



Enterprise Capabilities



Best Practices of Infocomm Technology Implementation

(Guide for SMEs)

Introduction

Local small and medium enterprises (SMEs) in Singapore are recognized for their importance to the economy, forming 90% of all enterprises and contributing a quarter of the national GDP. With the change in business landscape and digitisation of information, many SMEs are finding it increasingly difficult to compete effectively without adopting some form of IT systems. Feedback from SMEs and vendors has revealed that SMEs often face common problems when engaging these services.

To facilitate greater adoption of IT services amongst SMEs thereby supporting their business needs, SPRING Singapore has worked with the Singapore Infocomm Technology Federation (SiTF) to develop this guide and try to address some of these key issues faced in doing so.

This Guide is designed to assist busy and stretched SME decision-makers like you through the numerous issues that you may face once you have decided to implement or expand IT adoption within your company. It provides step-by-step tips to help you select and work with IT vendors at various stages of the process.

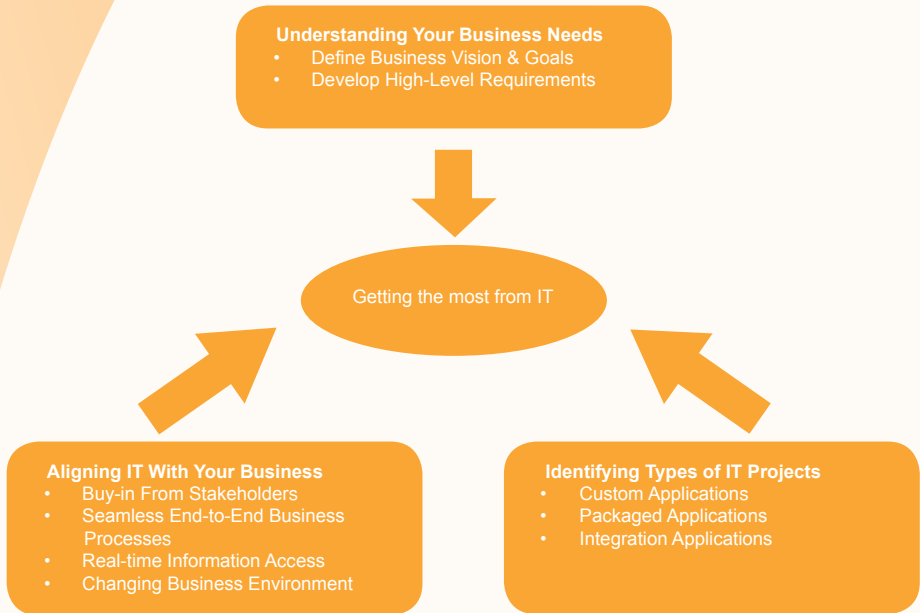
To illustrate the IT implementation process for SMEs, we have adopted a case study approach, i.e. use an example of a printing company in Singapore owned by Mr Tan called PrintCo. Best practices at the end of each chapter will help you to see how Mr Tan managed to incorporate IT into his business successfully.

We hope this Guide will go a long way in helping you ease any pains when implementing IT within your company, with the final objectives of boosting your competitiveness and growing your business.

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Chapter 1: Getting the Most from IT for Your Business



1) Understanding Your Business Needs

The implementation of IT within your company must be aligned to the business issues and objectives you wish to achieve. Start with the broader business challenges and goals and gradually drill down to the specific IT needs of the company.

a) Business Vision & Goals

- i) Define the business problem that you want to solve, e.g. to improve the cash flow of the company.
- ii) Define your business objectives and outline how you see IT being able to help you achieve these objectives

b) High Level Requirements

- i) Determine the Key Performance Indicators (KPIs) that will be used to measure your success, i.e. the business and technology goals.
- ii) Define the major business requirements and must-have features and functionalities of the IT solution you have in mind

2) Aligning IT with Your Business

To ensure alignment of the IT solution to your business needs, the following needs to be considered:

a) Buy-In from Stakeholders

- i) Get the buy-in and involvement of key stakeholders from the various business units so that their needs and challenges are considered prior to the development of the system requirements.
- ii) Have them translate your business needs into practical IT initiatives together with your IT specialists.
- iii) Alternatively, engage the help of external IT vendors or consultants to help you identify IT initiatives and projects that can provide real value to your business.

b) Some Other Points to Consider

- i) **Seamless End-to-End Business Processes**
Decide whether you need to streamline your business applications and determine how they may be integrated seamlessly.
- ii) **Real-Time Access to Information**
Define the users who need access to information and establish how you can enable this to ensure smooth running of your business.
- iii) **Adapting to the Changing Business Environment**
Ensure that the IT system you implement can easily adapt to changes in your business needs as a result of changes in the business environment.

3) Identifying Types of IT Projects

Depending on your needs and budget, the following types of IT projects can be considered:

- a) Custom Applications: development of customized systems that will be tailored to the exact needs of your company. Usually cost more than Packaged Applications below.

- b) Packaged Application: purchase of available off-the-shelf systems with only minor modifications to suit the needs of your business.
- c) Integration Application: integration of your existing IT system with new systems as a result of changes in your business needs.

CASE STUDY: LAYING THE IT FOUNDATION AND BUILDING ON IT

Mr Tan is the owner of PrintCo, a printing company based in Singapore. Like many SME business owners, Mr Tan has invested some money in ensuring that PrintCo's staff are equipped with basic technology such as an email system, office software and a professional-looking and functional website for potential customers and employees to find out more about his company. All these were currently being cared for by his only IT Executive, John.

Defining Business Needs

Lately however, Mr Tan has begun thinking about how, if at all, PrintCo can expand, become more efficient or even save money, by using more technology. This was triggered by his Finance and Admin Manager, Susan, who had requested to purchase a software to manage PrintCo's accounts receivables better.

Mr Tan knew this was important because it had implications for the cash flow of his business. He figured that such technology would enable PrintCo to monitor debtors better and ensure that collection of money was done more promptly.

Without giving further thought, Mr Tan asked Susan to develop a proposal and present it during a department meeting later in the week. Little did he expect that Susan's proposal was going to be met with strong resistance from the other department heads.

Buy-In From Key Stakeholders

Susan had apparently, and correctly, just looked at the technology requirements of her own department. But she had made the mistake of not consulting John beforehand to understand how best this software can fit within the existing IT infrastructure of the company.

Upon further discussion, Mr Tan also realized that other departments' activities such as sales and operations, had their own technology issues and requirements which were directly related to Susan's requirement for a software to manage accounts receivables.

Clearly, there was a need to widen the scope of IT implementation in PrintCo beyond Susan's department. Requirements had to be consolidated, inputs and buy-in obtained

from the various managers and external expert assistance had to be sought. It was important that a long-term and macro view of the business and technology needs of PrintCo be defined before any software or applications were purchased.

Starting IT Right

An IT taskforce made up of key managers was appointed by Mr Tan to develop a comprehensive technology roadmap for the company, directly reporting to him. An external IT consultant was roped in to guide the taskforce and provide inputs into its planning. And the efforts are starting to bear fruit.

After the 1st phase of the IT implementation mainly involving the automation of routine functions within the company, efficiency of staff have improved and PrintCo has seen a 20% reduction in both bad debts and overall operational costs.

Mr Tan is delighted with this result and has already asked his taskforce to expedite the implementation of the 2nd phase of the company's IT roadmap. He is certain the money will be well spent.

Best Practices

- Adoption of the right technology that addresses critical business issues can benefit SMEs like you to grow, save costs and become more efficient.
- Comprehensive business and technology planning involving key stakeholders and users must be done before any IT implementation or rollout.
- Top management must be engaged throughout the whole process to ensure an optimal outcome across the entire organization.
- External expert help should be sought for guidance and valuable inputs, especially in the initial stages.

Chapter 2: Selecting and Managing Your IT Vendor



1) Choosing Your IT Vendor

Choose the IT vendor that can deliver the IT solution your business needs and provide good maintenance support.

a) Types of Vendors:

- i) **System Integrators:** They will select the appropriate hardware and software for your business needs and deliver a customised system
- ii) **Resellers:** They act as agents for hardware manufacturers and can also offer software and a wide range of IT services and support, but usually will only push those products which they resell

- iii) **Specialised Vendors:** They have expertise in one specific area, such as customer-relationship management systems, therefore ideal if you are focusing on a specific business need
 - iv) **Consultants:** They provide expert advice without any hardware, software or maintenance services and are usually particularly useful in the initial stages of planning
- b) Single Source or Multiple Vendors
- i) Use a single vendor for all your hardware, software and services unless you have extensive in-house IT expertise.
 - ii) If you buy from multiple vendors, you will have to decide which one will be responsible when there is a problem - unless you have a service provider prepared to support your whole system.
- c) Identification of Potential IT Vendors
- i) Establish and document your IT requirements.
 - ii) Identify 3 to 5 vendors based on your budget.
 - iii) Sources of information include:
 - advice from relevant trade associations and professional bodies, e.g. SiTF
 - computer trade magazines
 - IT exhibitions, seminars and conferences
 - the Internet, including the vendors' own websites and sites offering independent guidance
 - recommendations from business partners
 - iv) Contact the vendors through an invitation to tender or a request for information document*
- d) IT Vendor Selection Criteria
- i) Selection criteria should include:
 - (1) track record
 - (2) financial viability
 - (3) project management capability

*The invitation to tender asks for vendors to submit formal proposals. This is usually followed by a shortlisting of candidates who are required to provide a series of presentations and/or demonstrations. Provide details of the requirements, preferred format of proposal, and timeline for submission of proposal in the invitation letter. The request for information (RFI) document is a list of key requirements distilled from your statement of requirements. This approach requires a significantly less detailed proposal than the invitation to tender. The intention is to provide a quick approach to identifying a preferred vendor, rather than drawing up a shortlist of vendors.

- (4) ability to understand and appreciate your business needs
 - (5) technical knowledge and, experience
 - (6) cost of the proposed solution
- ii) Rank the vendors and eliminate those that do not meet your technical requirements or fall outside your agreed budget.
 - iii) Request for a presentation / demonstration of their proposed offering.
 - iv) Review the references provided by the IT vendors, especially IT projects that are similar to your own requirements.
 - v) Clarify and formalise specific details for the IT project with the selected vendor, e.g. levels of system maintenance and support, and overall cost of the proposed solution.

2) Managing Your IT Vendor

a) IT System Maintenance & Support Services

Consider the following factors when determining the volume of maintenance and support that you need, including:

- i) In-house expertise
- ii) Importance of 24/7 availability
- iii) Costs
- iv) installation services required
- v) Training requirement for your staff

b) IT System Maintenance Cost Evaluation

IT system management is usually the biggest cost over the lifetime of an IT system. Consider the full lifecycle costs including:

- i) installation costs
- ii) consultancy
- iii) hardware costs, including upgrades and expansion
- iv) software licence fees
- v) software configuration and customisation work
- vi) staff training
- vii) support - telephone, email, online, on site
- viii) costs of consumables, such as printer cartridges, ink and paper
- ix) communications charges
- ix) backups and regular maintenance

3) Developing A Service Level Agreement

- a) Initiate a service-level agreement (SLA) with the vendor when you purchase any IT services. The SLA will detail the scope of support services provided including response times and appropriate procedures or processes, amongst others.
- b) Define the SLA based on the benefits you want from the service, not the technology, e.g., you may need to know that an e-commerce website can process a certain number of client requests/orders per day, without any fault.
- c) Spell out the services that the vendor will commit to you including:
 - i) **software maintenance support** – will there be a charge when you report a problem
 - ii) **user training** – will there be a charge for training new users
 - iii) **warranties** – what is the warranty period for the system, if any
 - iv) **user manuals** - will any user manual be given
 - v) **admin manuals** – will any admin manual be given

CASE STUDY: MANAGING AN IT PROJECT WITH EASE

As a traditional printing business, PrintCo has not relied much on technology. Last year the company had a production output of 575,000 and these orders came from 40 clients - many of whom are from referrals and/or word-of-mouth recommendations.

Defining the IT Requirements

PrintCo's website was developed in 1997 and was more informative than transactional. While the existing situation was comfortable for PrintCo, Mr Tan wanted to explore how he can leverage much more on IT to enhance the productivity and efficiency of his company's operations and grow the business.

Mr Tan's first priority was to enhance the company website – to move it beyond just being informative and make it more interactive and transactional. He wanted to transform it into a channel for his customers to enable them to place their orders online. The website will also allow his customers to make online payment and track the progress of their orders. He knew that by doing this, his staff will become more efficient and focus on higher-value work and his cash flow will improve.

Selecting the IT Vendor

After some initial research, Mr Tan discovered that based on these requirements, there were actually a number of vendors in the market who will be able to assist him. Upon deeper probing into the profile of each vendor, he discovered that there were some differences in the aftersales support offered and the price. Mr Tan then decided to choose a local vendor that was recommended to him who not only was cost effective but also had a good track record and an in-depth knowledge of the industry his business was in.

He invited the vendor to his office to be briefed on his business needs, together with other key company staff. They found the IT vendor knowledgeable and flexible enough to accommodate the budget they had set for the project. The IT vendor was also prepared to adapt according to their needs and offered Mr Tan a list of options with associated costs.

Working with the IT Vendor

Mr Tan and his team discovered the importance of having a good working relationship with the IT vendor to ensure the successful implementation of their IT system. Mr Tan could not afford to deviate from his production and delivery schedules to his customers and the IT vendor understood this and worked around this very well. In the midst of implementing the online ordering and payment system, Mr Tan's staff had to entertain no less than 10 enquiries every day from customers who were unfamiliar and uncomfortable with this new system.

Having anticipated this problem prior to implementation and included it in the SLA with the IT vendor, Mr Tan simply turned to them to assist his customers in familiarising themselves with this new system. Looking back, the SLA was really important in defining the relationship with the IT vendor so both parties knew their rights and obligations and avoided any misunderstanding.

There was one unforeseen hitch though. With the higher traffic and activities on the website, Mr Tan actually needed a larger server to cope with this demand. But because a server was thought to be beyond the budget set aside for the project, it was not recommended by the IT vendor.

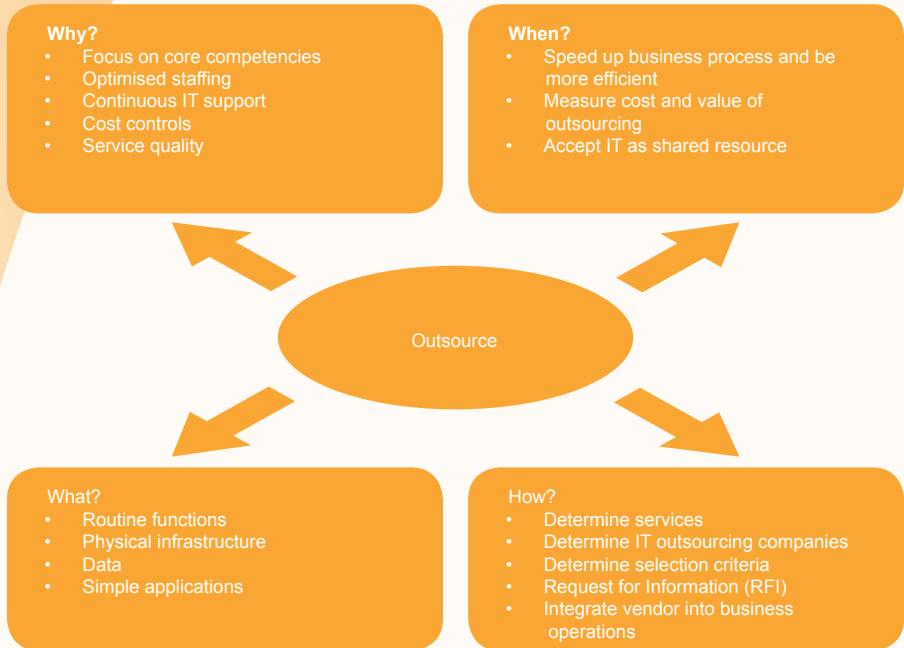
Had Mr Tan known that the increased online usage would be significant, he would have secured additional budget to buy a better server. It would have helped him and his staff to save the trouble of migrating from the old server to the new one and having to delay meeting his customers' online requests in the process.

But now, the project has been completed with relative ease and both Mr Tan's staff and customers have settled well into this new way of doing business. Mr Tan has now started planning for Phase 2 involving the implementation of his accounting and customer relationship management systems.

Best Practices

- Define the requirements of your IT project clearly, taking in the needs and views of your staff across the whole company.
- Do sufficient research into various IT vendors in the market, brief them clearly and ensure common understanding on scope of work.
- Develop a comprehensive SLA to govern the relationship with your IT vendor.
- Plan your technology adoption for the long-term but scale the implementation and break them down into feasible and realistic phases over a period of time.

Chapter 3: Outsourcing Your IT Needs



- a) Focus on your core competencies and revenue generating activities and leave the technology management to IT professionals.
- b) Optimise usage of IT personnel for higher value-add work such as planning and supervision.
- c) Have continuous IT support without having to rely on one or two key IT personnel only.
- d) Pay only for the services that you need.

- e) Reduce costs by utilizing its extensive knowledge base of various IT specialists.

2) When to Outsource?

- a) When you want to make a business process faster or more efficient. (However, you need to examine if the business process is actually needed in the first place.)
- b) When you view IT as a service and you can measure the cost and value of outsourcing to your business.
- c) When you can accept IT as a shared resource, such as in having a central server, to enjoy better capacity utilization and lower operational costs.

3) What to Outsource?

- a) Start with routine functions such as helpdesk, operations or network management.
- b) Start by looking at small pilot projects to be outsourced, e.g. starting with lower-level jobs like infrastructure maintenance.
- c) Certain functions and requirements may not be as easily outsourced as others. For instance, for a HR system, certain areas like payroll may be easily outsourced whilst performance appraisal may not be possible.

4) How to Outsource?

- a) Assess carefully what services you can outsource and establish clear Returns on Investment (ROI) you expect from outsourcing these services.
- b) Determine which IT outsourcing companies provide these services and issue a Request for Information (RFI) to them.
- c) Shortlist and evaluate vendors based on:
 - i) Financial stability (good track record, sound financial results)
 - ii) Management and technical staff (qualifications and experience)
 - iii) Contract flexibility (fixed price, time and materials)
 - iv) Proximity (located locally or overseas)
 - v) Breadth of services (outsourcing, system integration, consulting)
 - vi) Business expertise (knowledge and expertise on specific industries or business functions)

- vii) Project management methodologies (quality assurance and reporting, tools used for analysis, implementation)
- d) Integrate your selected vendor into your business operations and re-define or re-structure the roles of your IT staff so they are not disillusioned or feel threatened.

CASE STUDY: TO OUTSOURCE OR NOT?

In PrintCo, there was only one person looking at IT: John the IT Executive, whose main role was to provide maintenance support to the company's email system and website. In order to embark on a more comprehensive adoption of technology across the whole company, Mr Tan realized that he needed to enlist better and more professional IT expertise.

Considerations for Outsourcing

Mr Tan considered many options. His computer hardware supplier suggested that he outsource his IT needs to an outsourcing vendor. He also had the option of recruiting more full-time IT staff but he decided against it because he felt he would not be able to optimize their capacity, given the current scope of operations.

Outsourcing Tips

Mr Tan did some research and collated information on professional outsourcing firms that could help him manage the modernisation of his IT systems from SiTF. There were quite a number of these outsourcing firms in the market, many with a good track record.

Even then, Mr Tan still had apprehensions on the real benefits of outsourcing. He had heard stories and read newspaper articles on huge outsourcing contracts that crippled some companies' IT systems for years and made them unable to respond to changing business environment. However, he discovered that these cases were isolated and were mostly due to erroneous judgement during the process of selecting the outsourcing vendors.

Thus, Mr Tan ensured that he did his due diligence in selecting his outsourcing vendor. To start off, he contacted several IT vendors and together with John, invited and met them individually for a presentation of their portfolios. He also checked their background and contacted their existing clients for references. Subsequently, he shortlisted 3 vendors mainly based on their track record and references, as well as their ability to work within the budget Mr Tan had set.

John, who had been involved from the start, was appointed as the Project Leader for this, as a clear indication of his long-term role in the company and as an assurance that his job was secure. He dealt directly with the outsourcing vendor on the technical issues while Mr Tan chipped in on the business side of things. This alignment between the business and technology needs was critical and was not compromised throughout the entire process.

To stay competitive in the printing business, PrintCo needed to be able to provide customized products to customers in a timely and precise manner. Because his business also catered to many different industries, it was important that the company website helped to reach out to them with appropriate content and ease of use.

Together with John, Mr Tan worked out a SLA with his outsourcing vendor and ensured that the SLA was comprehensive enough to cater to the company's short-term need, which was the website, as well as mid-term IT needs (the accounting and CRM systems) and could measure the business performance through the usage of technology.

Although it took them 3 weeks to agree on the SLA, it was time well-spent as in retrospect, once the website and systems were in place, they had to rely heavily on the vendor for various trouble shooting incidents.

For example, when a complaint was received from a customer about his online order of 10,000 pieces of Christmas cards that was not delivered, it was found out that the problem arose due to a fault in the system and this resulted in the company having to compensate the customer. Fortunately, such problems were spelt out in the SLA and Mr Tan's vendor undertook a portion of the compensation cost when it was determined that the problem was due to a system bug which the vendor did not fix.

Best Practices

- Identify the areas of the business which can potentially be outsourced.
- Research carefully on the various outsourcing options available in the market and pick one which will suit the requirements of your company. Enlist the help of SiTF if uncertain.
- Involve your IT staff from the start to establish their buy-in and provide them with assurance on their job security.
- Be clear with the scope of services to be undertaken by your outsourcing vendor and formalize a comprehensive SLA to forge a common understanding with them.

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