Information and Communication Technology

A Handbook for

Entrepreneurs

in Developing Countries

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Handbook Contents

Introduction

If you run a small business there will be endless demands on your time and resources. Self-employment also brings new and exciting challenges and the chance to improve your skills and the means to provide increased income. Running a small business also means facing the responsibilities that go with the job. You are likely to be the only decision-maker, and if mistakes are made, the buck stops with you.

New information and communication technologies (ICTs) such as computers, mobile phones, email and the Internet are providing a new challenge for the business community in developing countries. Unfortunately, for many businesses even a telephone line connection remains unobtainable. However, the costs of access to new communication technologies – such as mobile phones – are falling rapidly, and investment in such technologies may benefit your business.

This handbook is designed to assist you in understanding the new technologies and how they may be applied to your business. However, it is also recognised that the technology may not be a solution to business problems, and may produce both costs and benefits in the running of your business. The handbook, therefore, is aimed at a range of businesses – new start-ups, businesses with access to new technologies, and those without.

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View/Download this handbook from: http://www.man.ac.uk/idpm/ictsme.htm

Information and Communication Technologies (ICTs): Can they assist the survival and growth of your business?

Many entrepreneurs in developing countries are using new information and communication technologies – such as email, the Internet and business computer software – to assist in running their businesses:

- New communication devices such as **mobile phones** offer greater flexibility for keeping in touch with customers, suppliers and business contacts locally and in the region.
- Businesses are using **email** to communicate over longer distances – within the region or world-wide – at the cost of a local call.
- Information can be accessed via **the Internet** from world-wide sources.
- **Web sites** are being used to advertise and sell products and services produced locally.
- **Business software** packages are helping business owners to manage information – relating to finance and sales for example – within their businesses.

Information and communication technologies may be of assistance to your business for:

- Improving your business communications with customers.
- Providing a marketing tool.
- Accessing information.
- Improving your record keeping and financial management.

This handbook may assist you ......

- If you are considering starting a business
- If you are running a business with no telephone or computers.
- If your business uses telephone/fax regularly.
- If you have recently purchased a computer for your business.
- If you are a regular computer user with no access to email/Internet.

Case Studies of ICTs Supporting Small Business

Case Study 1: How telephone/fax can support a micro-enterprise

This village micro-enterprise - just an entrepreneur and two part-time market sellers - makes and sells sunglasses. 40% of custom comes from the local community with people calling at the very small premises. Customers from outside the village usually come at the weekend. Each pair of sunglasses sells for about US$40-50, so one customer is worth staying open for.

The entrepreneur has advertised the business in his village, and has a sign outside. But he still depends on the two market sellers to reach customers outside the village. He would like to go out and do more selling, as his market sellers really do not know the technical side. However, he cannot leave his business premises easily, due to fear of losing custom, because he is the only one who can make the sunglasses, and because he is partly disabled following polio.

Personal contact with individual customers is essential but the entrepreneur uses a local community phone/fax facility to keep in touch with his suppliers: the lenses for the glasses come from a neighbouring country. From this link he not only controls supplies - and is able to restock quickly - but he also receives good information that he can use to increase sales (i.e. catalogues and information on new styles of frames that he can share with customers). Without access to phone and fax, he would face high supply costs and long absences from his work.

He would benefit even more from a phone/fax in his own premises: he would avoid leaving his premises - an inconvenience given his disability, alongside the danger of losing customers while he is away using the community facility. It would also mean more satisfied clients: for customers travelling from outside the village, initial contact could be made by telephone to check if the trip was worthwhile.

Case Study 2: How a computer and Internet connection could support a growing small business

This small business produces metal furniture, employs 28, has an annual turnover of approximately US$180,000, and uses no computerised information systems. The enterprise has grown rapidly - mainly thanks to preferential government purchasing - but it now needs to move into new markets, particularly exports. However, effective use of information has lagged behind enterprise growth:

- For many years, the business owner had a strong relationship with one local supplier. He lacked information that would have told him this supplier's prices were considerably higher than imported alternatives.
- The business is quite ignorant about new markets and customers, especially overseas.
- Internal financial management and book-keeping has been neglected.
- The enterprise's technical information and know-how is held almost entirely in the business owner's head, and is not spread around the business.

To date, the business has relied on informal information practices. However, these are no longer enough for the new demands placed on the business.

The business has reached a point where its future growth - even its survival - demand more formal information practices . It needs more formal external information on suppliers - to improve its choice of materials and technology. It needs more formal external information on customers - particularly to help enter new export markets. It needs new internal information on finance, sales and production - to enable the business to be properly managed.

To get this information, personal contacts will be vital. But ICTs are also going to have a valuable role. With a computer the owner will be able to keep internal records in one place, to print those records easily, and to analyse those records to help him make decisions. With an Internet connection the owner can find out about new suppliers and can keep in touch with those suppliers. Information from the Internet will also help him understand more about new production technologies, and about export markets. ICTs won't solve all his problems, but they may be part of the move to improved information handling.

Case Study 3: How ICTs are supporting a thriving small business

This small business offers computer services: installing computer networks, servicing PCs, and setting up software. It employs four staff, with a turnover of around US$70,000 per annum.

The business owner spends most of his days out of the office, visiting customers. This is important for the purpose of collecting monies owed and for exchanging documents that need a signature. This has a positive aspect: it increases communication with customers and builds relationships; and it provides a stream of information about new business opportunities. It shows how important face-to-face contact is, even in the high-tech sector.

But all this contact also has a negative outcome: it takes a large amount of time. In order to claw back that time, the entrepreneur makes heavy use of ICTs. His mobile phone is with him always, giving customers 'anywhere, anytime' contact. Documents are increasingly being sent by fax, computer fax or email. Contact with suppliers overseas is maintained by email. Some parts of the business are even moving 'online' - the entrepreneur can fix some client problems over the Internet, and can obtain software for his clients direct from supplier Web sites.

Internally, the business uses PC-based software to record and analyse customer data. For example, the entrepreneur is able to list customers, past contracts, current contracts, quoted contracts, creditors, etc. This saves time and ensures accuracy. He is also able to list items supplied by the enterprise, price lists and availability, and creates quotations quickly on standard letterheads.

ICTs are providing the means to produce and communicate information quickly in a business sector where demands from customers are growing. For this business, ICTs have become an essential business tool - without them, this small enterprise would not survive.

Which Advice for Your Business?

- I am running a small business but have no access to a telephone/fax or a computer

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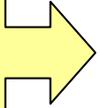
- I am running a business and use the telephone and fax regularly

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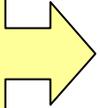
- I am planning to start a business and thinking of buying a computer

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- I have recently purchased a computer for my business

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- I have been using computers in my business for a number of years but have no access to email or the Internet
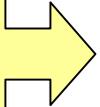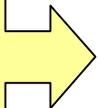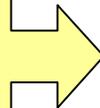
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> **I am running a business but have no access to a telephone/fax/computer**

Your business may not be able to afford even a telephone connection (fixed line or mobile). There may be long waiting lists in your area or lack of network coverage. However, there are ways in which your business can access telephone/fax services at a lower cost. Here are some ideas:

- Try contacting business support organisations in your locality. There may also be non-governmental organisations (NGOs) offering business support.
- You may be able to use a telephone belonging to a friend or family member
- A local small business may be able to provide use of a telephone/fax.
- Think about sharing the costs of a telephone connection with another business close to yours.
- Public payphones can be used to receive messages and make calls.

Lack of access to modern communications may put your business at a disadvantage. However, there are many other ways you can communicate with your customers, suppliers and other business contacts:

- **Don't forget! Personal face-to-face contact** is the most important method of business communication – particularly with your customers.
- **Building a good reputation** for your business will help information about your business to spread through word of mouth.
- **A professional image** will help to promote your business through the use of a printed business card, a letterhead and a logo.
- **A professional signboard** outside your business premises or on a road close to your business will attract customers.
- **Advertising** your business through the use of printed leaflets, posters, cards in shops or adverts in local/national papers, will reach a wider customer base.

> **I am running a small business and use the telephone and fax regularly**

Your telephone/fax is an important communication tool for your business. Are you sure you are using it effectively? First of all, make sure of the following:

- **How is your telephone manner?** When you or your employees answer the phone, do you identify yourself and your business, and are you able to be prompt, polite, friendly and helpful?
- Do you have a system of **taking messages** or recording calls on paper?
- Do you have an **answering machine** or are you able to take messages when out of the office – such as through voicemail or telephone answering services offered by local providers?
- Is your **telephone number** widely advertised – in the Telephone Book, Yellow Pages, and Trade Directories?
- Make sure your **telephone number** is on your business card or other literature regarding your business – such as on standard quotations or invoices.

There are wide-ranging uses for your telephone within your business. Are you making full use of your telephone/fax?

- You can use your telephone to **make appointments** with potential customers, or to make your first introduction.
- Have you thought about using your telephone as a **direct marketing tool?** Many more businesses are now using telephones. How many of your customers are now telephone/fax users?
- You can use your telephone to **obtain information** from suppliers or to arrange collection of materials.
- You can use a telephone/fax machine to **keep your existing customers up-to-date and informed**, and to send product/service literature, price lists and quotations.

> **I am planning to start a business and thinking of buying a computer**
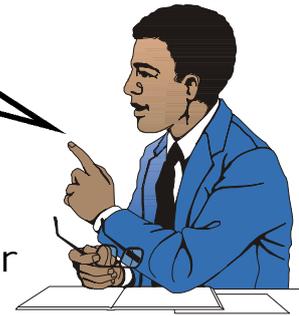
If you are currently setting up a business, and your own funds or your borrowed capital are limited, buying a computer is not likely to be a priority. This is because...

- Your first year of trading should concentrate on attracting and retaining customers and building the reputation of your business.
- Your time is limited. You are unlikely to have enough time to devote to learning about computers or adapting unfamiliar software to the needs of your business.
- It is important to have effective manual book-keeping and record-keeping systems in place before computer systems can be effectively used, particularly if you are new to business management.

If you are new to business and you have little experience of computers, it is recommended that you postpone the purchase of a computer for your business until you have been successfully trading for at least one year.

Refer to the Advice Sheets and consider how a computer may assist your business if you have been successfully trading for at least one year.

It may be the case that you feel a computer will be an essential tool for generating income in your business. This may be the case in printing and publishing or for offering professional business services. If this applies to you, refer to some basic advice on purchasing a computer for your business on Advice Sheet 9.

> **I intend to purchase or have recently purchased a computer for my business**

You may be an experienced computer user or you may be new to business computing. Whichever the case, you should consider which particular aspects of your business can be improved through the use of business computer software:

- Are you hoping to improve the financial management of the business?
- Are you hoping to produce more professional sales/marketing materials?
- Do you want to computerise your sales/invoicing systems and record keeping?
- Do you want to improve your stock control?

Before you consider how a computer can improve critical aspects of your business it is essential to understand your current business problems. For example, if you are unable to keep track of your cash flow and control your costs using a manual system, computerising your book-keeping will likely compound your problems rather than improve them, as well as adding to your costs.

A computer will not improve the basic management of your business unless your underlying business problems are also tackled.
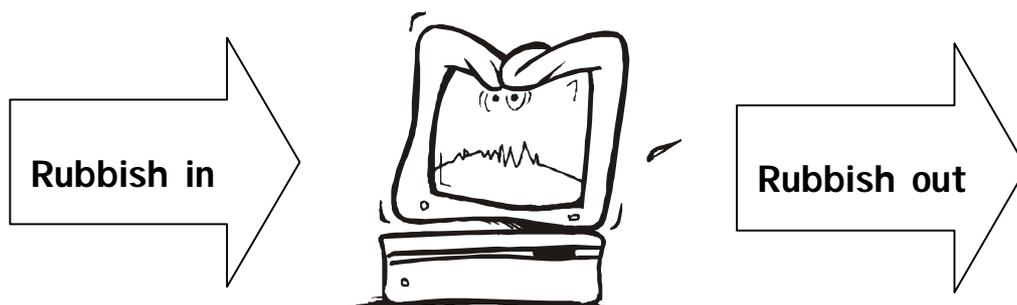
Rubbish in   **Rubbish out**

> **I have been using computers in my business for a number of years but have no access to email/Internet**

You may have been using a computer in your business only for general administration (word processing and spreadsheets) or for internal handling of business information (e.g. book-keeping, invoicing, or stock control).

An external network connection for your computer(s) will open up your business to a wider world of information and communication via email and the World-wide Web (WWW). This may benefit your business. However, before you decide to invest time and money in an external connection, consider the following points:

- Are your existing customers or potential customers using email/Internet? If not, then email/Internet is unlikely to be of value as a marketing/sales tool.
- An email/Internet connection is more likely to be of value if you are doing business outside your country – in the region or further afield.
- If you are primarily interested in email as a tool for local communication, and your funds are limited, then a mobile phone may be a better investment (See Advice Sheet 6).
- What types of information are you hoping the Internet will provide for your business? How do you think the Internet will be able to assist your business? (See Advice Sheet 8).
- There may be benefits for your business of accessing email/Internet. However, there will also be costs – both financial and time costs. Have you considered the total costs of computer ownership and email/Internet access? (See Advice Sheet 9).
- Is your present computer suitable for accessing email and the Internet?

Advice Sheet 1. Communication with Customers: Getting the Message Across

Information and communication technologies may be able to assist your business – most critically for communicating with your customers. Before you consider investing in a telephone, computer or an email/Internet connection, ask yourself the following questions:

What message do you want to get across to your customers about your business? Your message should have two components:

- **General information** that helps to build your long-term reputation. This can include positive messages about your products/services, quality, reliability, prompt service and good value that you offer.
- **Detailed information** that customers need to make decisions about buying. This can include details about products/services, price lists, special offers or payment options (e.g. cash only or credit).

How do you want to communicate the message? There are many ways you can communicate general and detailed information to your customers. It can be a spoken message, a written message or it can be an implied message – such as through a logo or advert. Think about the following before you choose a means of communication:

- **Who are your existing/potential customers?** Where are they located? Are they able to read? Can they be contacted by telephone, post, email or mobile phone? Do they have transport? Will they be able to visit your business premises?
- **What is the most cost-effective way you can communicate with your customers?** How can your message reach the maximum number of existing or potential customers at the minimum cost to your business – in terms of time and money?
- **The quality of your message is also important.** It may be better to target better quality information on a smaller number of existing or potential customers that are more likely to purchase your products or services.
- **Information feedback is essential.** Channels of communication must also allow customers to communicate with you. They may want to contact you for more information. They can give you important 'feedback' about your prices, your product/service range, quality and reliability, and their future needs.

Advice Sheet 2. Communication with Customers: Selling Locally

If you do not make sales then you will not have a business. Most of your everyday business activity will involve communicating with existing or potential customers to make sales. Before you consider how information and communication technologies might assist your business, consider the following:

- **Every part of your business should be involved in selling.** This includes the business owner and all the employees who come into contact with customers.
- **Planning and organisation is important for selling.** Records of existing and potential new customers must be kept. This will help you to keep in contact with customers, to follow up sales, and to plan ahead.
- Successful selling doesn't necessarily depend on the means of communication or the nature of the products/services you are selling. **More important are your personal selling skills.**

There are two groups of customers you need to communicate with:

Existing Customers. Your existing customers are your most important business asset. Try to focus on the following:

- **Building long-term relationships with customers** by giving prompt service, following up orders, checking deliveries, and keeping in regular contact when problems arise.
- **Build up a good working relationship with customers** through polite, efficient and friendly service. Your existing customers are most likely to provide you with new business by making referrals or through providing a business reference.

New Customers. Contact with new customers is more likely to arise through your existing business contacts, than through media advertising. It is important that you use your existing customers, and social (family and friends) or business contacts effectively:

- **Follow up leads.** Leads are people who have approached you. Make sure you take their details and make repeated follow-ups.
- **Use referrals.** Ask existing customers to recommend you to others.
- **Cultivate a good local reputation.** A good reputation will spread rapidly through word of mouth (as will a bad reputation).

Advice Sheet 3. Communication with Customers: Exporting

For today's business, geographical boundaries are disappearing. If you are already exporting, or planning to export, remember that three quarters of all businesses in the industrialised countries have Internet access and use email regularly.

Rapid customer contact.   Email has made the world a smaller place. At the cost of a local call, it is just as quick and easy to email a customer abroad as in the next street or town. If you deal in products or services that can be stored electronically – such as photos, music or published material – then email can be used to distribute your products/services.

A source of new markets. The Internet gives access to potential customers and business contacts world-wide. For carrying out market research you can access a wealth of export-related information and export organisations for advice and assistance overseas. The Internet is dominated by information and information sources in English. So, if you are an English speaker you will be at an advantage.

The main ICT means for raising the profile of your business abroad would be through having your own Web site. Advantages of a Web site include:

- A Web site will give your products or services a 24-hour global presence.
- A Web site can give a professional image for your business in the eyes of overseas customers.
- You can update your Web site frequently – daily or weekly.
- You can communicate directly with your overseas customers/potential customers via your Web site. **But remember …**

- A Web site is only a communication tool to aid communication with customers abroad, and will be no substitute for direct communication, either verbally or through direct face-to-face contact.
- A Web site needs to be professionally designed and constructed to be successful.

Use of ICTs may contribute only a small part to successful exporting. Make sure you also take the following actions:

- Contact your local Exporter's Association and obtain as much information and support locally as is available.
- Talk to business contacts and enterprises that are already exporting in your locality.
- Attend local trade fairs and subscribe to relevant trade journals.

Advice Sheet 4. Communication with Customers: Marketing

Successful businesses are not usually successful by accident. They are likely to have spent a lot of time doing the following:

- Understanding their customers.
- Finding out what their customers want to buy and why they want to buy it.
- Looking at their competitors and identifying strengths and weaknesses.
- Looking at how their own products and services can be improved.
- Planning ahead.

To develop a **marketing plan** you will need to answer the following 'marketing fundamentals':

- Are your products/services of good quality and performance, and competitively priced?
- Is your product/service range attractive to the buyer?
- How can you reach new customers?
- Can you reach customers outside of your locality or abroad?
- Do you need to develop new products or services or update your existing range?
- At what level should you set your prices?
- Will you need to advertise?
- What are the best methods of advertising?
- Do you need to conduct any consumer/customer research?
- How will marketing activities contribute to your business profitability?

If you are selling locally, developing a marketing plan will most likely involve a lot of personal contact with customers or potential customers. Although not essential, computers can be useful to assist in the marketing of products and services through:

- The production of professional-quality printed material for the advertising and promotion of your business – including letterheads and personalised business correspondence.
- Customer targeting through mail shots – via email or fax.
- Market research – particularly for exporters or tourist enterprises.

The Internet and email are only likely to be the starting point for your marketing activities if your existing or potential customer base is made up of regular Internet/email users. However, you should not consider Web-based marketing for your business until your marketing fundamentals have been addressed.

Advice Sheet 5. Making the Telephone/Fax Work for You

If you already have a fixed line telephone/fax or you are intending to purchase one, think about how you can make the best use of your investment. There are four main uses for your telephone/fax:

Introducing yourself or making appointments. The telephone can be a useful means to make initial contact with potential customers or to arrange meetings with any business contacts – such as fixing times to collect payments owed or making deliveries.

Direct marketing of your products and services. You can market your products/services by having a direct telephone/mailing list of previous, existing, and potential future customers. You can either telephone or fax them regularly to remind them about your products/services, or introduce special offers, new products/services, etc.

Obtaining information. Printed information – including quotations, price lists, drawings, etc - can be sent to you via fax. You can request information from suppliers to save you an expensive or time-consuming journey. You can get replies and answers quickly from your customers, suppliers and other business contacts.

Keeping your customers up–to–date and informed. You can talk informally to your customers, suppliers and business contacts. A telephone will be particularly useful for keeping customers informed about problems such as late deliveries or production problems.

Cultivate a good telephone manner!

- Answer your telephone promptly
- Identify yourself or your business
- Speak clearly
- Always be polite, friendly and helpful
- End your call politely
- Always return calls

Advice Sheet 6.   Mobile Phones

Mobile phones are particularly suited to business users. They let you answer customer calls immediately, and reach staff or business contacts while you are working away from your business premises. A mobile phone will give you greater flexibility, faster customer response and time savings. Tariffs are higher for mobile phones, but they offer flexible charging options – including pre-paid phones – where no up-front charges (deposit or monthly subscription) are required.

Digital mobile phones offer additional services:

- International coverage
- Use of your phone outside the country (international roaming)
- The ability to send text messages
- Access to email and the Internet (WAP phones only)
- Messaging services and voicemail
- Lightweight handsets

For a small business, answering a call immediately, rather than responding later, could make the difference between winning or losing an order. If you spend a lot of time away from your business premises, on site or with customers, a mobile phone will allow people to contact you at any time of the day.

Make sure you compare the packages offered by competing providers before you purchase. Some providers offer call minutes free of charge as part of the line rental. However, predicting how much you will use the phone is difficult. It might be worth looking at the 'pay-as-you-go' package, which means you control how much you are spending on calls and connection charges by paying up-front.

What are mobile communications?

Mobile communications means communicating without the need for a fixed phone line. High frequency radio signals are broadcast from a network of transmitters organised geographically into cells on the ground. The signals can carry computer data and fax messages as well as conversation. The mobile user can move around freely and use their phone as long as they are in range of a transmitter. Phone conversations and information are converted into digital format (the same way as data is stored on a computer). Messages are transmitted using a global standard.   It is usually based on GSM technology (Global System for Mobile Communications).

Advice Sheet 7. Using Electronic Mail (Email)

Electronic mail (email) – the exchange of messages between computers – offers considerable advantages over letter post and, increasingly, over fax communication or even phone:

- It provides the cheapest, quickest and most reliable way to exchange business information with those customers, suppliers, etc. who are also connected to email.
- It allows a variety of information to be sent – not just messages but documents, photographs, drawings, or any other computer data file.
- Messages can easily be recorded, to keep a record of correspondence.
- Messages can easily be organised, e.g. by building up an address book.
- Messages can be protected from outside view.
- Messages can easily be sent to multiple recipients.
- Services can be accessed by the entrepreneur while away from the office.

The main barriers to using email at present are:

- The high investment costs (the total cost of computer/modem ownership).
- The high running costs (network access).
- The relatively few businesses in developing countries able to send and receive emails (although the number is growing rapidly).

In order to use email, enterprises need access to an Internet-linked computer. Owning this is costly, but email services can increasingly be accessed from shared facilities.

If you are an exporter or you are regularly communicating with email-linked customers, suppliers and other business contacts within the region or world-wide, then email is by far the cheapest and quickest means of communication. It will increasingly be an essential tool for your business.

Advice Sheet 8. The Internet and World-Wide Web (WWW)

The Internet is a global network of computers which are able to communicate with each other. They are able to exchange all types of data (including words, pictures, sounds and video). It is also possible to exchange computer software and computer programs. For business, the Internet has three main uses:

- It allows you to use email (See Advice Sheet 7).
- It allows you to access information about other businesses, market opportunities or sources of business advice and assistance.
- It allows you to publish information about your business and to promote and sell your products/services via **e-commerce (electronic commerce).**

Access to, and use of, the Internet by businesses has been growing extremely fast in developing countries. However, as with email, its use locally is still very limited. This is because…

- Only a small proportion of businesses have access to the Internet.
- Very few local sources that provide detailed business information use Web sites (large/medium businesses and government departments, for example).
- Most potential customers do not yet use the Internet and are not able to make electronic credit card payments via e-commerce.

What is a Web site?

A Web site contains pages of information (words, pictures, sounds, video) that are linked together electronically to other Web pages. A Web site can be accessed by anybody who has access to the Internet.

A small business user can use a Web site to promote the business, to advertise products and services, to accept enquiries and orders, and to accept payments using credit cards. For a Web site to be effective it must be professionally designed and updated regularly. Potentially, a Web site can give access to the world-wide market for any small business, no matter where in the world they are located.

For most businesses selling locally, a Web site is likely to remain an unnecessary expenditure. A Web site is more likely to be of use for the following categories of business:

- Manufacturing exporters wishing to promote their products in industrialised countries or elsewhere.
- Tourist businesses whose customers come from abroad.
- Businesses requiring information on a regular basis from outside the country – such as in technical/engineering sectors, IT or financial services.
- Businesses whose products/services can be converted to digital data – such as in printing and publishing, music and video publishing, software, and professional and consulting services.

A broader range of firms will benefit from getting market, commercial, technical, product/service and other information from the Web sites of other enterprises and organisations. This can lead to faster, cheaper, better decision making, and reduce the sense of isolation felt by these small businesses.

What is electronic commerce (e-commerce)?

E-commerce means undertaking business transactions electronically, such as buying an item at a firm's Web site by typing in a credit card number and other details. Some developing country small businesses have moved into e-commerce but so far this is very rare. Costs of setting up e-commerce are high, and requirements include computerised internal processes and high-speed network connections. Despite this, for importers and – especially – exporters, there will be growing pressures to move into e-commerce because of the way that it reduces financial and time costs, and improves transaction certainty and record-keeping.

Advice Sheet 9. Buying a Computer

Accessing email and the Internet, and making use of the information provided, requires the use or ownership of a computer and a network connection via an ISP (Internet Service Provider). Before you purchase you should do the following:

- Read through some of the advice in this handbook, talk to your customers and suppliers, and consider what your underlying business problems are.
- Can your business really afford a computer? Will it be a priority business tool for accessing your customers?
- Is your business likely to be left behind or become less competitive without computerisation? Do all your competitors use computers?
- Do you have the necessary computer and business skills, and if not, do you have the time and money to acquire them?
- Do your employees have any computer skills?

Some Computer Buying Tips

- Take advice from other business users
- Research the market using computer magazines
- Beware of computer sales staff
- Decide what the computing needs of your business are before buying
- Talk to your ISP (Internet Service Provider)
- Use and become familiar with computers before you purchase
- Weigh up the costs and the benefits carefully before making the investment

The Total Cost of Computer Ownership

- **Hardware.** Purchase of a computer will be a large investment for your business. Don't be disappointed if – six months after purchase – your computer has been overtaken by a faster model, costing the same price.

- **Software.** The computer you buy may not include the operating system and software you need for your business. The total cost of purchased software may exceed the cost of the computer.

- **Peripherals**. You will probably need a printer and maybe a scanner. These costs must be added in.

- **Operational costs.** Printer inks or toners can become expensive, particularly if you are volume printing using an ink jet printer. Capital costs for a laser printer will be higher but running costs lower.

- **Internet access costs.** You will need to add in your local call charges to your ISP and the monthly access charges. If there is no ISP in your town/village then you will need to connect to the nearest large town/city, which will be more expensive.

- **Training costs.** There are many private computer schools and ISPs offering computer training. Compare their prices and talk to previous students or business owners who have taken the courses before you enrol.

- **The learning curve.** If you are new to business computing, expect to climb a steep learning curve. This will require time and energy that may detract from your real business concerns. 'Off the shelf' software will need to be adapted to your own specific business needs.

- **Training time.** Help and advice from another business user may more valuable to you than formal training in a school. It will also cost less in money, but might cost more in time.

- **Time spent on-line.** Dial-up connections can be very slow. How much time will you have to access the Internet?

Methods of Business Communication Compared

Method of Communication	Investment Costs (Initial)	Running Costs (per month)	Business Advantages	Business Disadvantages
Face-to-face contact	Zero	Zero Possible transport costs	Builds personal relationships with customers and suppliers locally, and builds the reputation of your business through word of mouth.	Restricts business contacts primarily to the local area.
Telephone/fax	Deposit Connection charge Telephone/ fax machine	Subscription charges Call charges	Helps support networks of contacts and provides fast verbal and (for fax) printed or written communication. Extends your business network beyond the local area.	Can be impersonal and requires a clear and concise telephone manner. The printed quality of fax can be poor.
Mobile Phone	Connection charges Handset purchase Pay-as-you-go option	Subscription charges Call charges	Highly flexible and supportive for building business networks. Ideal for business owners constantly on the move. Able to send and receive text messages.	Much more expensive than a fixed line connection, particularly if used frequently for regional/world-wide calls. Network reception is still poor in many locations.
Email	If ICT is owned: Phone line connection (as for fixed line phone) Total cost of computer ownership	Local call charges Computer running costs	Extremely cheap running costs – particularly for business communication across borders. Documents (invoices, orders, etc) can be transferred securely and immediately.	Investment costs are high if ICT is owned. Few cost or convenience advantages for local communication. More impersonal than telephone.
Internet	If ICT is owned: Phone line connection (As for fixed line phone) Total cost of computer ownership	Local call charges Computer running costs	Information access to world-wide sources – relating to products/ services/training and business advice. Ability to purchase and sell regionally and globally via e-commerce.	High investment costs. Impersonal. Lack of locally available 'Web-based' information. Too much information ('data overload'). Time constraints in accessing relevant information.

Basic ICT Jargon Explained

Analogue
Describes the way in which data is transmitted – as waves – by traditional radio, phone lines and early-model mobile phones.

Bandwidth
How much data a phone line or computer network can carry, measured in *bps*: bits per second.

Byte
A measure of data storage. *Megabyte* (MB) means roughly one million bytes of data. *Gigabyte* (GB) means roughly one billion bytes of data.

CPU/Chip/Processor
Central Processing Unit: the 'brains' of the computer that undertakes calculations and controls other parts of the computer system. On personal computers, also known as the *microprocessor*. Chip speed is often measured in *Megahertz* (MHz).

Database Management System
Application software that handles storage and selective search of data on a computer.

Digital
Describes the way in which data is transmitted – as 1s/0s – by computers and modern phone lines and mobile phones.

Directory
A collection of computer files stored in one place.

Disk
A special disk that stores data or semi-permanently. Some are magnetic disks: a *hard disk* is held inside the computer; a *floppy disk* can be carried around. Some use optical compact disks: *DVD-ROM* (digital versatile disk read-only memory) has at least seven times the capacity of *CD-ROM* (compact disk read-only memory).

EDI
Electronic Data Interchange: computer-to-computer exchange of electronic documents for business.

Email
The transfer of messages between computers.

File
When work is done on a computer and then stored on a disk, the result is a called a file.

GSM
Global System for Mobile communications: a digital phone network standard.

Hardware
Physical items of ICT: computers, cables, etc.

Home Page
The first page you see when you connect to a Web site on the Internet.

HTML
HyperText Markup Language: a computer language used to create Web pages.

Hyperlink
A connection linking different Web pages via the Internet.

ICT
Information and Communication Technology: electronic means of handling digital data.

Internet
World-wide communication system – a network of networks – that connects computers and allows them to exchange data.

ISDN
Integrated Services Digital Network: a digital phone line capable of transmitting data more quickly than a standard line.

ISP
Internet Service Provider: a company that provides you with access to the Internet.

Modem
Modulator/demodulator: a device that allows computer signals to be transmitted over analogue phone lines.

Network
Computers joined together so that they can communicate with each other. A *local area network* (LAN) covers a single building; a *wide area network* (WAN) covers a broader area, typically linking computers in different towns or countries.

Peripheral

Anything that is not part of the main computer case but connected to it. This includes devices such as the *keyboard* (for typing); *mouse* (for moving the pointer on screen); *scanner* (scans words/images on paper into the computer); *monitor/screen* (that produces the image on a computer); or *printer*.

RAM/ROM

Two types of computer memory that store data on special computer chips. *Random access memory* (RAM) loses its data when the computer is switched off; *read-only memory* (ROM) does not lose its data.

Search Engine

Software that helps you find what you are looking for on the Web.

Software

The instructions that make a computer work. A particular set of instructions that performs a function is called a *program*. If offered for general sale, this is a *package*; if produced for a single, specific customer, this is *custom software*. There are three main types of software: *systems software* (that controls basic computer operations, like the operating system); *application software* (that carries out a particular task, like word processing); *programming software* (that builds other software).

Spreadsheet

Application software that handles numerical (and other) data on a computerised matrix of cells.

WAP

Wireless Application Protocol: a system that allows mobile phones to access the Internet and its services.

World-Wide Web (WWW)

A collection of linked documents (*pages*) connected via the Internet. The pages can hold words, pictures, sound and video.

Web Site

A collection of Web pages published by a company, organisation or individual.

Word Processing

Application software that handles documents on a computer.

Sources of Further Information…

…on information, ICTs and small enterprise:
Web Site: http://www.man.ac.uk/idpm/ictsme.htm

…on information and ICTs generally:
Book: Laudon, K.C. & Laudon, J.P. (2000) *Management Information Systems*, 6th edn, Prentice Hall, Upper Saddle River, NJ.

…on building information systems:
Book: Bell, S. & Wood-Harper, T. (1998) *Rapid Information Systems Development*, 2nd edn, McGraw-Hill, London.

…on ICTs and development (including relevant donor initiatives):
Web Site: http://www.man.ac.uk/idpm/devtlinx.htm#itdev

…on small enterprise development:
Book: Mann, C.K. et al (1989) *Seeking Solutions*, Kumarian Press, West Hartford, CN.

Web Site: http://www.man.ac.uk/idpm/devtlinx.htm#sed

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