Study on ICT Adoption in Hong Kong SMEs

Executive Summary

Prepared for:

**Office of the Government Chief Information Officer
The Government of Hong Kong Special Administrative Region**

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OVERVIEW

This Study has been undertaken by the University of Hong Kong at the behest of the Office of Government Chief Information Officer ("OGCIO"). The study aims at providing a better understanding of the extent of ICT adoption in Hong Kong SMEs, and the barriers and motivators, both perceived and actual, for the SMEs' ICT adoption. It also provides recommendations to the OGCIO the strategies and measures to encourage SMEs to use and benefit from ICT.

We have defined the following three stages of ICT Usage, and used this as a basis for our research methodology:

Stage 1   Localised Exploitation (PCs) & Internal Integration
Stage 2   Web presence (Internet Connection) & Online Transaction
Stage 3   External Integration (Electronic value chain) & Transformation

We have conducted a multi-pronged approach to undertake this study. We first conducted our analysis at the C&SD, where we found a correlation between ICT Usage and the number of employees at a firm. Then, we commenced the administration of a survey questionnaire as follows:

- Mail questionnaire: The mail questionnaire was prepared in both Chinese and English, and a total of 10,000 questionnaires were sent out.
- Telephone interviews: Large-scale telephone interviews were conducted, and a total of 1,000 telephone interviews were made.
- Email surveys: We also sent out 3,900 e-mail surveys to the SMEs with email address, in both English and Chinese.

Over and above, a detailed research of literature available for the adoption of ICT by SMEs across the world was carried out, to see if there are similar experiences in other parts of the globe.

FINDINGS

(i) Findings related to those not using personal computers

We found that the most important reason for not adopting a PC appears to be SMEs' perception that they do not really need it. They feel that they have managed well without a PC so far, and see no need to make such an investment that would be difficult and expensive to maintain. These perceptions were similar across all sectors, size and age of the firm. Lack of awareness of the benefits of PCs is in reality a great barrier to these firms. For those respondents who agreed that the use of PCs could be advantageous, the main perceptions of its benefits revolve around its expected speed, accuracy and efficiency.

The primary motivator to adopt a PC was stated to be a business need/requirement for it. The other popular facilitator mentioned was addressing the expense of the ICT investment (providing financial support and an inexpensive PC/package), while the third most important was technical support.

In terms of government support, subsidising training in the use of PCs (which addresses both the knowledge and cost barriers) and providing PC adoption consulting services were the most popular suggestions. We also observed that the younger firms found subsidising training in using PCs, providing PC adoption consulting services and providing tax incentives to be far more useful than the older firms.

(ii) Findings related to those using personal computers

We found that companies that only use PCs and not the Internet largely restrict their use to word processing, computer security and spreadsheet software. The comparatively more technically advanced PC software, such as finance, sales and HRM packages, and custom-based packages are not very popular. However, the use of software packages and custom-based packages differs across industries. Further, we noted that the usage of these, as also custom-based packages increases with an increase in the number of employees.

Improving operational efficiency and customer service are the two top value additions made by the use of PCs. Overall, we found a correlation between perceived value of PCs to the business and the extent to which firms use them. This has important policy implication as it highlights the importance of education among PC users about benefits of other types of ICT such as the Internet.

(iii) Findings related to those not using the Internet

The most popular responses for not using the Internet was that it was not needed, that it is costly, and that the firm's business partners and customers are not using the Internet. Further, on the whole, in response to our interviews and case studies, we found that most respondents were disinterested in adopting the Internet as they thought that it would not help improve their business. This would suggest that a lack of business need, combined with a lack of awareness of the benefits of the Internet, is the reason these respondents have not opted for the Internet.

Addressing this lack of awareness, and knowledge of the benefits and costs of the Internet is the greatest support requested from the Government, and hence providing consulting services and subsidising training were the most popular suggestions of the types of support that Government can provide.

(iv) Findings related to those using the Internet

We found that the most popular uses of the Internet are e-mail and on-line sourcing of general information, applications that do not require a Website. We also found that some companies, especially the young ones, use the Internet for e-banking. The respondents

were also asked if they perceived additional use of the Internet would further improve their business. The responses are mixed, with almost half stating that more Internet usage would not help improve their business, while the other half felt that it would.

Those who saw the potentials of the Internet identified speedy communication and ease of searching for information, and improvement in marketing/sales development as areas with greatest potential. As in the case of PCs, improving operational efficiency and enhancing customer service are perceived to be the two top values ensued by the use of the Internet. Providing competitive advantage and prompt response to market changes are the next most popular perception of where Internet use adds value to the business.

We noted significant differences in the perception of value added across sectors and according to the age of the firm across all dimensions. For instance, the perception that the use of the Internet had improved customer service was far more pronounced in the Business Services sectors, as compared to the Wholesale/Retail sectors. Similarly, the value added by improving operational efficiency due to Internet usage is perceived to be significantly higher by the newer companies as compared to the older ones.

(v) Findings related to those not using a Website

The following reasons are mentioned as to why the firm do not create a Website: lack of business need, difficulty of maintenance, costs, lack of industry critical mass. Through our interviews we further collaborated these findings as we noted that non-adoption of a Website had to do with the fact that the business/market had not yet evolved sufficiently for a great need of a Website, and the expense associated with creating and maintaining a Website perceived to be high.

Once again, as in the case of PC and Internet use, it appears that business needs would be the main driver for creating a Website. Addressing the technical and financial constraints are the other two prime motivators.

We observed no significant differences about the reasons for not having a Website across different industries, or based on the firm's size or age.

In terms of the types of support offered by the Government to motivate these firms to create a Website, subsidising ICT training, providing ICT adoption consulting services and providing tax incentives for ICT investments were the most popular.

(vi) Findings related to those using a Website

The most popular uses of the Website are for "Providing information on the firm's products and services", followed by "Handling of business enquiry". None of the other purposes are popular in comparison.

Similar to the usage of PCs and the Internet, improving operational efficiency and customer service are the two top dimensions of having a Website.

However, unlike the PC and the Internet, we found no evidence of any correlation between perceived value of a Website to the business, and the extent to which firms use a Website.

RECOMMENDATIONS

As to where the Government should intervene to promote ICT Usage, we recommend the Government should focus on the *Wholesale/Retail*, *Business Services* and *Import/Export Trade* industries, as they either contribute a large amount to the value added of SMEs in Hong Kong, or show significant correlation of value addition with ICT Usage.

For non-PC users, we recommend that the Government assistance should focus on subsidising training in the use of PCs and providing PC adoption consulting services. This group looks for Government support primarily in terms of building knowledge and awareness. Providing tax incentives for ICT investment should also be helpful. We also recommend that while providing Government support, the focus should be on smaller firms and the firms that are between 3-7 years old, as these appear more likely to the idea of investing in PCs. Further, while promoting the benefits of using PCs, the Government must consider the specific needs/barriers and facilitators for the industry.

For Internet non-adopters, we recommend that Government assistance should concentrate on subsidising training in the use of the Internet and providing Internet adoption consulting services. Such training workshops should highlight the potential costs and benefits of the Internet, as lack of awareness of the same is a main inhibitor. While providing Government support, the focus should be on smaller firms, those that are between 3-7 years old, and firms that are high users of PCs. To promote the benefits of adopting the Internet, we also recommend that the focus be on the speedy and cheap communication and ease of information availability, as these were rated by far the most useful benefits.

We found no evidence of any relationship between perceived value and the extent to which a firm uses a Website. However if the Government decides to embark on any assistance, we recommend that the Government should promote the benefits of creating a Website by emphasising its use in marketing/sales development. While providing assistance, the focus should be on larger firm, those firms less than 3 years or over 7 years old, and firms that are high users of PCs and the Internet. The Government assistance should focus on subsidising ICT training and providing ICT adoption consulting services, and consider providing tax incentives for ICT investment.