the computer)

Knowledge Bases (This is something like a library of all the important knowledge you have in your company, but on a computer and accessible to everyone)

Groupware (Lotus Notes is an example of this)

Video Conferencing

Decision Support Systems (A kind of system which helps you choose alternatives - for example, starting a business in one location or another)

Intranet

Finally, I'd like to know how important you think IT is to your company

How would you rate the importance of use of IT in your company?
not important, moderately, extremely

What do you think the extent of usage of IT is in your company
never, occasionally, moderately, frequently, always

What are the biggest drawbacks for you in using IT in your company
cost
technical knowledge
technical staff
Appendix B

INTERVIEW SUMARIES

Yim, KM  Thompson Solutions
Leung, Dennis  Interface Computer System Co.
Fong, F  Gem Focus HK
Li, Carsun  Grande Technology
Chow, Charles  Wong Brothers
Kwan, Spenser  United Elite Services
Chu, Peter  Goldon International
Szeto, Connie  Wind Travel
KM Yim, Managing Director, Thompson Solutions, Hong Kong

Company
Direct marketing firm. Established approximately 3 months ago. 8 employees, including 2 minority partners. Firm established under an informal agreement with a large multinational advertising group, and has the use of their facilities, technical staff and equipment, and the use of their name in getting business.

Profile
KM Yim is an advertising professional in his mid-40s, and has been in the advertising business in Hong Kong for over 20 years. KM received an undergraduate degree from the Chinese University. After working for 4As (the largest global advertising agencies) for 10 or more years, he struck out on his own.

He started his first company, a direct marketing firm in 1988. Wanting to grow more quickly, he took on an expatriate partner and created a new and bigger marketing firm in 1993. KM managed this for about two years, but felt again that the agency was not growing fast enough. With his partner, he decided to merge with a large multinational marketing group. The merger was a disaster. Instead of growing, sales dropped dramatically. After much disagreement with the new management, KM sold out after a 2-year period and started again.

KM is very active in a variety of organizations in Hong Kong. A member of the Lions Club, he is currently chairing a drive to upgrade IT in HK schools. With the support of the Department of Education, this drive will set up an educational software library, sponsor an award each year for outstanding IT teacher, and promote the use and study of IT in Hong Kong's schools. He and his fellow members are concerned with the future of Hong Kong, and want to see a more computer-literate and computer-creative population in the future.

Business
The company is a direct marketing firm. They work in conjunction with large advertising agencies, and provide direct marketing services to their clients. They target financial institutions (insurance companies, banks, etc) primarily. KM and his partners do most of the sales/client building side. There are designers and account executives who handle the production, and a small administrative staff.

Success
For KM, the most important ingredient for success at this stage is to get his company's name known. He feels that if his company's name is known among companies, if it has a good reputation for creativity and reliability, that will indicate he has been successful in getting his company going. Profit and number of clients is also an indication of success. Since the company is a start up, it is not yet profitable, but KM is optimistic. His past companies were a success, and he always felt ahead of
his competitors in terms of type of client (he had bigger clients than his competitors) and was able to make a good profit.

**IT**

KM has been using computers for the design and production side of his business for 8 years - and was one of the first small companies to start using Macintosh computers for design. Computers are crucial in this part of his business. "Now of course, we cannot have a design business without computers."

But he only started using a computer himself for more administrative/operational work about 2 years ago, when he sold his previous company to the large multinational.

He uses a PC every day, for email, correspondence. All staff use computers, (and each has a PC on their desk) with the two designers using Macs, scanners, and other design-related equipment, and the rest using PCs. He is not familiar with the software the designers use, but he and the rest of his staff use MS Office (Word, Excel). He feels the level of IT knowledge is very basic among his staff, although the designers are quite competent with the various design-related software they use. He would like his staff to have more knowledge and skill in using IT.

KM makes all the decisions about IT. His designers will sometimes ask for a piece of equipment or software, but what they want is always "too expensive" according to KM, and he won't spend the money on it. There is no staff person to manage the IT in the company -- they have outside firms who they buy the equipment from, and who come in on an on-call basis to solve any problems.

They do not maintain databases of clients or others, although they have lists of names & addresses which they use for sales pitches, etc. KM leaves the management of that all to his assistant. He uses an outside accountant, who does his books on a freelance basis. He is not familiar with what software she uses, and gives her the monthly accounts information on paper. He would like his staff to be more familiar with databases, though, and when the company is more established, may try to get some training in. In general, though, he does not have staff go for training. Right now, he can rely on the IT staff of his associated advertising agency.

**Internet/Website**

The company does not have a Website, but would like to in the future. KM does not feel it is crucial to his business just yet, but the publicity value is important, so wants to get one up in the near future. They use the internet to find out information about clients or potential clients for developing pitches, but don't maintain any kind of database or system for this; it is just up to individual staff who are participating in the pitch.
Communications
Main communication with customers are face to face, especially at first, and then by phone and fax. They correspond by email with customers who use it regularly. He is not familiar with clients IT capabilities, and doesn't see the need to be. Many of his clients are in fact larger advertising firms who outsource some of the direct mail work to him, and they have their own IT staff, so he doesn't touch this aspect of their business. Also, since the need to receive the client's agreement at various stages throughout a project, they forward material by messenger to receive a signature. This cannot be done by email, KM thinks.

The same is true for suppliers, although they sometimes confirm they use a certain file format, and may send graphics files by email. Otherwise, contact is mainly through phone and fax.

IT Strategy
Not really a strategy but would like to use if for example when fiber optics get better to have maybe remote photo sessions. So staff can stay in the office but have video attached to computer and can operate in some remote room so don't have to run off to photo sessions all the time. And also can send huge graphics files quickly and easily. Can't do this now, or much too expensive.

We use the Internet to get information about clients, so in that sense it is important, but not so much a "strategy."
At the moment, our systems are sufficient, since we are concerned with getting and building our business; we have some deadline to meet on this. So don't really evaluate as long as they support the necessary work.

Information
KM's assistant keeps track of information in the company, in her own way. The designers have a small physical library of design books as well. Don't really keep any central storage of information. In general, account executives handle the information for just the accounts they manage. We are small, so we can ask each other what we need. Information is not critical for KM's business, but helps in winning business by knowing information about clients.

Business Objectives/Training/Support
Since they are a start-up, winning business is most important right now. KM wants to expand number of clients, get our name known. He thinks he can get Japanese & Korean companies in future, but not yet. This may be the only "strategy" that he has. IT is not important at the moment to getting clients.
Again, staff training on IT is not critical. Everyone can use systems enough for the moment. But would eventually like to develop more databases of things, and would like to get staff trained on Access (MS Access - a database software)
SIS
Aside from email, which he uses every day, and LAN (the PCs in his company are all connected to the partner advertising agency system), KM does not feel that the systems on the list are important for him, because "we are small company and can tell each other information easily."

Large clients may require them to use video-conferencing, in which case they would use it at that time. KM repeated that they are a small company, with easy access to each other's information, so don't need these kind of systems. But he is ambitious and would like to grow quickly, once he reaches some established level. In the future, he envisions some of these systems would be important to link branch offices, to share information and databases. And he is quite enthusiastic about the future of optic fiber connections for sending huge graphics files easily and quickly. When that technology is more common and less expensive, he would like to use it in his business.

Importance of IT/Drawbacks
While they use IT daily, the only critical area is in design, since it is the standard to use computers now. In other aspects of his business, it is really not that important. The biggest drawback right now is technical level among his staff. He would like them to be a lot more skilled technically, to be able to use databases, etc. He also feels his design staff could be more technical. At the moment, though, they can use the IT staff of the partner advertising agency, so it is not a drawback at this stage of their business.

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Dennis Leung, Director, Interface Computer Systems Co.

Company
Computer reseller/IT-integrator. 15 employees (down from 21 in 1997 due to economic slump). Firm established over 9 years ago.

Profile
Educated in Canada, Dennis has been working in the computer industry for 18 years. He is in his early 40s. After completing a degree in computer science, he returned to Hong Kong. His first job was as a software programmer, followed by a stint in hardware service. He then changed companies to work in computer sales, and finally established his own company in 1989.

Business
Started out as an HP (Hewlett-Packard) authorized reseller, with a staff of 4. Right now, business consists of hardware reseller, service provider, even system integration, mostly for small to medium size computers, not involving any mini computers or mainframes. Although they have some big customers, the profit margin is quite low, or much lower. Because they have maybe a purchasing division, and they can be very
aggressive on price negotiation, or they have an IT staff so they don't need Dennis' firm for advice so much, just equipment. But form small or medium-sized firms, they are more reliant for advice and support in many ways, profit margin is greater.

Success

Dennis rates success in two areas: The first thing is money. "You don't do a business without money, if you have money it's half of a success."

The other area is the relationship built up with customers. Dennis seemed to feel very strongly about this, and noted building up trust not just between companies, but between individuals in companies was very important. "Sometimes my customer will ask me out for a drink; I feel very happy." He feels his company is doing very well in this second area, and has strong relationships with customers.

The third area is in-house. For Dennis, a successful company is one with everybody working together well under the same roof. Even though some will be managers, and some will be staff that follow the instructions of managers, he feels a successful company works without arguments or politics. He feels his company is like this, and he is quite satisfied; they work together, and also socialize together at barbecues, playing mahjong and so on. Since they are only 15 people, it is easy to do this.

He feels that given the economy, his company is successful, although sales are down 20% from last year. But his customer relationships are much stronger than his competitors, and that helps him survive right now.

IT

His company uses IT, as he does, on a daily basis. He himself does not use it for much administrative or technical work, as his staff handles that side now. All staff have a PC and they are networked together. They also have all current popular software, although the admin staff use MS Office and an accounting package provided by their auditors. The technical staff know most software to support clients, but some have particular specialties. The technical staff share 1 PC per 2 staff.

All staff are comfortable with what they use in terms of equipment and software, but since they have technical staff, help and training is available in house. For decisions about IT, they are often client driven; if a client uses something, they may also use it in house to be able to support it. Dennis evaluates all requests like this, however.

Aside from the technical staff, the admin staff use IT for accounting, record-keeping, correspondence, and maintaining some databases. Although they have customer databases, they use them mostly for billing purposes, and Dennis would like to use them more fully to keep better track of customers. Since he and all his technical staff are IT people, they do not have a staff person to manage IT within the company.
Internet/Website
The company uses email but only to keep in touch with some customers and suppliers. The company has just one account, which is shared, and then Dennis and some other staff have personal accounts which they also use for business.

They do not have their own Website. Dennis says because they are a reseller, they rely on the manufacturers' Website to get updated information, updates, upgrades, or new drivers for customers, or reporting errors, problems to manufacturer to get an answer for them. Occasionally they use the Internet for purchasing. Some technology companies do not have an office in HK, but customers will learn about their products through magazines, mailing. If the customer wants to buy it, Dennis will order directly through the Internet. All manufacturers they deal with have Websites.

Communications
With new customers, the main form of communications tends to be face-to-face; but with older customers, they use the phone, fax, and email sometimes. For support, of course, there is a support hotline that customer call when they have a problem.

Since it is their business, Dennis says of course they are familiar with customers and suppliers IT capabilities. But the do not really need to link to them much, only if supporting a technical problem, for example. For big suppliers with Websites, that is often a way of communicating, and even ordering, and downloading certain free programs, etc.

IT Strategy
Dennis says he has no IT strategy per se for his company. The main reason is that they are too small, and do not have any branch offices. anyway. So he never thinks of information technology strategy in-house, only in terms of how to provide systems for customers. Essentially, Dennis feels IT strategy becomes necessary only when the company is large, with branch offices, in particular international ones. He has set up groupware (Lotus Notes) for several of his international customers, for example.

The Internet doesn't play a role from his side, but since they use manufacturers' sites frequently, he finds it helpful and efficient.

He would say IT is sufficient, in terms of size of his company. There is no problem in communicating internally; most staff have mobile phones, even for outside. Email is not used internally, just written or verbal communication. When Dennis is on a business trip or holiday, his staff communicates with him via email, which is sufficient. Sometimes his staff will suggest something to him in terms of IT, but in general he evaluates it based on cost, necessity and so on before purchasing. He does this from time to time, but not often.
Information
Because they are a computer reseller, the service department is their information center, for applications or problem solving. Dennis definitely feels his company requires a lot of information to be competitive; in terms of latest products, latest models, on software problem solving. Since no software is bug-free, and there are even conflicts between applications which are unknown to the manufacturer, to the publisher. In fact, Dennis and other firms like him act as an information resource to the manufacturer, as they report problems they encounter which the manufacturer is not aware of. This is also done via the Website.

On the technical side, different staff have different levels of knowledge. This gets shared through on the job training. Again, Dennis says their size means they have no problem communicating, or understanding where information can be found.

They get most of their information now from the Internet, trade magazines, customers sometimes, and some training courses.

Business Objectives/Training/Support
Dennis' main objective, given the poor economy, is to survive, but he would like to grow his company when things pick up again. Areas for growth include getting more customers, adding more technical staff, and developing more partnerships with companies which can provide complementary services to customers. At the moment, they have an informal partnership with a cabling company for video and things like that. He has no particular strategy for achieving this at the moment.

The internet provides business opportunities, but at the same time Dennis feels it means he and his staff have to stay on top of technical information. This is because some customers can find the same information via the Internet, or other ways. So a customer may learn about a new HP product and ask Dennis about it. Then he has to know if it is available in Hong Kong, and if not, when it will be, and so on. So in that sense, information is very important to their business objectives, and they must have it to maintain customer satisfaction.

Having similar IT systems and products as customers keeps the company up to date on this area, so for IT strategy, simply staying on top and purchasing or accessing information about products is the extent of it.

The company will offer courses to engineers, if they are willing to take it. But, quite a number of them are very aggressive about taking courses, go through examinations, get certificates from Novell, Microsoft, as well as HP. And such companies like Novell, Microsoft, even Lotus, and HP, Compaq will offer training courses on their new products which will be free, or even or technology knowhow which they will charge; Dennis is more than happy to accept such costs to update at least those engineers.
As for other staff such as admin, he feels basically they don't really need it. In addition, they can ask the technical staff for support and help, so no need for outside training.

He is not familiar with services provided by the TDC or HKPC.

**SIS**

Although Dennis is knowledgeable about all these systems, he does not use them in his company, or if he does, it is only to test the system or product before installing it at a client's site. Because they are small, he feels all can share information. These kinds of systems are useful, but only to big international companies.

As for knowledge bases and expert systems, Dennis thinks the Internet plays that role, and his staff can use it systematically to retrieve information, solve problems and so on. In his experience, though, systems like paperless office can't be achieved, even though they work with clients in that direction. He feels people are too reliant on paper.

**Importance of IT/Drawbacks**

IT is critical to his business, but as a product more than an internal system. Cost is not a drawback, but technical knowledge is sometimes, especially when a customer wants some very sophisticated technology like a firewall. But for his company, it is difficult to say what other drawbacks there are. He feels the admin staff use IT sufficiently, and the Internet provides many things in the past were difficult or costly to acquire.

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**F. Fong**, General Manager, Gem Focus (HK) Ltd.

*(Not her real name nor real name of company. She asked that this information be kept confidential.)*

**Company**

Jewelry manufacturer and wholesaler. Major clients in North America. Established approximately 5 years ago, now have a staff of 44. The owners leave the day-to-day running of the business to the general manager.

**Profile**

Fong has a degree in accounting and computers. She is also currently finishing up an MBA. She has worked in accounting and administration management for over 10 years, and has been general manager with this company for 3 years. She is 34.

**Business**

The company both manufactures and wholesales diamond and gold jewelry. They have a sales department, a production department, and an administrative department.
Success
Fong feels profit is a major way to measure success. And in those terms, the company has been quite successful over the 5 years, with a good return and something like 20% profit, which is very good in that business. Number of clients is not so important, because the company targets a smaller number of big clients.

But she does not feel the company is entirely successful, because it has not grown much over the years. When she first joined the company, she expected it to expand quickly in terms of number of staff and better internal systems to increase efficiency and productivity, and it has not happened.

Compared to other firms of similar size, however, the company is doing well. The current poor economy has not affected it unduly, and Fong knows of many other similar companies which have gone out of business. Compared to large companies, however, she feels they are still far behind, especially in terms of internal systems.

IT
Not all staff use IT. The administrative department staff each have a PC, and they are networked together for printing and some file sharing. One of the owners has a PC on his desk, but is not very computer literate. He delegates all that to Fong. She, her office manager, and the administrative staff use IT most extensively. There are some PCs in each of the other departments, for Fong decides IT needs, in terms of software and hardware, and also gets input from her office manager. The owner generally approves her decisions from a cost viewpoint, but knows nothing about systems in general. Fong herself determines if software, for example, should be off the shelf, or custom made. They have used some customized software for their production department, and she is the one who works with the vendor in designing & approving the system. Right now, they are developing a system to integrate their production and inventory, and this is being done by a software vendor. Staff will complain when systems become inefficient, and she responds to those complaints.

There is no staff person responsible for IT in her company, although Fong feels they need one. However, the owner does not see this as necessary.

Production is actually done manually now, and the system being developed will automate part of that, incorporating an inventory management system as well. Main uses of IT in her firm are administrative (accounting, personnel)

Databases of sales, orders and inventory are kept separately. Sales information for customers is kept, but not for marketing purposes. Fong says there is no great need to do marketing for their firm right now. Sales information is used to keep track of how customers are buying, and used to determine if they need to increase sales to some customers, for example.
One of the co-owners handles most of the jewelry design herself, and right now she and Fong are evaluating/searching for software which will help automate the design part of jewelry production. Right now the systems are not user friendly, though. Their intent is to find software which will allow the more junior staff to handle the design functions, under the specifications of the co-owner.

Internet/Website
They do not use the Internet much in the office, although they use email. They have no Website, but sometimes look at their large customers sites. She is thinking eventually to have a site, but has no time to put into it now. Her main concern IT wise is the integration of the production and inventory systems now ongoing.

Communications
Most communications with customers and supplier are through fax and phone. Email is used only a little. She feels there is not much reason to be familiar with IT capabilities of either customers or suppliers. At least one of their large customers does use EDI, though, and although they have not pushed her company to link to their system, she feels they might in the future. In that case, they will have to implement it.

IT Strategy
For Fong, operational effectiveness could be much improved by IT. Right now, they are developing a production/inventory system, which she feels will make the firm much more efficient. However, the owners are not very IT savvy, and one of them is really not comfortable with it, she feels. She is the one who pushed for improving systems, which they eventually agreed to. So she feels that IT will not have a major role in the firm's strategy.

Information
There is no internal system of sharing information. Fong feels the company is small enough so that it gets disseminated naturally. There are no problems with necessary information being unavailable. A paper filing system exists, and all staff know where it is and use it.

Business Objectives/Training/Support
She feels that the owner has no particular business strategy, but she herself would like the company to expand in terms of customers. However, Fong feels that the owner is not entirely ambitious in this respect. IT would not play a role in this in any case. Staff in general do not receive IT training; they help each other learn software as necessary. She would like to use IT more fully within the firm though, but she herself doesn't have time to spend on it. She would like to hire an IT support person, but feels there may not be enough work for this person to do. The owner is not computer-literate and does not care about IT.

She is not familiar with services provided by the TDC or HKPC, nor any other, but thinks they may not be useful to her company.
SIS
Because she had studied computer science, and has taken an Information Systems Mgt. class through her MBA program, Fong is familiar with all these systems. But her company uses none, and she does not feel they would really need to. The only possibility is EDI, because she knows one of their big customers uses it. At the moment, they have not asked her to start using their system, but if they do in the future, she will have to.

Importance of IT/Drawbacks
IT is moderately important to her company, but is not used daily. The biggest drawbacks are time to spend on developing systems, and lack of technical staff to support them.

Carsun Li, Director, Grande Technology Ltd.

Company
Computer systems reseller and integrator. Established 5 years ago. Staff of 10, 4 in sales, 4 technicians, and 2 administrative.

Profile
Carsun is from Hong Kong originally, but studied in Canada. He received a university degree in computer science there, and returned to HK in 1988. He spent a year working as a programmer, switched to a sales job with an Apple computer dealer. From then, he focused on systems having to do with design, graphics and production. This is his field of interest, and he did some programming in this area originally. He set up his own company in 1993, with a former colleague.

Business
Originally, most clients were in the graphics business: advertising agencies, production houses, etc. 2 years ago, foresaw a decrease in business in this field, so started moving into PC (non-design systems), networking and the Internet.

Success
Return is important, but equally gaining support of clients is a measure. Starting out as a client but ending up as a friend - relationships like these are very important.

Money-wise, doesn't feel he is quite successful, but okay. But relationship-wise, he is very satisfied. Feels he has strong customers, and at the same time, a lot of friends.

His company provides full solutions, and so clients trust him, and believe that they won't rip them off. As a service, he feels they have to provide good quality service. So that distinguishes him from his competitors, he feels, and gives him an edge. Also,
they are quite flexible, which is important in this business because it moves so quickly. In that respect too, they do better than some competitors of similar size, so can get and keep larger customers.

**IT**

Of course his company uses information technology, Macs, PCs, networks, modem, internal email, everything. Software is mostly Microsoft, Filemaker for databases, NT server (PCs are all networked) Netscape for Internet, MYOB for accounting. All staff use IT, daily. Different technical levels of knowledge among staff, from basic for the administrative staff to expert for the engineers. Only he and his technical staff make decisions about systems, administrative staff don't provide any input. IT is used for daily operations and communications with clients (primarily via email). He uses databases for client info and marketing. He sends out advertisements of new products & promotions, by email, fax and post, depending on customers.

He does not have a staff person who manages IT within his firm, but he and his technical staff handle everything as needed.

**Internet/Website**

The technical staff use the Internet daily, looking at suppliers Websites, getting new information and ordering products. Carsun himself does not use the Internet on a regular basis.

**Communications**

In the past, he often visited clients in person, spent a lot more time at client's site. That changed to the phone as these customers became more long term, which is still the main form of communications, but lately have been using email to send messages more and more. Of course, he is very familiar with customers IT capabilities, since he supplies them. Main contacts with suppliers are by phone, but has no need to discuss their IT capabilities with them. He communicates with suppliers using email.

**IT Strategy**

As an IT provider, Carsun has to keep up-to-date with current technology. He is planning to setup his own Website, mainly for promotion purposes. He evaluates IT systems, keeping software up to date.

**Information**

Latest product information is kept on the computer, on the server, and all staff can access. Sales and technical staff look at this regularly, but there is no formal system for updating this, it is just up to individuals. Carsun feels his company requires a great deal of information to be competitive, they must keep up to date on products. There is no formal system for sharing information; individuals ask each other if necessary, but will look for information on their own on the Internet. Mostly technical staff do this. All staff except admin have an internal email account, and communicate this way. He feels there is no problem in locating information.
Business Objectives/Training/Support
Because of the economy, Carsun just wants to survive right now. He does not have a strategy, he says, but is looking more at the distribution side of the business, and is planning to open an office in Japan, to import certain types of popular computers. Thus he himself will become an importer and distributor. He also is planning to get into the education market, selling education-related hardware and later going into software development. But these plans don’t necessarily require IT support within the company, or at least nothing different than what they have now. Technicians get training frequently, as suppliers like Microsoft provide seminars often. Administrative staff seldom receive training.

Carsun is not familiar with services offered by the TDC or HKPC, but feels they wouldn’t be useful to him.

SIS
He is familiar with all the SIS systems listed, but aside from email and the Internet, doesn’t think any are so important. He helps clients implement many of these systems, though. He tries to achieve some level of paperless office, but feels his staff can’t get away from the tradition of paper, in particular the administrative staff. He has helped clients develop paperless office systems, though, and feels they use them successfully. Expert systems, executive information systems are not needed, because they are small company.

Importance of IT/Drawbacks
IT is important in his company, but as a product more than something he relies on for the operation or running of his company. They use IT frequently. The biggest drawback is lack of technical knowledge among staff. The administrative staff, for example, are often not willing to use software which Carsun feels might be more efficient. He says he does not bother to force them to use it, though, as it is not that important. He prefers his staff not to be upset so much.

Charles Chow, Partner, Wong Brothers and Co.

Company
Certified Public Accountants. 100 employees.

Profile
CPA, with more than 20 years experience. Qualified in UK and HK. Undergraduate business degree from Chinese U. Has a diploma in China Law. Worked for Price Waterhouse for a few years after being qualified, then started his own practice. In 1984, merged his practice with Wong Brothers. He is very involved in many committees and organizations, (for example, serving on the Joint Liaison on Taxation
Committee, on several HKSA committees), and is participating in the Lions Club "IT in Education" drive.

**Business**

CPA firm, one of the largest independent firms in Hong Kong. Wong Brothers itself is one of the oldest Chinese CPA firms in Hong Kong, and has been established for 36 years. Has a large and prestigious client list, including HKSA, TDK Group, and a number of international firms.

**Success**

He considers his firm a failure, in not achieving the target performance in the last few years. The target is both financial and client numbers. Other partners are not focusing on building the business as Charles feels they should (there are a total of 7 partners, some of which have been with the firm a long time, and are not so anxious to work in this direction). Charles would like to change the structure of the firm, but it is not happening as fast as he would like.

In comparison to competitors, though, they are doing "okay" because they have long established clientele, a well-known name. The philosophy of the firm is to provide good personal service, so are very capable of maintaining good customer relationships. This is critical, and even the partners who are not aggressive in getting new clients and going in new directions, still provide very good service to existing clients.

**IT**

The company uses IT. Most staff have a computer on their desk, except for auditing staff, but not networked together. (The auditing staff spend much time at client's office; for every audit team there are 2 computers, and they also use notebooks.) This is Charles' choice, because he doesn't trust the stability of a networked system, nor does he have staff to manage it effectively. They have an outside consultant to support the system, who come when necessary. This is more cost effective, and also they are much more technically proficient. The younger staff are more energetic and willing to explore the use of IT, but the older partners don't use it very much.

Charles uses PC daily, for email, WP, spreadsheet and most standard software. He also uses the Internet. The firm itself has just one email address, but individual partners have their own personal address, which they can choose how to use.

Windows is the main operating system used, version 3.1 because of Charles' concern for the stability of Chinese Windows 95 and 98. He thinks Windows 95 is good if you use the Internet a lot, but more than 60-70% percent of their work is data-processing, so he wants a solid, stable system which can support this.

Again, the younger staff is more knowledgeable about systems. Some of these staff complain about the old versions of software being used. If a client requires them to
use certain applications, the company will install these. But if this is not the case, Charles sees no reason to "upset" the stability of the system. One reason is cost; for that number of staff, software cost is quite large. In addition, changing to Windows 98 for example would require the staff to learn the new software. He doesn't see the necessity for changing. That said, he was the one who originally implemented Windows 3.1, and drove the decision to upgrade from a DOS operating system. But at the moment there is no need to upgrade, and the instability is too big a risk. The loss of "man-hours" in recovering and restoring systems and data would be too big. He has calculated that if they couldn't use their systems for 3 hours, it would be the equivalent of losing several big billings.

There is no staff person dedicated to managing the IT, although his younger staff are fairly knowledgeable and can solve problems. Since they are not networked, they do not need anyone to manage it. They use an outside company to solve any problems.

Although other partners are involved in decision-making, Charles' is the biggest voice because he is the most conversant with IT. Although one partner has a degree in computer science, he gets "carried away" with new technologies, and Charles says "slow down, what do we expect to get, what can we achieve, how much better off will we be if we spend that kind of money."

The firm has a client database, and uses a custom-developed software for audit firms (ACCPAC). But clients use a mix of paper and computerized data. Charles categorizes his clients as using computers as a kind of "accounting machine" rather than a true computing environment like exists in the US, for example.

Internet/Website
His firm does not have a Website, although they use the Internet to seek technical information, keep updated with laws and regulations in other parts of the world, for legislation in HK, PRC, Singapore and other places. They use the Internet a lot for this, and access an on-line legal database as well. Internet is also used to check stock, property markets, exchange rates, some kinds of government information, and even weather when travelling.

Communications
Communications depend on location. If in HK, generally phone, fax, face-to-face meetings. Nothing can replace personal contact. But with overseas, mainly fax, phone and sometimes post. Sometimes they communicate through email. It is the cheapest and most efficient way. Unfortunately in Charles view, the confidential aspect of the information does not allow communication by email. Issues of security prevent fuller use. The same holds true for suppliers and outside consultants they use.

As a true professional, Charles fees you have to tell your clients what you're good at and what you're not. And you must meet your clients needs first and foremost, even if it is detrimental to your own personal interest. So he has a network of friends, family
and experts who he can rely on to supplement areas his own firm has little expertise on. To maintain and keep these networks, he doesn't see any need to rely on IT. Although some he communicates via email when he can't reach them by phone for example.

**IT Strategy**
He does not have formal IT strategy. But some of his partners for example, are not computer literate; they don't know what can be done using computers. He would like to apply gradually more automation to the office. One reason for the gradual introduction is to get the partners more used to the idea, and less opposition. The second reason is cash outlay. They are looking at updating their telephone system as well, so the total cost needs to be managed. While this is somewhat client driven, he also feels that they might be able to convince clients to use IT if his firm already has it in place.

**Information**
Information is important to his firm and his business. Keeping on top of current laws and regulations is crucial. But having sufficient human resources is also important to manage this information. Again, this is customer driven to some extent. If a client or job requires some kind of information, they will search for it. If that is not the case, they may not spend the time and effort to search it out. In general, they do not have problems finding information, except when a client may request something quite unique.

The firm is divided into specialities; each partner tends to have one specialty. All files in the firm are open to all partners, though. This is partly driven by liability considerations, as all partners are liable for another partner's misconduct, for example. Also, they are not that big, comparatively speaking, and all know each other quite well, so they know where to find information they need. As a professional firm, they have a physical library of rules and regulations which must be updated. Charles himself keeps a personal library (about 1500 books), with very expensive volumes and non-standard volumes for his reference. Other staff may

**Business Objectives/Training/Support**
Although the firm as a whole does not have strategy, Charles thinks they need one to expand and grow. From the firm side, the key business objective is to provide good quality service to clients and to earn a reasonable fee. But Charles has his own objectives as well. His partners are not as aggressive, and don't have visions like he does. Charles wants to see his firm be one of the leaders in the profession, in all various aspects: quality, expertise, clientele.

IT definitely will play a role in achieving this, but it will take a lot of time and financial and human resource investment. To really gain benefits from IT, Charles
feels you must invest substantially. Thus if you can identify potential clients and areas where IT will be beneficial, you can afford to make the investment.

Staff training does take place, but not that frequently. In the past few years, they have had 7 training courses on different aspects of IT. Charles has not attended some as they are too basic. But the ones he has attended, he ends up helping his staff understand the training. People often come to him for explanation.

SIS
Charles has heard of some of these systems, but does not think they are particularly applicable to his firm. He expects use of the Internet and email to grow as more security issues are resolved. Video conferencing also holds potential, he feels, especially if international business grows. Again, the size of firm matters here. He thinks they are small enough right now not to need any.

Importance of IT/Drawbacks
IT is important to his business, but not critical. It is more customer-driven than not, but definitely allows work to be done more efficiently. It is used daily in his firm. The major drawback is lack of technical expertise and vision, especially by the other partners in his firm. He thinks that will change as they start to retire.

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Spenser Kwan, General Manager, United Elite Services Ltd.

Company
Pest control services. Established 4 1/2 years ago, and now has 20 employees.

Profile
Spenser is 39, has lived in Hong Kong all his life. He has an MBA and pursued his undergraduate and graduate studies in the evening while working. He has worked in this industry for many years, and started his own company 4 1/2 years ago.

Business
The company provides pest control and extermination services to hotels, restaurants and offices in Hong Kong. They have 400 contract clients. They are just beginning to do a little business in China.

Success
For Spenser, in the early stages of a firm, success means sustaining growth, rather than any particular profit figure. That also means that the company is managed well and profitable enough to achieve growth. He considers himself still in this stage, so cannot make any predictions about what success would be in future stages.
He feels he is successful enough "okay" for this stage. As for competitors, most companies in this industry are small, like his size. He feels his company is doing quite alright in comparison to these competitors.

**IT**

His firm uses IT, primarily PCs. There are 4 computers in the company, used primarily for administrative and scheduling purposes, and mainly by 4 staff people. Two are networked together. The staff who use the computers are quite familiar with them, but when they have problems or questions they might ask Spenser. He himself doesn't use computer very much, and is not that familiar with them, but he has friends he can ask for information. Decisions about IT are made collaboratively, by Spenser and the staff who use them. He wants to use IT more, though, and would like to develop a better scheduling system. He current priority is building up his accounting system, which is being done by an outside firm, who will train internal staff on how to use it.

He has no staff person who handles IT, and does not see the need for one, because of his company's size.

They keep a database of client details, treatment history and treatment dates, along with payment and billing records. It is used primarily for scheduling treatments, and keeping track of billings. Spenser and one administrative staff person use this database. It is open for use by all staff, though.

**Internet/Website**

The company uses the Internet to pull up new technical information on pesticides, to look at trends in the industry, and for information like that. They don't have a Website but Spenser would like to develop one for promotional purposes, once the accounting system is in place.

**Communications**

Main forms of contact are face to face. Spenser feels strongly that as a service business, you need to see customers every day. Customers want to talk to you directly. He doesn't think there is particular need to know or deal with IT capabilities of customers or suppliers. He doesn't see any link between "bugs" and IT. Fax is much more common than email, and is used primarily with customers and suppliers.

**IT Strategy**

Implementing an accounting system is the only "strategy" at the moment. He is using an outside accounting firm (who is a friend of his), who will set it up and train the staff. They will also spend some time to monitor use and make sure the staff is using it effectively.

There is no real need to evaluate systems, as they are not using them extensively at the moment.
Information
Information is stored in a filing system, managed by Spenser's secretary. There is no other system of storing information. Keeping up to date on technical information is a bit important, but they do not really require a lot to be competitive. Service is the most important aspect of his business, and provides the competitive edge. Technical skill is shared, however, through on the job training. As a small company, everyone works closely together, and there are no problems in locating information.

Business Objectives/Training/Support
Given the economic situation, Spenser's key objectives right now are to remain small, grow slightly, and maintain a happy working environment. As mentioned above, training will be provided on the new accounting system, but in general they rely on each other to learn. He does not have a strategy per se.

Spenser is not familiar with SME services relating to IT provided by the TDC or HKPC.

SIS
Although familiar with some of the terms on the list, Spenser sees no need for them in his business. In fact, one of his friends works for IBM in Hong Kong, which has a paperless office. But Spenser feels people still react more to a piece of paper than to something on a computer screen. He uses email a little, but not extensively. With only one office, he doesn't see a need for any.

Importance of IT/Drawbacks
IT is important to his business, even though they are a service firm. But IT helps him in various ways, like the scheduling system and so on. Being knowledgeable about IT helps in getting information. Then you can use that information to transform it into a physical service. But at this early stage, it doesn't know that much about IT, so doesn't know how he can use it to enhance service.

IT is used sometimes in his firm, but not a regular basis.

Cost is not a drawback, especially since using IT efficiently could produce more sales, more advantages to the company. But lack of technical staff and knowledge is a drawback. At a later stage, using a handheld computer might be useful to the service staff, and have all treatment details in a system. Then the amount of work would be a lot less. But at this early stage, it might not be very helpful to his company. He compares it to DHL, which has thousands of clients. Another thing is whether or not clients use a computer. For a complaint call, for example, they would be much happier talking to a person, tying in to an automated system, for example, hearing a human voice. People are lazy and picking up a phone is much simpler, to ask someone to go and provide treatment, etc.
Peter Chu, Managing Director, Goldon International Ltd.

Company
Trading firm (cosmetics & beauty products, paper products and small home and office accessories like scissors, magnets, character goods, etc). Main office in Hong Kong, and small sales branch in Tokyo. 2 full-time staff and 1 part-time accountant.

Profile
In his early 30s, Peter has been in business for himself for about 3 years. He has one partner (his uncle). Peter lived and was educated in the US. He also studied and worked in Japan for several years. He is multi-lingual, speaking English, Cantonese, Putonghua and Japanese with ease. Peter deals with the customers and his partner deals with the manufacturers. He feels that is all that is necessary in their business, as they are more middlemen. They do not manufacture themselves, they do not sell to the end-user directly.

He started out in exporting cosmetics, after being introduced by a friend. Being small, they could follow market needs pretty easily. About 2 years ago, there was a big demand for Japanese cosmetics and beauty products. They were then able to import and wholesale to local shops like Sa Sa and Rainbow and many other smaller shops. It was a very good business, especially as they were the first company to start importing these products in Hong Kong. They continued that for about 1-1 1/2 years, importing about 1 or 2 containers a month, and in the meantime they had other clients for other products. But after a year and a half or so there were many other wholesalers in the business, who had bigger shipments, and so they slowly faded out.

Business
Now they are concentrating on exports, large quantities with good profit margins. They ship large containers to a few major clients in Japan (wholesalers) for low value products. The focus is now on these small home and office accessories. Peter feels they do not need a large workforce for this business, and the personnel numbers are fine as is.

Success
Peter measures success in terms of profit first. Any company in business has to make money, to support the workers, give bonuses to encourage people to work harder. Customer relationships are also important, because customers always have options to buy from someone else. Understanding the customers' need is imperative, understanding their organization is helpful to our sales. This helps to understand their needs, so adapting to the customer needs is important.

Since his business is mostly sourcing and selling, price is always the first priority in terms of business with the customers. No matter how good a relationship exists, and how friendly you are with customers, Peter says, if the price is not right they will not
buy from us. Especially given the current economy, price is most important, and therefore how much you sell is the main indication for success.

Peter feels his company is successful, and attributes this to luck to some extent, by getting into the right markets. Getting the right information has been important. Going from one business to another mainly relies on information. Through contacts, friends, dinners with business people, market research. How they started by importing Japanese cosmetics was by looking around the market, talking to people, talking to the store owners, and Peter found that it was expensive, and he could source it much cheaper, make a good profit, and still be competitive for the store owners' prices.

IT
Peter uses very simple, elementary stuff and says "we are not so deep into it". He uses email, but his staff and partner do not. He also uses the Internet, but not too find buyers or suppliers, mainly to email friends, not so deep into this field. He doesn't get business information off the Internet.

Every one in the office uses and has a PC on their desk. Use is primarily for WP for shipping documents, Excel for calculating profits, inputting products, sales, accounting work, not so advanced. Don't really use databases, because have only a few large customers. The accountant uses an accounting package - Peachtree.

He himself uses all the software except the accounting package. He thinks his systems are more that sufficient for his company, his staff does not get involved in making decisions. He himself is the IT manager, mostly because he is interested in computers, although he doesn't really think about management of the computers very much.

Internet/Website
Doesn't have Website, doesn't see need for one, at least not in his field of trading, because no customers look at Website to find suppliers. Rather, they go to the TDC, directly to manufacturers to find sourcing. He doesn't see how a Website would help. He also thinks that with everyone on the Web, Websites will all look the same, and it will be hard to differentiate your site from another. In one area, there will be Websites from all over the world. So how would a customer choose from a "whole ocean of Websites." He used the term "overload" of information. However, he's open to suggestions. "If somebody could tell me how a Website could help, I would definitely get one." Peter thinks a Website might be useful "for the next generation," perhaps in 10-20 years as business changes.

He uses email to contact some of his customers, but not so often. In the past he's used it more. He uses it himself to contact friends, and also surfs the Internet a lot, more for personal interest than business.
Communications
His main forms of communication with suppliers and customers are fax and telephone. He has just a few customers he uses email with, and just for correspondence, not for ordering, etc. His suppliers are not all familiar with computers, and don't know how to use email.

However, 3 years ago, when he was dealing with cosmetics, he noticed his fax and phone costs to one customer were very high. At that time, email was beginning to get popular, so he suggested to that customer to get an email address, and have them communicate in that way. The customer was quite willing, and so they began to communicate in this way. This saved them quite a bit, Peter said, on communication costs. They don't deal with that customer (or those products) so much now, so they are not using email with them extensively. But that is the only time it Peter had occasion to suggest email, and use it in that way. If the situation happened again (high communication costs) he might consider suggesting to a customer. Reduced costs was one benefit, but there were others, like non-duplicating data or reduced labor, when the customer sent them a whole document on line, which Peter could then use without having to retype, for example.

IT Strategy
He doesn't have any IT strategy, per se, but would think that a Website might be something to do in the future. He doesn't evaluate his IT, but feels that in the future, it may become more important. Right now, "human networking" is most important to his business, finding new customers, new suppliers, building relationships, talking to people, asking if they have friends looking for a certain product, and he doesn't think IT has a place in this. Direct contact is far more important, and he uses the term "very traditional" to describe his actions in developing his business.

Information
He thinks his company does need a great deal of information to be competitive, but in terms of market needs, customer needs, trends, more of market research than other kinds of information. He is the main information center in his company, "we store it in our head," don't really pass around to coworkers. He needs to share information with his staff and partner, but each individual has a different task, and so they need to exchange information to do that particular task. His partner & other staff deal with suppliers, he deals with customers. They have about 2 meetings a week to share the information, so everybody knows the same information. His office is small, no problem with finding information if we need it, just need to ask each other.

Business Objectives
He doesn't have business strategy per se. Key business objectives are to find more clients, right now. Very vulnerable to have a few customers, beneficial to have 10, 20, 30 customers. That's always been their main objective. A second objective is to source products cheaply, and they have been able to do that. Don't utilize IT to
achieve these, just "human network" again, socially, through introductions. Once in a while, we may have some training for staff, if they don't know how to use Excel, we just help each other. Although very familiar with the TDC, uses the databases rather than any specific SME support function. Not familiar with HKPC's services for SMEs.

SIS
Peter uses email to a minor extent, and was familiar with some other concepts such as LAN, Paperless Office, Document Imaging Systems. He was in fact interested in document imaging systems, and had seen some of the hardware involved, but didn't think his company was at any level to be able to use it. He would use Video Conferencing through the Internet if the opportunity or need arose, especially to save costs. He thought it would be very economical and was interested in it to use eventually.

Importance of IT/Drawbacks
At this moment, not important. Everyone in his company uses PCs every day, but it is not vital to his business. He said they would not go bankrupt without it, they could still function without internet, email with no problem. The biggest drawbacks were technical knowhow among the staff, and more importantly, the worry about losing information. For example, with the paperless office, putting all their files into a computer would be dangerous if something happened. He still was nervous about that side of it. He didn't worry about security so much, but safety of data. Although there were secrets everyone had in business, he didn't think IT had much to do with that where he was concerned.

Connie Szeto, Managing Director, Wind Travel Ltd.

Company
Travel agency. 2 1/2 (a part-time accountant and one other travel agent) employees. Established 3 years ago.

Profile
Connie is in her early 40s, and has lived in Hong Kong all her life. She has worked in the travel industry for her whole professional career (over 17 years), first at the airport for 5 years at the information counter, then with a travel agent. She started her own company 3 years ago after the agency she worked for closed down.

Business
The firm mostly handles business travel, with clients primarily individual senior executives (mostly expatriates). They do not provide tours or other kinds of travel services. Most of the clients travel extensively and frequently and demand very precise and careful travel arrangements.
Success

Ultimately, making a good profit is a sign of success for Connie. But that is particularly because the travel business is not profitable in general, and not simply because of the current bad economy.

She does not feel her company is successful, but is in better shape than competitors larger than her. This is because she brings much greater experience to the job. Since she has worked for the airline industry as well, she knows aspects others don't. In addition, agents in the industry are less and less familiar with all aspects of the job. So Connie is able to provide answers and advice to customers immediately.

IT

Connie uses IT daily for all aspects of her job, and so does her other staff person. She is hooked into an on-line reservations and information system, which allows her to issue inventories, tickets, invoices, other travel documentation. The system will automatically fax the inventory to the customer for example. The only manual aspects are dealing with consulates for issuing visas and travel permits, which must be done in person.

She is currently switching to a new system with similar capabilities. Her current system allows only one user. She has added a second staff person recently, and so wants her to have her own PC on her desk, and to use the system fully on her own. This is the main reason for switching.

She handles all IT matters herself, and gets the help of her husband as well, who is technically proficient. But since she leases her systems, which is the industry practice, she relies on her vendor to solve problems.

She keeps a database of all clients, which is part of her current system. This allows her to record each clients preference, history, notes and so on, so that the she can always anticipate client needs.

She bases her IT decisions on what information they can provide to her. There are in fact only 3 common systems in the travel industry, all of which she is familiar with. She uses email daily, with customers who like to use it. Other customers don’t use it.

Internet/Website

She uses the Internet often, especially for hotel information. Although the on-line system she uses also provides this information, it is not as up-to-date. In addition, the presentation of the material is much more attractive on the Websites, so she can print it out and forward it as is to her clients who need it.

Although she does not have a Website, she plans to develop at least a simple one once her new system is running smoothly. She is not sure how she will use it though.
Communications
With her customers, she primarily uses phone and fax for communication, and email with those customers who prefer it (a small percentage so far). From a supplier side, she is hooked into the sophisticated on-line system, so most of that is on-line IT based communication.

Since there are only 3 common systems in the industry, she knows her competitors use at least one of them. Some use 2, so they can retrieve more information.

IT Strategy
She is trying to expand the company now, and adding staff. So she is upgrading to a network system. In addition, the new system will provide more airline information than her current one. This will allow her to provide better customer service, and not be so reliant on her own experience.

Information
Information is crucial to her business: airline information most importantly, but also hotel and other information. All of this is available to her on-line, though her current system sometimes doesn’t provide as much as is necessary. Being so experienced, though, she has ways to supplement this missing information.

Business Objectives/Training/Support
As mentioned, she wants to expand her business, getting more customers and adding more staff. At the moment she does not have a strategy, but feels that the travel industry is saturated and not a good prospect for the future. So she is trying to think of what other lines of business she can get into. However, she has no idea at present.

As for training, the computer company provides training on the system. In addition, Connie is training her new staff person on a daily basis.

She is not familiar with services provided by the TDC or HKPC, but doesn’t feel that they would benefit her, as she uses a sophisticated IT system already.

SIS
Aside from email and the Internet, Connie is not familiar with any of strategic information systems listed. She knows that systems like SABRE, for example, will allow individuals to book tickets directly using a PC. But she thinks this is not such a valuable service, as a travel agent has to give advice, recommendations, come up with alternative routes, etc. So a customer would need to use a travel agent anyway.

Importance of IT/Drawbacks
IT is vital to her business. She uses it daily, and relies on it extensively. The biggest drawback is lack of technical staff, as the on-line reservation systems are rather complicated.