

RESEARCH PROJECT

ON

***“E-COMMERCE GROWTH IN INTERNATIONAL MARKET -
Impact on Supply Chain Management”***

**FOR THE PARTIAL FULFILMENT OF THE REQUIREMENT
FOR THE AWARD OF**

BACHELOR OF BUSINESS ADMINISTRATION

**UNDER THE GUIDANCE OF:
PROF. ASHOK KUMAR SHARMA**

**SUBMITTED BY
Kumar Prince
BBA 6th Sem
18SLAM1010057**



SCHOOL OF BUSINESS, GALGOTIAS UNIVERSITY

Certificate from Faculty Guide

This is to certify that the project report "***E-COMMERCE GROWTH IN INTERNATIONAL MARKET - Impact on Supply Chain Management***" has been prepared by **Mr. Kumar Prince**, under my supervision and guidance. The project report is submitted towards the partial fulfillment of 3 year, full time Bachelor of Business Administration.

PROF. ASHOK KUMAR SHARMA

Name and Signature of Faculty

Date:

DECLARATION

I, **Mr. Kumar Prince**, Roll No 18SLAM1010057 student of BBA of School of Business, Galgotias University, Greater Noida, hereby declare that the project report on ***“E-COMMERCE GROWTH IN INTERNATIONAL MARKET - Impact on Supply Chain Management”*** is an original and authenticated work done by me.

I further declare that it has not been submitted elsewhere by any other person in any of the institutes for the award of any degree or diploma.

Kumar Prince
BBA 6th Sem
18SLAM1010057

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Kumar Prince
BBA 6th Sem
18SLAM1010057

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Introduction to the World Wide Web

The World Wide Web (WWW), also known as the Web, is the most popular way to trawl through the information content of the Internet, the network of networks which has become part of everyday life for millions of people in all sectors of the community.

The concept of the WWW began in March 1989 and was developed by Tim Berners-Lee of the European Particle Physics Laboratory (CERN). He proposed the project as an effective means of transporting research and ideas throughout the organisation.

The initial project proposal outlined a simple system of using a concept called “networked hypertext” to transmit documents and to communicate among staff in the high-energy physics community. Hypertext is the organisation of information into connected associations that a user can choose to make. An instance of such an association is called a link or hypertext link. The Web is just a vast amount of information content connected by similar and large number of hypertext links.

This allows movement between documents or information on the same Web site or between Web sites, providing a dynamic way of accessing information.

Through the early 1990s the concept was taken on board by computer developers and hundreds of people across the world contributed by writing Web software and documents, or educating others about the Web.

- By 1994 the Web was becoming recognized across the globe and the first International World Wide Web conference was held at CERN;
- Throughout 1994, Web success stories were published by the media;
By the end of 1994, the Web had 10,000 servers, of which 2,000 were commercial, and 10 million users;
- By February 1997 the number of users had reached 57 million world-wide;
- By November 2000 there was a staggering 407 million users world-wide.

The Web today is a vast resource of information of all types, accessed and used by all sections of society, from research institutions and public and private sector organizations, to all sectors of the business community, as well as private individuals.

Very little of today's world is not represented on the World Wide Web. The use of the Web seems almost limitless. Every day people discover exciting new ways to use the development. Some use it to publish information about their company or hobbies whilst, increasingly, it is used to conduct business. Companies are being set up which rely totally on the Web as a delivery mechanism and are frequently referred to as Dot.Coms. The WWW is the interactive, graphical portion of

the Internet, reflecting the fact that the millions of documents or pages of information stored on many computers found throughout the world, may contain text, images, sound and movie clips.

The computers that store Web documents are called Web servers. They run special software that lets you connect to the Web server and view the stored documents.

The considerable hype surrounding eCommerce could lead many Small Enterprises (SMEs) to believe that they are lagging behind if they are not part of the new trading revolution. Much of the hype relates to success stories about Internet selling, but SMEs should know that other types of e-Business relationships exist which can bring their own benefits.

Business-to-Consumer (B2C)

Where much of the initial success was generated as companies sold selected consumer products to an Internet-literate audience, willing to buy on-line. SMEs can still succeed in this area without an on-line selling capacity simply by improving the marketing of their products to potential customers.

Business-to-Business (B2B)

Interaction between businesses, either in an established supply chain or with new trading partners. An area which didn't get as much publicity as the Business to Consumer activities but one which is now gaining more recognition because it is far more important to most small businesses, especially in the manufacturing sector.

Business-to-Administration (B2A)

A third category of eCommerce, still in the early stages of development, is in which the business community interacts electronically with public sector organizations. Submission of planning applications, VAT returns, income tax, or patent registration, all come within this category and B2A applications have the potential to bring even more companies into the world of electronic trading.

What is E-Commerce?

In an increasingly competitive global marketplace, it is extremely important for businesses to embrace the latest methods and trends to conduct their businesses. With the advancement of technology, particularly the Internet, the world has discovered a new path of opportunities, switching the transactions of traditional business models into a better model far superior in terms of efficiency, productivity, profitability and competitiveness. This is where e-Commerce comes into the picture in which is simply a short form for “Electronic Commerce”. E-Commerce is generally the “in-thing” today, which concept covers the global information economy which includes electronic trading of goods and services, electronic fund transfer, online procurement, direct marketing, electronic billing, etc, through the internet via the computer. E-Commerce does not change the core of businesses, which is to generate profitability from transactions, but it is to change the mindset of how to go about generating profits through an efficient manner. This simply means obtaining information at our fingertips, without wasting time, money and effort, and also to conduct real time transactions in a “borderless world” 24 hours a day, 7 days a week. With e-Commerce transactions, it is a Win-Win situation for the parties (both buyers and sellers) participating in it. It offers distinguished benefits such as less overhead expenses, larger advertising market exposure, and reduces middle man participation and all these benefits are easily understood and quantifiable. E-Commerce itself is categorized into several sections. Among the sections are Business-To Business (B2B), Business-To-Consumer (B2C), and Business-To-Government (B2G).

Doing business - electronically

E-commerce is conducting business transactions facilitated by the Internet or other electronic networks. It is the exchange of information, goods, services or money through the use of computers with customers (Business to Customer) or with other businesses (Business to Business). Whether you are marketing or selling products or services to your customers, or communicating inventory data to your suppliers, you are taking part in e-commerce.

E-commerce can be defined by various electronic activities from web page creation to supply chain management:

- customer orders (buying and selling)
- invoicing
- fund transfers
- inventory control
- customer service
- market information research

E-commerce continues to evolve, addressing customer concerns about privacy and the security of on-line transactions. Net security systems now assure that there isn't any danger of breaching confidentiality. Governments, as well as international organizations such as the World Trade Organization, the United Nations Commission on International Trade Law, and the International Organization for Standardization are working to define legal, taxation and intellectual property rules in order to build a global commercial framework that is fair, predictable and consistent.

Quick access to international markets

E-commerce started through private networks connecting businesses to specific clients or other businesses. Doing business on the Internet now opens the door to markets worldwide.

Benefits of e-commerce:

E-Commerce is one of the most important facets of the Internet to have emerged in the recent times. Ecommerce or electronic commerce involves carrying out business over the Internet with the assistance of computers, which are linked to each other forming a network. To be specific ecommerce would be buying and selling of goods and services and transfer of funds through digital communications.

The benefits of Ecommerce:

- E-commerce allows people to carry out businesses without the barriers of time or distance. One can log on to the Internet at any point of time, be it day or night and purchase or sell anything one desires at a single click of the mouse.
- The direct cost-of-sale for an order taken from a web site is lower than through traditional means (retail, paper based), as there is no human interaction during the online electronic purchase order process. Also, electronic selling virtually eliminates processing errors, as well as being faster and more convenient for the visitor.
- Ecommerce is ideal for niche products. Customers for such products are usually few. But in the vast market place i.e. the Internet, even niche products could generate viable volumes.
- Another important benefit of Ecommerce is that it is the cheapest means of doing business.
- The day-to-day pressures of the marketplace have played their part in reducing the opportunities for companies to invest in improving their competitive position. A mature market, increased competitions have all reduced the amount of money available to invest. If the selling price cannot be increased and the manufactured cost cannot be decreased then the difference can be in the way the business is carried out. Ecommerce has provided the solution by decimating the costs, which are incurred.
- From the buyer's perspective also ecommerce offers a lot of tangible advantages.
 1. Reduction in buyer's sorting out time.
 2. Better buyer decisions
 3. Less time is spent in resolving invoice and order discrepancies.
 4. Increased opportunities for buying alternative products.

- The strategic benefit of making a business 'ecommerce enabled', is that it helps reduce the delivery time, labour cost and the cost incurred in the following areas:
 1. Document preparation
 2. Error detection and correction
 3. Reconciliation
 4. Mail preparation
 5. Telephone calling
 6. Data entry
 7. Overtime
 8. Supervision expenses

Operational benefits of e commerce include reducing both the time and personnel required to complete business processes, and reducing strain on other resources. It's because of all these advantages that one can harness the power of ecommerce and convert a business to business by using powerful turnkey ecommerce solutions made available by e-business solution providers.

Access to markets, customers, suppliers, contacts

- sharing of information
- greater efficiency
- reduced costs
- time-saving

The hyper growth of E-commerce: The digital economy

While estimates vary widely:

- Retailing on the Internet accounted for less than 3% of total North American retail sales in 1998. Growth rates, however, have been very encouraging. It was estimated that in the year 2000 business-to-consumer Internet transactions worldwide has amounted to approximately \$20-\$50 billion, while business-to-business transactions has reached in the \$50-\$150 billion range.” (Industry Canada)
- Internet traffic is doubling every 100 days. E-commerce is doubling annually. Worldwide e-business was exceeded \$1 trillion by 2002.(a survey)
- Canada is the most ‘wired’ nation, with the highest per capita rate of Internet-connected people. Forty-five percent of Canadians are online for a total of 13.5 million users. Americans rank first for the total number of users with 92 million people online, or 34 percent of the population. (NUA Internet Surveys, 1999)
- 61% of Canadian small and medium-sized enterprises (SME5) were connected to the Internet in 1999. (Internet Institute)
- Canada has the lowest Internet access cost in the world. (OECD, 1997)

For more Internets market reports and information on the Consumer Online industry:

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- International Communications Inc.
- Jupiter Communications
- COM QUEST Research (Canadian data)
- **News and analysis.**
 - China’s Mr. Internet: Jack Ma wants to build China’s first genuinely global e-commerce firm - The Economist (Aug 26, 2000)
 - Thinking Strategically about Selling Online - Ascenda
Home Internet use ‘growing’ - BBC News (Aug 7, 2000)
 - Dairy industry turns to e-commerce - CNN (Jul 28, 2000)
 - Online shopping gets more convenient - BBC News (Jul 27, 2000)

Internet news.com

- Internet e-commerce news

ZDNet

- E-commerce news, tips, strategies and best practices

All E-Commerce

E-Commerce Times: getting started, strategies, news and reports

E-commerce Comes of Age

focuses on buying and selling over the Internet, along with ongoing issues that will impact the future of electronic commerce.

E-Commerce: The Net Effect on Agribusiness

The Agricultural Forum (U.S.) has a series of papers on the effects of e-commerce in the agri food industry.

Shopping around the Web

E-commerce survey by The Economist

Talking' about e-generation

Student opinions report by The Economist

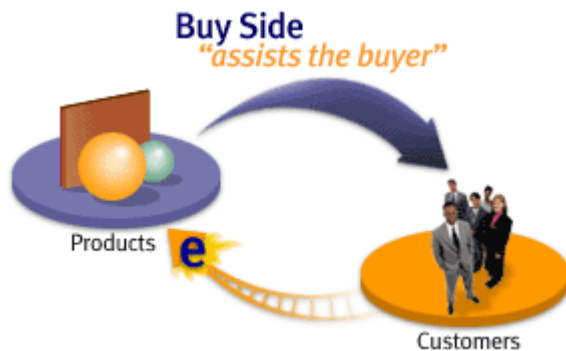
Most business owners understand the idea of conducting business over the Internet, and probably understand the need to “get their business online” but what is e-Commerce, really, and how do you get started?

In a nutshell, e-Commerce (Electronic Commerce) is a way of conducting business through computers and over networks. Simply put, e-Commerce is buying and selling over the Internet. But it's actually much more than that.

Business interactions of all types-from simple buying and selling, to complex business practices such as banking, manufacturing, and supply chain management-can be easily accomplished using the Internet.

Buy-Side vs. Sell-Side e-Commerce

There are two basic sides to e-Commerce; the Buy Side and the Sell Side



Buy Side

Customers

Buy Side refers to the e-Commerce functionality that enables a business to sell their products to a buyer (customer) online. This buyer could be an individual consumer or a large company buying products for commercial use. The purpose is to make online buying easier and the experience more pleasant for the buyer. The more robust the choice in conjunction with an easier, user- friendly web site, customer satisfaction increases and so do sales.



Sell Side refers to the e-Commerce functionality that enables a company to actually make their goods and services available over the Internet. Critical to the success of the seller, it assists the seller in improving internal business processes and functionality. The purpose is to help companies increase revenue and profitability by reducing business and procurement costs.

Since e-Commerce is a relatively new phenomenon, the definitions and jargon are not necessarily embedded into our everyday business lexicon.

So, what's the buzz around the office?

"E"-anything... = The "E" equals Electronic.

Virtually anytime you see an "E" or "e" placed before a word, it usually refers to the electronic version of whatever the word is.

Likewise, you may see "I"-this or "i"-that, which generally stands for the "Internet" and also refers to an online or electronic method of doing something.

Research Methodology

To determine the significance and growth of E-Commerce in International market, a survey was conducted during June, 2007. The survey questionnaire was designed on the requirements and significance of E-commerce in India and Supply Chain Practices. The survey instrument focused on the following areas:

1. Importance of E-commerce to the organizations
2. Reasons for E-commerce implementation
3. The impact of using E-commerce on logistics performance, customer

Results

Participant profile

The responding organizations represented a broad cross-section of the industry including FMCG, Pharma, Consumer, Retail, Automotive and Paint industries. However majority of the respondents were from FMCG, Pharma and Consumer.

The respondent includes a mix of public sector as well as the private sector. The responses are markedly better from public limited company, which constituted nearly 76% of the total sample, followed by private limited 24%, 44% had MNC stake.

satisfaction and employee morale.

1. The benefits of using E-commerce on specific business objectives;
2. The overall satisfaction with E-commerce implementation and the future plans of current users of E-commerce services

The respondents were requested to fill out the survey that best captured the current state of organizational issue with emphasis on outsourcing. In addition to the questionnaire survey and a number of personal visits to various organizations were carried out to get first hand information related to this field as well as cross-check on responses received from the survey participants.

The target population for this study was list of top 50 organizations in India from FMCG, Pharma, Consumer, Retail, Automotive, Paints etc. The questionnaire in most cases was completed during the personal meeting and the remaining with the cover letter and post-reply envelope were mailed to these organizations addressed to the executives. Within few days of sending out the survey questionnaire 25 responses were received. Thereafter reminder telephone calls were made to the remaining organization that had not responded.

Different types of E-Commerce:

Business-to-Consumer:

The arrival of the Internet and the World Wide Web (WWW) brought a new way of doing business and many of the success stories that capture the public attention are consumer- orientated. Examples are Amazon.com and Tesco's on-line ordering system.

Business-to-Consumer (B2C) systems are those where a consumer interacts directly with the supplier's system through their own computers. It is simply electronic retailing using the Web as a medium to place orders for typical consumer goods such as books, CDs and, increasingly, travel arrangements. SMEs can be involved in B2C eCommerce without actually selling goods, if the target audience for their services is end-consumers.

SMEs with much smaller budgets than Amazon and Tesco could typically use a third part electronic catalogue product, which would provide a mechanism for displaying items for sale and a secure mechanism for accepting orders and payments from customers. Although such systems would need integrating with other computer programs being run within a business, there are many examples of initial SME B2C systems being run as stand alone systems. There are also examples in the Opportunity Wales Web site of companies such as Trophy Miniatures and Farmyard Nurseries, who are using the WWW as a powerful marketing tool

without actually selling their goods on-line. Their activities are still classified as B2C eCommerce.

B2C can also relate to receiving information such as share prices, insurance quotes, on-line newspapers, or weather forecasts. The supplier may be an existing retail outlet such as a high street store; it has been this type of business that has been successful in using eCommerce to deliver services to customers. These businesses may have been slow in gearing-up for eCommerce compared to the innovative dot.com start ups, but they usually have a sound commercial structure as well as in-depth experience of running a business something which many dot.coms lacked, causing many to fail.

Business-to-Business:

As the name suggests, **B2B** is the term used for eCommerce in a pure business environment. It covers the many ways that eCommerce can be used to support one business trading with another.

B2B eCommerce is being driven from two sides. At the pragmatic level are businesses looking to use technology to develop improved ways of working and relationships with trading partners up and down the supply chain. At the other end of the spectrum are the eCommerce product and service providers who are developing new ideas and concepts and hoping that some will “fly”.

Much of the attention given to B2B relates to emerging embryonic developments such as eMarketplaces and e-Exchanges, but most of the actual use of eCommerce is at a lower level in the eCommerce implementation cycle.

Typically in the B2B environment, eCommerce can be used in the following processes:

- procurement;
- order fulfillments;
- Managing trading-partner relationships.

For many SMEs B2B eCommerce is synonymous with the vision of integrated supply chains. This might be the ultimate objective, but, in the short term, B2B eCommerce could be used as a significant enabler in their move towards greater trading partner collaboration.

E-Commerce technologies have allowed even the smallest businesses to improve the processes for interlacing with customers. They are now able to develop services for individual clients rather than provide a standard service. Pentwyn Splicers based in Pontypool manufacture pneumatic splicers for the UK and world textile market. They evaluated all aspects of their business process to determine where the greatest return could be obtained. Using the Web to sell more products was an initial consideration, but it was in the provision of customer service and support to their overseas distributors that the greatest benefits have been achieved.

An alternative way of thinking of B2B eCommerce is to think of it as being used to:

- Attract, develop, retain, and cultivate relationships with customers;
- Streamline the supply chain, manufacturing, and procurement processes, and automate corporate processes to deliver the right products and services to customers quickly and cost-effectively;
- Capture, analyse, and share, information about customers and company operations, in order to make better decisions.

Business-to-Administration:

B2A is the least developed area of eCommerce and it relates to the way that public sector organisations, at both a central and local level, are providing their services on-line. Also known as e-Government, it has the potential to increase the domestic and business use of eCommerce as traditional services are increasingly being delivered over the Internet. The UK government is committed to ensuring this country is at the forefront of eCommerce and it is essential that e-Government plays a significant part in achieving this objective.

Four guiding principles underlie the UK strategy for e-Government. These are:

- Building services around citizens' choices;
- Making government and its services more accessible;
- Ensuring that new technology does not create a digital divide between those with ready access to electronic media and those without;
- Using information more effectively.

Central government was leading the way with the overall aim of having 100% of services on-line by 2005. 80% of councils in England now have public email and Internet access, with 33% of authorities having at least three services accessible in this form. Many councils are now developing their own eCommerce strategies, but few have a fully integrated approach expected of corresponding-sized organisations in the business world. Andrew Davies, e-Minister for Wales, is developing a strategy for e-Government, but few Authorities appear at the forefront of developments.

At the present time, eCommerce, in either a B2C or a B2B form, is not applicable to every small business in Wales, because there is no particular reason why the business should make use of eCommerce. However, as growing numbers of public sector services, from tax returns to planning applications, from request for housing repairs to renewing your passport, can be carried out on-line, so the pressure for change will grow and increasing numbers of SMEs will have a reason to consider moving to modern trading practices.

E-commerce advantages

Some advantages that **can** be achieved from e-commerce include:

- **Being able to conduct business 24 x 7 x 365:**

E-commerce systems can operate all day every day. Your physical storefront does not need to be open in order for customers and suppliers to be doing business with you electronically.

- **Access the global marketplace:**

The Internet spans the world, and it is possible to do business with any business or person who is connected to the Internet. Simple local businesses such as specialist record stores are able to market and sell their offerings internationally using e-commerce. This global opportunity is assisted by the fact that, unlike traditional communications methods, users is not charged according to the distance over which they are communicating.

- **Speed:**

Electronic communications allow messages to traverse the world almost instantaneously. There is no need to wait weeks for a catalogue to arrive by post: that communications delay is not a part of the Internet! e-commerce world.

- **Market space:**

The market in which web-based businesses operate is the global market. It may not be evident to them, but many businesses are already facing international competition from web- enabled businesses.

- **Opportunity to reduce costs:**

The Internet makes it very easy to 'shop around' for products and services that may be cheaper or more effective than we might otherwise settle for. It is sometimes possible to, through some online research, identify original manufacturers for some goods thereby bypassing wholesalers and achieving a cheaper price.

- **Computer platform-independent:**

'Many, if not most, computers have the ability to communicate via the Internet independent of operating systems and hardware. Customers are not limited by existing hardware systems' (Gascoyne & Ozcubukcu, 1997:87).

- **Efficient applications development environment:**

‘In many respects, applications can be more efficiently developed and distributed because they can be built without regard to the customer’s or the business partner’s technology platform. Application updates do not have to be manually installed on computers. Rather, Internet-related technologies provide this capability inherently through automatic deployment of software updates’ (Gascoyne & Ozcubukcu, 1997:87).

- **Allowing customer self service and ‘customer outsourcing’:**

People can interact with businesses at any hour of the day that it is convenient to them, and because these interactions are initiated by customers, the customers also provide a lot of the data for the transaction that may otherwise need to be entered by business staff. This means that some of the work and costs are effectively shifted to customers; this is referred to as ‘customer outsourcing’.

- **Stepping beyond borders to a global view:**

Using aspects of e-commerce technology can mean your business can source and use products and services provided by other businesses in other countries. This seems obvious enough to say, but people do not always consider the implications of e-commerce. For example, in many ways it can be easier and cheaper to host and operate some e-commerce activities outside Australia. Further, because many e-commerce transactions involve credit cards, many businesses in Australia need to make arrangements for accepting online payments. However a number of major Australian banks have tended to be unhelpful laggards on this front, charging a lot of money and making it difficult to establish these arrangements particularly for smaller businesses and/or businesses that don’t fit into a traditional-economy understanding of business. In some cases, therefore, it can be easier and cheaper to set up arrangements which bypass this aspect of the Australian banking system.

Admittedly, this can create some grey areas for legal and taxation purposes, but these can be dealt with. And yes these circumstances do have implications for Australia’s national competitiveness and the competitiveness of our industries and businesses.

As a further thought, many businesses find it easier to buy and sell in U.S. dollars: it is effectively the major currency of the Internet. In this context, global online customers can find the concept of peculiar and unfamiliar currencies disconcerting. Some businesses find they can achieve higher prices online and in US dollars than they would achieve selling locally or nationally. Given that banks often charge fees for converting currencies, this is another reason to investigate all of your (national and international) options for accepting and making online payments.

In brief, it is useful to take a global view with regard the potential and organisation of your ecommerce activities, especially if you are targeting global customers.

- **A new marketing channel**

The Internet provides an important new channel to sell to consumers. Peterson et al. (1999) suggest that, as a marketing channel, the Internet has the following characteristics:

- the ability to inexpensively store vast amounts of information at different virtual locations
- the availability of powerful and inexpensive means of searching, organizing, and disseminating such information
- interactivity and the ability to provide information on demand
- the ability to provide perceptual experiences that are far superior to a printed catalogue, although not as rich as personal inspection
- the capability to serve as a transaction medium
- the ability to serve as a physical distribution medium for certain goods (e.g., software)
- relatively low entry and establishment costs for sellers
- No other existing marketing channel possesses all of these characteristics.

E-commerce disadvantages and constraints

Some disadvantages and constraints of e-commerce include the following.

- **Time for delivery of physical products:**

It is possible to visit a local music store and walk out with a compact disc, or a bookstore and leave with a book. E-commerce is often used to buy goods that are not available locally from businesses all over the world, meaning that physical goods need to be delivered, which takes time and costs money. In some cases there are ways around this, for example, with electronic files of the music or books being accessed across the Internet, but then these are not physical goods.

- **Physical product, supplier & delivery uncertainty:**

When you walk out of a shop with an item, it's yours. You have it; you know what it is, where it is and how it looks. In some respects e-commerce purchases are made on trust. This is because, firstly, not having had physical access to the product, a purchase is made on an expectation of what that product is and its condition. Secondly, because supplying businesses can be conducted across the world, it can be uncertain whether or not they are legitimate businesses and are not just going to take your money. It's pretty hard to knock on their door to complain or seek legal recourse! Thirdly, even if the item is sent, it is easy to start wondering whether or not it will ever arrive.

Perishable goods:

Forget about ordering a single gelato ice cream from a shop in Rome! Though specialized or refrigerated

transport can be used, goods bought and sold via the Internet tend to be durable and non-perishable: they need to survive the trip from the supplier to the purchasing business or consumer. This shifts the bias for perishable and/or non-durable goods back towards traditional supply chain arrangements, or towards relatively more local e-commercebased purchases, sales and distribution. In contrast, durable goods can be traded from almost anyone to almost anyone else, sparking competition for lower prices. In some cases this leads to **disintermediation** in which intermediary people and businesses are bypassed by consumers and by other businesses that are seeking to purchase more directly from manufacturers.

- **Limited and selected sensory information:**

The Internet is an effective conduit for visual and auditory information: seeing pictures, hearing sounds and reading text. However it does not allow full scope for our senses: we can see pictures of the flowers, but not smell their fragrance; we can see pictures of a hammer, but not feel its weight or balance. Further, when we pick up and inspect something, we choose what we look at and how we look at it. This is not the case on the Internet. If we were looking at buying a car on the Internet, we would see the pictures the seller had chosen for us to see but not the things we might look for if we were able to see it in person. And, taking into account our other senses, we can't test the car to hear the sound of the engine as it changes gears or sense the smell and feel of the leather seats. There are many ways in which the Internet does not convey the richness of experiences of the world. This lack of sensory information means that people are often much more comfortable buying via the Internet generic goods - things that they have seen or experienced before and about which there is little ambiguity, rather than unique or complex things.

- **Returning goods:**

Returning goods online can be an area of difficulty. The uncertainties surrounding the initial payment and delivery of goods can be exacerbated in this process. Will the goods get back to their source? Who pays for the return postage? Will the refund be paid? Will I be left with nothing? How long will it take? Contrast this with the offline experience of returning goods to a shop.

- **Privacy, security, payment, identity, contract:**

Many issues arise - privacy of information, security of that information and payment details, whether or not payment details (eg. credit card details) will be misused, identity theft, contract, and, whether we have one or not, what laws and legal jurisdiction apply.

- **Defined services & the unexpected:**

E-commerce is an effective means for managing the transaction of known and established services, that is, things that are everyday. It is not suitable for dealing with the new or unexpected. For example, a transport company used to dealing with simple packages being asked if it can transport a hippopotamus, or a customer asking for a book order to be wrapped in blue and white polka dot paper with a bow. Such requests need human intervention to investigate and resolve.

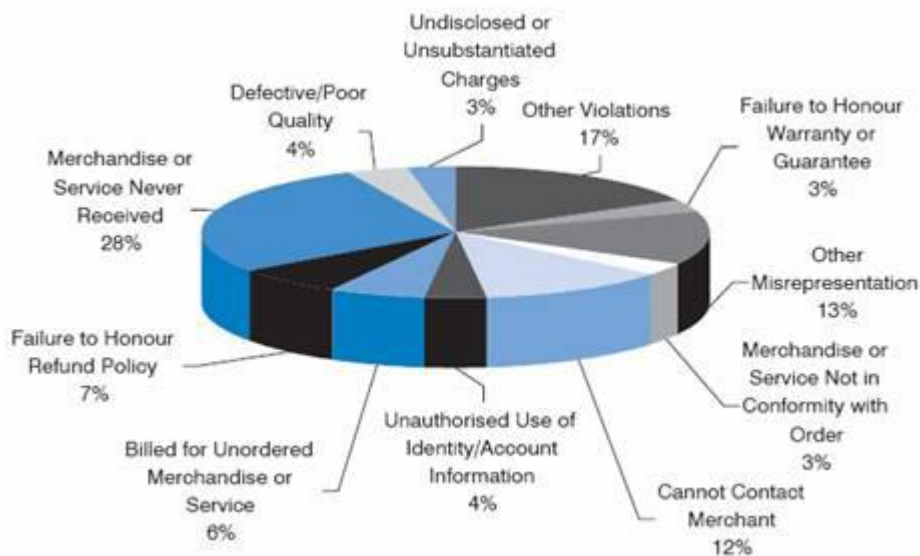
- **Personal service:**

Although some human interaction can be facilitated via the web, e-commerce can not provide the richness of interaction provided by personal service. For most businesses, ecommerce methods provide the equivalent of an information-rich counter attendant rather than a salesperson. This also means that feedback about how people react to product and service offerings also tends to be more granular or perhaps lost using e-commerce approaches. If your only feedback is that people are (or are not) buying your products or services online, this is inadequate for evaluating how to change or improve your ecommerce strategies and/or product and service offerings. Successful business use of ecommerce typically involves strategies for gaining and applying customer feedback. This helps businesses to understand, anticipate and meet changing online customer needs and preferences, which is critical because of the comparatively rapid rate of ongoing Internetbased change.

- **Size and number of transactions:**

E-commerce is most often conducted using credit card facilities for payments, and as a result very small and very large transactions tend not to be conducted online. The size of transactions is also impacted by the economics of transporting physical goods. For example, any benefits or conveniences of buying a box of pens online from a US-based business tend to be eclipsed by the cost of having to pay for them to be delivered to you in Australia. The delivery costs also mean that buying individual items from a range of different overseas businesses are significantly more expensive than buying all of the goods from one overseas business because the goods can be packaged and shipped together.

Reflecting some of the comments above, the following chart (Figure 1.1) shows some of the complaints made by Australian e-consumers.



The “Do’s” of Ecommerce

- Keep your navigation as simple as practicable. It has been proved that the number of clicks that lead to a purchase on a site is directly proportional to the realization of the sale. This is good ecommerce design a customer will lose their patience if they have to click more than three times to complete a purchase.
- Make sure to check that all the links on your ecommerce web site actually work. You need to do this regularly so you can find out when a link fails, another source of frustration for visitors.
- Do name your links appropriately so that people can understand them and remember them too. For example, if you are selling furniture and the link is for arm chairs, name the link armchairs.htm and not furniture05739.
- Use professional ecommerce hosting to make sure your site is accessible virtually 100% of the time.
- Make sure you use a reliable ecommerce merchant account that can take the volume of transactions you are expecting and offer the payment methods you require.
- Show item availability early on in the sales process. There is nothing more annoying than to get through the whole process, only to find at the last click that the product you wanted is not available. This will almost always guarantee that you lose customers. Remember your business success, especially in the early stages, will depend on repeat customers and word of mouth advertising.

The “Don’ts” of Ecommerce

- Do not use only frames for navigation purposes. There are too many people out there who still use old model computers; they usually will block the frames when navigating sites, because it makes it faster. If all your navigations directions are based on frames, then these prospective customers will skip your site.
- Make sure your site graphics are not too large in size. Otherwise your pages will be slow to load, another excuse for customers to leave.
- As much as possible do not have special software requirements to showcase your products. People do not usually like to download some new software just to browse your site. They would rather go elsewhere to another site better set up for ecommerce.

E-business — User security requirements

As an integral part of the e-business environment, the security solution must be constantly available. In addition, because the solution handles each user’s access to the e-business environment, performance must be carefully considered. Other key user requirements are assuring the integrity of the transactions and assuring the privacy of the information.

Both of these requirements are essential to building trust in the electronic relationship.

- **Availability:**

Often, the availability requirements for e-business applications are greater than those for the human relationships that they replace. It’s commonly acknowledged that e-commerce and other Customer-facing Web sites are available 24 X 7. Clearly, the same requirements apply to the ebusiness security infrastructure.

Performance:

Users have a low tolerance for unresponsive e-business systems. If users don’t find the system responsive enough for their needs, they will rapidly lose faith in it and look to use other methods or other e-business partners.

- **Integrity:**

In order to place their trust in the system, users need to have confidence that transactions will be secure. It is the job of the security infrastructure to underpin user confidence by ensuring appropriate levels of authorization and authentication.

- **Privacy:**

Users must be confident that their privacy will be protected against unauthorized access both from outside an organization and from unauthorized people within an organization.

E-business - Developer Security Requirement

Developers of corporate e-business systems place exacting requirements on the technology they use to build the e-business environment, and with good reason. These developers are under intense pressure to get systems up and running quickly, as well as to accommodate changing requirements. This means that the e-business security infrastructure must satisfy specific needs for speed of deployment, flexibility, scalability, and manageability.

- **Speed of Deployment:**

Typically, developers of e-business systems are under tremendous pressure to get applications online quickly. For example, shopping cart softwares are expected to cut make the company competitive. Hence, developers require softwares that are easy to install and manage.

- **Flexibility:**

The development pressure often does not go away once the initial version is up and running. The rapidly evolving nature of e-business means that requirements are also changing rapidly. As a result, new pressures mount to add more capabilities. Solutions must be flexible enough to support this pace of change.

- **Scalability:**

As some organizations have found, it is extremely difficult to predict the demand for e-business applications. Applications may have to handle sharp spikes in demand, or overall use that rapidly accelerates to unexpected levels—perhaps even millions of users. To avoid a potentially disastrous inability to meet user expectations, it's important to look for solutions that will scale smoothly.

- **Manageability:**

An e-business solution should increase business efficiency—not create additional administrative burdens. A security solution should be easily managed, and remain so as it grows to support the organization's expanding e-business environment.

- **Support for Pervasive Computing:**

An e-business application and its security infrastructure must be able to handle user access “any time, from anywhere.” Over the next few years companies will expect to be able to access systems with non-traditional clients, like wireless thin client handheld devices, which are beginning to proliferate worldwide. Market-research firm IDC estimates that the number of mobile Internet users worldwide is growing at a compound rate of more than 100% a year, and will reach more than 500 million by

Businesses must plan their e-business security approaches to provide the maximum flexibility in accommodating current and future generations of these wireless devices. One approach is to

channel all access, whether from mobile or desktop devices, through the same security infrastructure. This means that users can get exactly the same access rights no matter whether they are accessing systems from a desktop or mobile device. This approach also reduces the development effort because it avoids the need to build a separate security infrastructure to handle a wireless population that may grow to tens of thousands of handheld machines. These devices are handled by the scalable, reliable infrastructure that is already in place, and if security policies change the changes are automatically applied to all devices. To ensure that e-business systems are flexible enough to support this approach, businesses need to look for products that are being extended to embrace wireless access. Enterprise e-business security technology should be able to work with standards-based Wireless Access Protocol gateways, so that incoming access requests from wireless networks are directed to the existing enterprise security infrastructure, where users can be authenticated and authorized. Businesses also should ensure that the security infrastructure is extremely scalable. Typically, the requirement to support wireless access involves adding large numbers of new devices to the environment, and the infrastructure must be able to handle it.

E-commerce Careers in International market:

So, have you decided to take a plunge in Electronic Commerce, but need to see the options and fathom the knowledge required, I must say you have chosen the right place then!

The developments of Internet and Electronic Commerce technologies have opened floodgates for Electronic Commerce professionals. The estimated figures for Businesses over Internet and consequent demand for professionals are mind-boggling. Not only Professionals with cutting edge technologies are in great demand but professionals in traditional fields are also finding new areas to work in.

ECommerce Careers that are in hot demand:

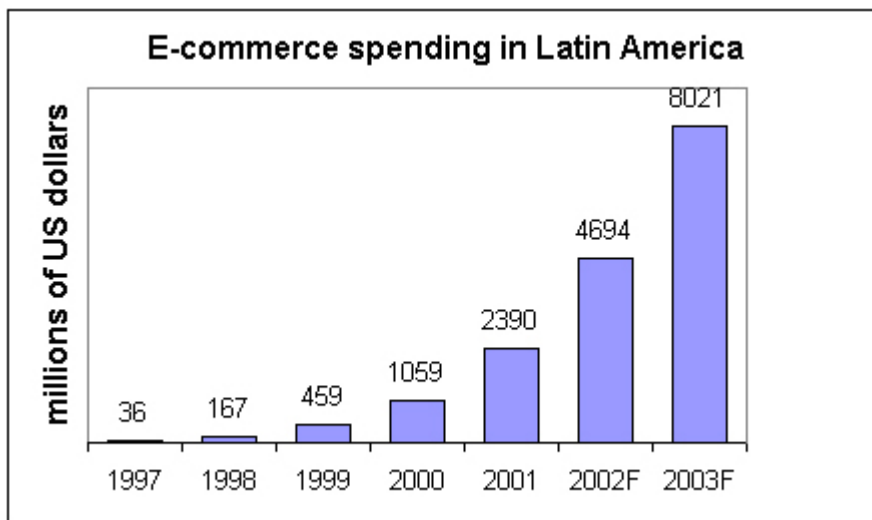
- **Web site design and development**
- **Content Development**
- **Web Programming and Application Development**
- **Database administration**
- **Webmaster**

Hyper growth of Ecommerce in International market

Hyper growth. That's the term now being used to describe what e-commerce is currently experiencing. Companies of all sorts and sizes - large or small, established or start-ups are hopping on to the e-commerce bandwagon to give the much-needed boost to their businesses and become the next Amazon in the Internet world. And why not? The open nature of the Internet gives the flexibility to a small firm to conduct business in direct competition to a brick and mortar giant. It is a question of who grabs the opportunity first. Various reports cite explosive growth claims and projections. An industry report by the Peterborough, NH-based ActivMedia Research reveals that the top 100 e-commerce Websites are reporting annual growth rates of 1,000 percent and are pulling in revenues of as much as \$100 million. And as more and more people move online in the future, these figures are expected to be even more staggering. And, as per the International Data Corporation, the number of people buying online was increased from 18 million in December 1997 to 128 million in 2002, representing more than USD400 billion worth of transactions. In U.S. alone, the revenue generated by Internet businesses in 1998 was larger than all previous estimates — a boggling \$ 300 billion

E-Commerce The global marketplace called Internet

Internet opportunities grow with the number of Internet users. The world-wide-web is globally pervasive. Internet has attracted more users in more countries than any other communication tool. Even though it most concentrated in US and Europe, most growth over the next three to five years is expected to take place in Asia and Latin America. It's a good example, where Latin America has portrayed a picture some time back to spend money on E-commerce growth



Impact of E-commerce in International market:

1) E-Commerce international growth - Impact on Marketing:

Changes to the Mechanics of Business:

The force of change brought about by the Internet and eCommerce is sweeping the world of business, from the cottage industries to the multinationals. This change presents an opportunity to learn and profit from new ways of working, and a threat that other suppliers will use eCommerce to gain a competitive advantage to erode your market share.

Doing nothing is not a safe or sensible option!

Before making decisions about how your business can use eCommerce, it is important to take a look at what is going on outside in the “market”. Things that the business has no control over:

external factors such as changes in politics, economic conditions, law, technology, fashion, demographics, competition, etc., and, of course, the wants and needs of prospective and current customers. Under technology fits eCommerce. Therefore, you must consider how the market has changed with the introduction of eCommerce methods, and the impact it will have on your business. Indeed, a proven way of increasing the likelihood of business survival and success is to take a strategic marketing approach; a long term view, which, based on the marketing environment, looks at the way forward for a business over the next one to three years.

2) E-Commerce international growth – Impact on Sales:

How to Begin to Use eCommerce to sell?

Much has been written about using eCommerce methods to sell products and services, and with the low cost of entry into the Net economy, most businesses can afford to do it. The question is, how?

Web site Sales Channel:

Getting right back to basics, eCommerce is another channel to market or sell to customers and consumers. Web sites and email are the two main eCommerce applications that are used together to promote and advance the selling process to closure. How these two powerful, interactive, communication methods are used to sell, depends on your product and service offering, and your existing sales channels. Looking first at Web sites, there are several ways that they can be used as a new sales channel for your business.

Direct Selling from a Web site is the direct marketing approach that cuts out the “middleman” and enables direct interaction with customers and consumers. Before rushing in to creating your own business Web site, a careful examination needs to be made as to how on-line sales will be integrated with existing sales channels, such as the sales team, distributors, resellers, and agents. It is not uncommon for on-line sales to be perceived as being in conflict with traditional channels. Therefore, these issues must be sorted out in advance. If they are not, your business and brand will be damaged and overall sales revenue reduced.

Indirect Selling From a web site provides information on products and services, and brandbuilding corporate information, that points the visitor to a local sales channel outlet, such as a retailer or supplier, by providing contact information. This type of Web site removes all channel conflict, as it is seen to be supporting the channel and generating leads for them. If the local outlet is an independent retailer or supplier, then it is not uncommon for them to have their own Web site to provide information or to sell direct on-line to the end user.

Hybrid Direct and Indirect Selling from a web site is a way of presenting customers and consumers with a choice, to buy on-line or to use a local outlet. Sales made on-line at a corporate Web site, can, then, if appropriate, use the local outlets to fulfill orders from their stock, or to provide services such as pre-delivery inspections, implementation, or post-sales support. Involving the local outlet removes the channel conflict, and transfers the customer or consumer relationship to them. It can also be an efficient way of using an existing supply chain for order fulfillment.

A couple of examples of the hybrid model would be Ford Motors and General Motors. They use their dealer network to supply services on cars sold on their direct sales Web sites. Tesco’s use their local stores to fulfill orders taken at their on-line shopping Web site.

Working out which of the above three approaches your business should use is determined by the marketing and sales strategy of your business. If your business has traditionally used indirect sales

channels, such as distributors, retailers, and suppliers, switching or including a direct web site sales channel for the Internet may not be the right way forward. Additional costs of direct marketing, and the logistics of direct fulfillment of single item orders, could make direct Web site sales unprofitable or unworkable. However, the opposite may be true, and with eCommerce methods, now could be the time to restructure your business around a Web site direct-marketing channel. Most businesses are adopting a view that Web site sales are one of many sales channels, rather than the only channel.

3) E-Commerce international growth - Impact on Supply Chain Management:

Customers Drive the Supply Chain

A long held view in manufacturing is that the main differentiator between competing suppliers is product quality. However, with manufacturing quality approaching parity across the board, meeting specific customer demands for product delivery is the next critical opportunity for competitive advantage. In the past, manufacturers were the drivers of the supply chain . managing the pace at which products were manufactured and distributed. Today, customers are

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calling the shots, and manufacturers are scrambling to meet customer demands for options, style, features, quick order fulfillment, and fast delivery.

- **Customer Expectations are raised by e-Commerce**

The convenience and flexibility of eCommerce technology, enabling buyers to purchase products and services on web sites through the Internet, has raised customer and consumer expectations to demand:

- **Customized or tailor made products** to be delivered overnight, or within a few days. In this custom-orientated environment, all supply chain participants are impacted. As a result, the creation of modular designs that leverage common sub-assemblies, have become more critical to meeting short manufacturing cycles, and achieving optimal flexibility.
- **Reliable and flawless fulfillment processes** and yet, margins are being squeezed, because customers are not used to paying for the picking, loading, and delivering activities, that they previously did themselves.
- **Real time information systems** with the ability *to know*, before an order is placed, whether the required inventory is available, and *to track* the progress of **an** order through production and delivery on-line.
- **Low prices**, as buyers can shop around between suppliers with ease on the Internet .customer loyalty can last as long as the next mouse clicks.

In addition, highly competitive industries such as electronics manufacturers face extraordinary pressures as they vie to turn market opportunities into profits. In this battle, the outcome is shorter **product life cycles**, meaning that an even greater volume of *new* products must be developed, introduced, manufactured, and sold, just to keep product pipelines flowing.

Daunting as the challenge to meet these customer demands might seem, the use of the Internet and eCommerce methods for real-time communications, and dynamic interchange of data up and down the supply chain, is the way innovative businesses are winning. **Total supply chain integration is not essential to start receiving cost savings and efficiencies.** Regular

exchange of emails between just two businesses in the supply chain, with, say, stock and forecast information, can create measurable benefits for both parties.

Optimize Your Supply Chain for Competitive Advantage Supply Chain Management (SCM) can be simply defined as *'the process of optimizing a company's internal practices, as well as its external interaction with suppliers and customers, in order to market more efficiently'*. The scope of **SCM** covers all the complex interactions of managing supply and demand, sourcing raw materials and parts, manufacturing and

assembly, warehouse and inventory tracking, order entry and order management, distribution **logistics** across all channels, and delivery to the customer.

To begin optimizing the supply chain for your businesses you must identify which parts of the supply chain process are not competitive, understand which customer needs are not being met, establish improvement goals, and rapidly implement improvements. A systematic way of doing this is to follow the procedure proposed by the **Supply Chain Operations Reference (SCOR)** model. The model contains several sections and uses the building blocks of *Plan, Source, Make* and *Deliver*, to describe supply chains which are very simple or very complex. As a result, disparate industries can be linked to describe the depth and breadth of virtually any supply chain.

Sort Out Your Internal Processes First

Before exposing applications and data to external parties, internal processes must be synchronized and working efficiently. If internal processes don't provide a unified view of your company, your supply network partners will lack confidence in your supply chain. Think about how to remove manual processes, creating and updating supply chain records electronically, eliminating the paper trail, sharing information internally by publishing it on an Intranet, automating business logic, such as workflow, by capturing it in a software application. Look at the way different departments work together; for example, making sales and logistics operate together with the customer in mind.

Share Information and Collaborate

Judicious sharing of information is the bedrock on which to build successful long-term relationships. To do so, businesses should use the Web to make internal applications and information available to qualified external partners, such as customers and suppliers. Information can be shared through emails, Extranets, or by using middleware such as *Microsoft Biz Talk* to enable legacy systems to transform an EDI document into an XML-readable format, so that every eCommerce system can understand and interact with it, and vice versa.

Collaboration between partners requires openness and trust, with the backing of senior decision-makers in each partner to make it happen. The pervasiveness of the Internet as a low- cost communications network makes it possible to collaborate in product design and SCM in many ways:

- New processes can be developed to electronically transfer product information, such as bills of material, drawings, Engineering Change Orders (EGO's), and job sheets, across company

boundaries. Video and document conferencing can also be used to speed up the approval of designs and prototypes.

- Inventory stock levels, production capabilities, and forecasts, can be sent by email, or dynamically updated by integrated back-office ERP systems. The idea is that as events relating to orders or supplies are updated, the impact on the supply chain and any problems that might arise can be reported for proactive action. By having better visibility across the supply chain, inventory levels can be reduced, as supplies are more predictable. With lower inventory levels, costs can be driven out of the supply chain.

As supply chain communities mature, they will compete against others to provide the most responsive, efficient, and low cost supply chain, that meets the customer's requirements. Private e-marketplace exchanges are also expected to support supply chains that are tightly integrated, as a mechanism to greater collaboration and synchronization between organizations.

Use an Extranet to Turn Your Business Inside-Out

An interesting study by InformationWeek Research found that leveraging Extranets to share information with suppliers, customers, and partners, pays off: **73%** of respondents report that **collaboration helped boost revenue**. And 79% say **collaboration increased customer satisfaction**: **55%** say it **helped reduce costs**, and more than 50% say it **contributed to higher profit margins**. So, employing eCommerce methods to turn some part of your business "inside out" and run as a Web service, will result in measurable business benefits. To get a feel of the level of annual expenditure that your business should spend on IT for SCM, the SupplyChain Council report that, on average, this equates to **1.4%** of Sales Revenue.

Labeling and eCommerce

The ability to read data carried on an item by some form of labeling, can also be an efficient way of identifying and verifying that the correct item has been selected. Ranging from simple linear bar codes used in retail, through high capacity matrix codes, to radio frequency tags, smart labels, and the like, these technologies allow machine readability and subsequent communication of item attendant data. A simple application of bar codes for supply chain management is with stock replenishment of fasteners. Refastening use a two-bin rack approach for each type of item. When the front bin is emptied it is placed behind a full bin. The supplier has the responsibility to inspect and replenish the rear bins on a regular basis. Scanning the bar code of each empty bin generates order details. The order is then emailed to the central office, which automatically processes the order for the driver, who will collect supplies for the next consignment.

SCM Success for SME's

Excel Assemblies has benefited by sharing information with their suppliers and customers on production schedules, future purchasing requirements and stock levels, through their Web site and by email.

Hornbill Engineering initiated a pilot eCommerce project with one of their largest customers, Alcoa Rigid Packaging, to create a Web-based Job Sheet database. In the past, Hornbill had used a paper-based system, where a job sheet was created each week showing the labour and materials used. On a weekly basis, the job sheets, for all their engineers, were taken to Alcoa for approval and then invoicing. This was a time consuming process for both companies, and there was a problem with lost job sheets and invoicing delays.

The new Web-based system is on Hornbill's Web site, with controlled access. Now all job sheet information is captured in a Web-based form, and each job sheet has its own life cycle, from Pending Approval to Invoicing. As the job sheet progresses through each stage in the cycle, emails are sent out automatically to notify relevant people of any tasks such as approval, or invoicing, etc. The complete history of all jobs is available on the Web, nothing gets lost, the paper trail is eliminated, and mutual time savings are estimated at 10% of the cost of the business between both parties. Hornbill intends to roll their application out to their other customers, and Alcoa have been impressed by the system.

Pilot a Partnership

The fundamental ingredients of any partnership are **Vision, Impact and Intimacy**. Applying SCOR will enable you to understand your own processes, external interactions, and the value that your business adds to the supply chain. From this you should be able to develop a vision and strategy for the next few years, on how to improve your value position, and the velocity of production assets through the Supply Chain, by using eCommerce methods to meet customer demands. With the big picture in place, prove the concept with a pilot in one division or area of business activity. Research has shown that this effort usually shows a **five-to-nine times return on investment within the first 12 months**, and proves the concept to the rest of the organisation. Finally, developing collaborative partnership with your suppliers and customers is an excellent way of locking your customers in and your competitors out.

Business-to-Business Purchasing

Procurement is the grand title given to the purchasing process for Large to Medium sized Enterprises (LME's). Although the majority of businesses in Wales are classed as Small to Medium sized Enterprises (SME's), understanding the procurement process of larger organizations, and how eCommerce is being applied to their purchasing requirements, will help you to serve your larger corporate customers better, and open new trading opportunities for your business . practical recommendations for SME's will also be covered in this article.

Business purchasing in large organisations can be divided into two types:

1. **Strategic Purchasing** of products and services, which are involved **directly in core business activities** such as production and delivery. This area of purchasing is usually closely intertwined to Supply Chain Management (**SCM**) and **Maintenance and Repair Operations (MRO)**.
2. **Non-Strategic Purchasing** of products and services, are those that support the business, but are **not part of core business activities**. These purchases would usually end up under the cost classification of overheads. Typical examples would be office supplies, IT, business travel, and non-production contract workers. These purchases, just to keep the business running, can account for 25% of the money a company makes!

The initial focus of eCommerce in business-to-business buying has been on *Non-Strategic Purchases*, with the idea of reducing both the direct cost of purchasing products and services from suppliers, and the indirect cost of requisition (purchase request, approval, buying, delivery, and payment). In some organizations it is not unusual for the cost of the time spent internally processing a requisition to exceed the cost of thing being purchased! This bizarre situation is often compounded by a lack of central control by the Procurement department, resulting in “*maverick buying*” that suits the whims of each department or individual.

In recent years, the Internet and the Web have been used to electronically manage the procurement process. The “e” has dropped in front of Procurement, and the promised benefits of **e-Procurement** are, that it will help control, manage, and reduce expenditure, on non- strategic purchases. Indeed, for the larger organization, huge cost savings and efficiencies can be made, with return on investment (ROI) of the order of 20 times or more the cost of implementing an e-Procurement system.

Aberdeen Group offers the following statistics to convince the unconverted of the benefits of e-Procurement as a business strategy:

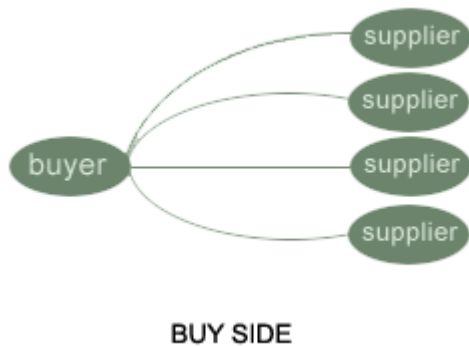
“Some of the benefits companies have recognized through the use of e-Procurement technologies include a **73% reduction in transaction costs, a 70% to 80% reduction in purchase order processing cycles, and a 5% to 10% reduction in prices paid.** Based on these findings, Aberdeen estimates that an average mid size organization can expect to save almost \$2 million per year through the use of e-Procurement technologies.”

Buy-Side e-Procurement

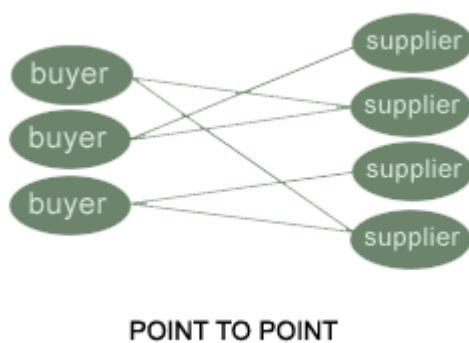
The core of a good e-Procurement system is an automated process that satisfies the requirements of both the Procurement department, who have to control, manage, and (where possible) reduce expenditure on products and services, and the user, who wants something to be easy and quick to get. This type of system is usually called Buy-Side e-Procurement, as the software application driving the system is generally tailored to the requirements of the buying organisation.

Buyers (the purchasing business) will use their buy-side e-Procurement system to automate and optimise their purchasing processes, and provide access to the products and services of multiple approved suppliers (the selling business). Catalogue content from suppliers is aggregated

(imported and merged together) into software, which resides on the buying organisation's computer network. This allows internal buyers to place orders with many suppliers, using a single common interlace such as a browser, as well as integrating with other order purchasing and financial functions within the enterprise.

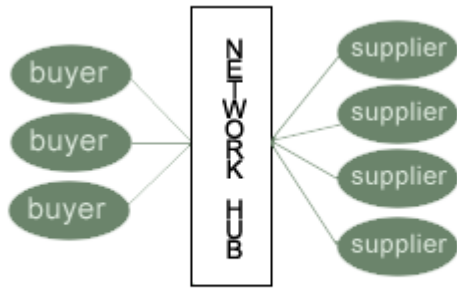


A buy-side e-Procurement, where a buyer aggregates the catalogue content of many suppliers. The main draw-back of a standard buy-side e-Procurement model is that electronic interlaces have to be established and maintained, with each supplier updating the buyer's aggregated eCatalogue and electronically processing orders. The problem is the same for the supplier wanting to interlace with multiple buyers in a point-to-point configuration, as each buyer will have a different interlace.



Multiple suppliers in a point-to-point configuration with multiple buy-side e-Procurement systems. This creates a nightmare of having to maintain multiple buyers to supplier electronic interlaces. A way round this is to use a network hub, where a third party offers a centrally managed network facility between buyers and sellers. Catalogue formats received from suppliers are normalised into a standard format, before being distributed to multiple buyers. The network hub determines which buyers and suppliers have

a relationship. In addition, the hub ensures that customised catalogues, containing each buyer's contract pricing, are delivered to the appropriate buyer. Suppliers are able to take advantage of this to allow them to 'publish once' to many customers. However, the hub owner will make a charge to the buyer for each transaction made using the site, increasing the cost of purchasing. This, of course, has to be weighed against the point-to-point interlace costs.



DECOUPLED NETWORK

Caption: A network hub is one way of solving the electronic interlace problems of buyer-side eProcurement between multiple buyers and sellers.

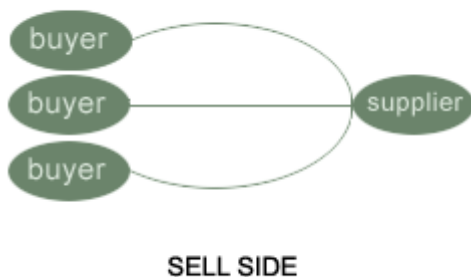
Some e-Procurement buyer-side solution vendors offer a secure 'black box' electronic interlace, that enables the buyer to directly access the e-Catalogue of multiple suppliers, to create a buyer-side shopping basket with products and services from one or more suppliers. The data from the shopping basket can then automatically populate a requisition form that can then be routed electronically through the buyer's approval process.

Buy-side procurement systems are now being offered on an ASP basis by some vendors, to make them more accessible and affordable for SME's.

4) E-Commerce international growth – Impact on Procurement

Sell-Side e-Procurement (Web Shops)

One of the first steps into eCommerce for many suppliers, is the offering of their products and services from an e-Catalogue. A natural extension of the Business-to-Consumer retail shopping Web sites, sell-side e-Procurement systems generally contain a single supplier's catalogue, and are hosted to enable buying from many different organizations.



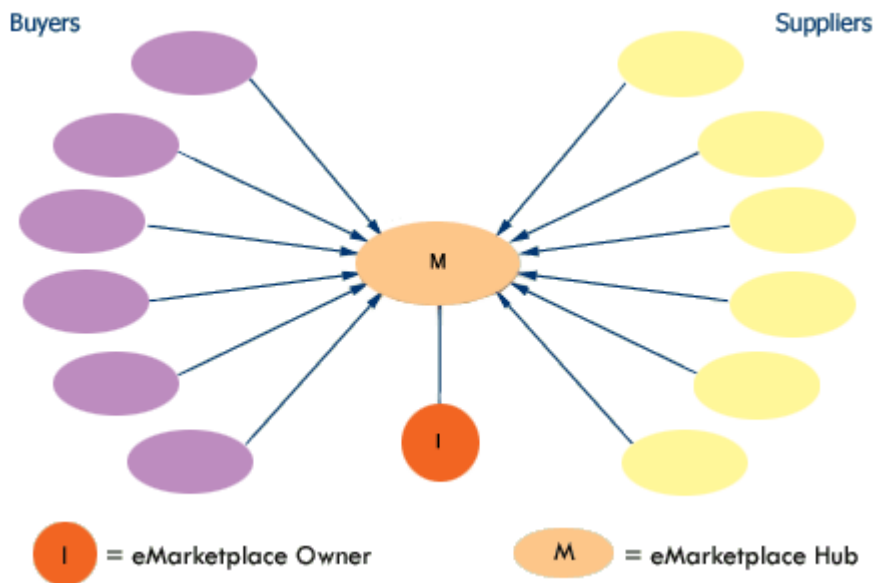
Well-designed business-to-business solutions often offer a higher level of customisation for each buyer than their retail counterparts, including features such as tailored catalogues, contract pricing, and, possibly, electronic invoice delivery and reporting facilities.

Standards, such as **OBI (Open Buying on the Internet)**, can be used to integrate e-Catalogues more tightly into the processes and applications used for buy-side e-Procurement. Suppliers adopting a standard interface can then provide functionality and differentiation in their eCatalogue, which is not normally available in pure buy-side software. In addition, making this functionality accessible to buy-side software, enables suppliers to ensure that all electronic orders are received through a single gateway, greatly simplifying integration with back-end systems.

E-Marketplaces

Other ways that businesses are facilitating business-to-business trade is through eMarketplaces, where many traditional business trading activities are replicated in the virtual world of the Internet and Web sites. Improved collaboration between many buyers and sellers using eCommerce methods, is the main impetus for e-Marketplaces. They are usually set up by a consortium of trading partners, independent companies such as BT, LloydsTSB, e-bay, or technology providers such as SAP, Oracle, etc., to cover vertical or horizontal market requirements.

- Key Characteristics of Trading via an E-Marketplace. Many suppliers, many buyers (relative proportions of each depends on the e-Marketplace type).
- Trading is via e-Marketplace hub, which can be established by a consortium of buyers, sellers, an independent company or a technology provider.
- An organization may participate in an e-Marketplace as a supplier (seller) or as a buyer or in some cases both)
- An organisation using an e-Marketplace may, in some cases, have an ownership stake in the e-Marketplace, or it may simply operate as a participant with no ownership stake.



Vertical e-Marketplaces are electronic exchanges for specific industry sectors, such as aerospace, electronics, freights, energy, telecom, etc., which bring together buyers and sellers with industry-specific requirements. Typical facilities on a site can include auctions, reverse auctions, dynamic bid and exchange, trade directories, requests for information, invitations to tender, access to multiple e-Catalogues, etc.

Horizontal e-Marketplaces are electronic exchanges meeting the trading requirements of a community of users, or a **class** of goods or services. Many of the activities of a Vertical Marketplace can be available with the general theme of providing information, contacts, and an opportunity to buy and sell. Some adopt a similar concept to dating agencies, except this time 'matches' are arranged between offers, products or services requirements.

An e-Marketplace may be private, available only to invited players, and/or public, open to any organisation (normally subject to some entry conditions). Public e-Marketplaces are good for buying and selling where there is no advantage from sustained buyer-supplier relationships. Private e-Marketplaces are better for closer collaboration across the supply chain.

The ultimate goal of e-Procurement and e-Marketplaces is *collaborative commerce*, referred to by some solution vendors as **E-Commerce**. The idea being that information from a buyer's Enterprise Resource Planning (ERP) systems can feed into an e-Procurement system, which in turn, buys, sells, and forecasts, on an e-Marketplace amongst a community of approved suppliers - a seamless, interwoven, supply chain.

Recommendations for the SME (Small to medium size enterprises)

To date, the emphasis of e-Procurement has primarily been with LME's, where the impact of automating purchasing processes can offer significant cost savings and efficiencies. Subsequently vendor solutions are predominantly positioned with LME's in mind. However, SME's will soon be able to achieve affordable access to these systems as software vendors make them available through Application Service Providers (ASP's)

In the meantime, e-Marketplaces can be found on the Internet for SME's and freelancers, covering a wide range of product and service offerings. So it's definitely worth your while to search on the Internet, or to have a look in trade journals, to see what is about. Joining one or more e-Marketplaces can be a quick route to getting your business exposed to new buyers for a relatively small cost.

It is clear that in addition to a Web site offering a company profile, an e-Catalogue could be a great way of trading with multiple buyers, or developing preferred supplier relationships with existing customers. Most products and services can be defined, packaged and catalogued in some way for on-line selection and trading.

Other initial steps you could take to improve the efficiency of your own buying and selling are to:

- **Create an Approved Supplier Web Page** with a list of approved supplier contact details and links. Staff can then use this page as an internal directory for sourcing goods. Accounts can be set up with the supplier for on-line purchasing from their e-Catalogue and, in some cases, with allocation of costs and budget checks for individual departments.

- **Issue Purchasing Cards** (very similar to credit cards, but with business-defined limitations) to your budget holders, as you can set them up to allow purchases with approved suppliers, and within monthly purchase budgets. Expenditure is collated in monthly statements for settlement. Some banks can also provide VAT breakdowns on statements, further simplifying your internal accounting processes. For SME's issuing Purchasing Cards to appropriate employees, this provides a basic e-Procurement system, as purchases can be made directly from the e-Catalogues of multiple suppliers.
- **Use email** to speed up the internal approval of purchasing, by sending requisition documents as attachments.
- **Talk to your buyers** and see what plans they have for automating their purchasing process, or if there is any way they would like you to use general eCommerce methods to improve efficiency.
- **Develop an e-Procurement strategy**, based on the requirements of your buyers, and your need to adopt eCommerce methods for cost efficiencies and business survival. Start the research and planning now, before your business is left behind.
- **Checkout Buy IT**, this is a DTI initiative to share experience and accelerate the take-up of e-Procurement.

5) E-Commerce international growth .Impact on Logistics

From Bulk to Direct Logistics

For many SME's, the issue of logistics could seem a very dry and uninteresting topic. However, if a SME is considering selling from its web site, then the logistics implications of eCommerce must be considered, to ensure timely, efficient, and reliable, order fulfillment, direct to the customer.

The wide-spread adoption of eCommerce methods has exploded customer demand for remote off-site ordering facilities. In response, High Street retailers and many other businesses are now adopting a multi-channel approach to market. This includes over-the-counter sales, with the ability to receive single-item orders over the telephone, by fax, or through the Internet. However, fulfillment of numerous individually addressed orders, by delivery direct to customers, does not usually fit in with existing logistic operations. The reason is that most Distribution Centres (DC's) are geared to pushing bulk product to stores, with little or no break bulk, a need for repackaging, or to identify the end user.

The challenge of *customer fulfillment* is accentuated by increased *customer expectations*. Delivery of the exact bundle of products ordered should be quick and at the promised time; not forgetting that it must be at the right price and quality. Indeed, the necessity for speedy and accurate fulfillment has become almost as important as the product quality. Many people will change brands or supplier if they think they're not getting product fast enough .on the Web that switch is only a mouse-click away.

Through the Internet and the myriad of retail web sites, the customer has a greater visibility of price and availability of products. If the vendor cannot compete on price, it may have to rely on service levels, including the ability to deliver faster.

The need to have an integrated supply chain is illustrated in a survey of Internet shopping, in which 52% of order transactions were for out-of-stock items. The order process allowed for shoppers to pay for those items, and only gave them feedback that the items were unavailable after they had left the web site (AMR Research, January 2000).

To restructure current logistics and supply chain operations for direct supply to individuals requires extensive redevelopment of order processing systems, warehouse layout, picking, packing, and distribution infrastructure. The traditional view of the supply-chain as a series of stand-alone, one-way processes, connecting the warehouse to the point of sale, has stretched to embrace the end-customer and an increasing number of parties, who all add value along the way.

Visibility and Agility

Direct supply to customers integrates them into the supply chain, making it possible for information relating to customer demand to flow further upstream towards the source, ideally as far as the manufacturer. In this way, all parties in the supply chain can work to the same information, thus reducing their dependency on forecasts or bulk orders, which do not

necessarily reflect demand, but rather tend to be based on arbitrary rules, such as re-order points and re-order quantities. Supply chain and logistic processes are no longer one-way, but circular with products flowing one way and information the other. By combining the flow of goods with the flow of information, it is possible to improve almost any process performed by a company, both internally and externally. With this information, inventory levels can be optimised to reflect actual demand levels and, correspondingly, customers should be able to see on-line what are current quantities and availabilities.

Visibility of demand through information flow makes it possible for supply chains to be agile; enabling them to focus on meeting end-customer demand instantaneously, and to strive towards the key goal of modern logistics, which is to reduce inventory, and keep it moving. Any time there is a mismatch between supply and production, or production and the customer, storage is needed to bridge the gap. As the Internet is an extremely cheap method of communication, it is possible to move towards *real-time demand updates*. Consider the following practical applications of eCommerce methods.

Logistic Postponement

Menlo-Logistics in the USA, a Logistics Service Provider, uses a “rolling warehouse” concept. Traditionally, when shipping products from the West Coast to the East Coast, a truck is loaded with well-defined shipment quantities for each of its destinations, even though it may be several days before they are unloaded. During that time, demand might change one warehouse may want more; another may want less. The new concept uses satellite communication to inform the driver how much can be unloaded at each destination at the time of arrival, based on the very latest demand information.

Production Postponement

Benetton, the clothing manufacturer, reversed their production process, so that they could produce sweaters in sufficient quantities to match real demand signals from their retail outlets. Instead of dyeing the yarn first, Benetton knit plain wool into sweaters and postponed colouring the entire inventory. After an initial shipment of dyed sweaters went into stores, the company got solid information about which ones were selling. They then dyed the remainder of their sweaters to more accurately meet demand for certain colours. Benetton employed the concept of “postponement” delaying the point of production differentiation until better demand signals could be obtained. This simple idea could easily be adopted by SME’s in a wide range of businesses to match real customer demand.

Virtual Warehouse

Integrated supply chains with the free flow of information between customers, suppliers, and partners, enables a participant in the chain to provide a self-service capability to others, and automatic updating of Warehouse Management Systems (WMS). Consider the following possibilities of using the Web to share information:

- **Enable suppliers to give their customers pre-delivery advice.** They can tell customers what pallets are coming on which truck, what goods they hold, even what expiry dates the goods possess. The Warehouse Management Systems (WMS) can use this data to allocate warehouse locations, or to arrange cross-docking if necessary.
- Empower customers to do their own order chasing and tracking through the warehouse.

- Let suppliers see the inventory they supply, and move towards vendor management inventory and consignment stocking.
- **Bring customers and suppliers closer to the inventory for obtaining real-time order status.** This also allows users to view suppliers' warehouses to obtain parts availability, or to see manufactures, or third-party-logistics (3PL's) company warehouses, to check inventory.
- **View and manage multi-sites.** WMS intelligent user interfaces can be created to visualise a user's warehouse locally, nationally, and globally. Having a complete picture of stock and its location, can make it easier and quicker to figure out the quickest way to replenish stock to the customer, by identifying which is the nearest or best fulfillment site for any order.

Load by Internet Logistics

Supply chain logistics, particularly transportation, is a natural application for on-line Business-toBusiness e-Marketplace exchanges, where information gathered from multiple customers and suppliers can be rapidly processed into orders and deliveries.

Concerns from truck transportation companies that exchanges would further erode already hard pressed margins, miss the point. The load-by-Internet principle would ensure that more trucks would be full for both forward and return journeys, by putting shippers and carriers more closely in touch. In turn this should reduce inefficiency in the industry and increase visibility of where trucks and loads are located. Synchronet, for example, operates an e-Marketplace for exchanging shipping containers. If company "A" needs to ship from Hong Kong, but only has empty containers in San Francisco, it will be matched with company "B" that does have an empty container in Hong Kong but requires one in San Francisco. A further example is a Korean cement company with East Coast operations that serves customers on the West Coast, by partnering with a West Coast cement company. By "swapping" orders, they avoid the high cost of transporting cement.

In short, closer collaboration and information flow makes it easier and simpler for internal and non-competing organisations to share procurement, and physical and logistical activities, such as warehousing and distribution.

Practical Application of eCommerce to Logistics

For many businesses, the answer to the logistical problems of direct customer fulfillment, is to use a 3PL company, who is able to handle any, or every, fulfillment process in a supply chain. Both large and small companies outsource to 3PLs: the large because they can remain focused on their core business, in the knowledge that multi-channel orders can be fulfilled on their behalf, and the small companies, because they do not have the skills, money, or resources, to create their own fulfillment infrastructure.

Break down the barriers and develop more trust in your supply chain, so that information is shared, and demand is visible, as high as possible up stream. Think of using the Internet and the Web to bind the loose network of smaller companies that make up the supply chain, into a responsive and reconfigurable enterprise, that is able to interlace directly with the customer. At the bottom of the supply chain, the Customer will also be looking for information on his orders and delivery status. Think about ways of using eCommerce to enable customers to help themselves to status updates from a web site, either your own or 3PL. Finally, when developing your eCommerce strategy, **make sure that all the logistical issues are accounted for in advance**. The initial cost of setting up a web site may be low, but the supply chain costs to handle direct-order fulfillment can be prohibitive. If eCommerce is genuinely to work, all partners in the supply chain need to get rid of duplication and all activities that do not apply to the final product. This, in turn, will reduce your costs and delivery lead time.

Greater Than the Telephone

The impact of the Internet on business communications is as large as, if not greater than, the introduction of the telephone. Can you imagine doing business without a telephone? Using the Internet for eCommerce offers your business *new* and *alternative* methods of communicating *effectively* and *efficiently*. Many of your traditional forms of business communications, such as the face-to-face meeting, telephone conversation, letter, brochure, and other trade correspondence, can be *adapted, enhanced, and integrated*, with eCommerce methods. Adopting eCommerce in your business will be a catalyst for change and growth that can enable you to *serve your customers better, increase your trading opportunities, reduce operational costs* and ultimately result in *more profit*. To realise these eCommerce benefits and others, will require you to change the way you work and communicate in some areas of your business. Identifying where eCommerce will generate the most benefits for your business requires thought, imagination, creativity, and a plan.

New Ways to Communicate

The telephone and the Internet both extend the power and range of business communication methods. We are so familiar with telephones that we don't think twice about using them. Similarly, using the Internet for email and browsing the Web, after a little practice, can be equally as easy and intuitive.

Internet Data Highway

Like the telephone network for voice, the Internet is the data network spanning the world and carrying data to and from connected computing devices. Text messages and documents, graphics, photographs, music, video, and much

more, can be converted into data and sent by email, or presented on a Web site. Just as we can talk to anyone with a telephone, so we can communicate with data with anyone who has an Internet connection and an appropriate computer, no matter where they are located.

Communicate Cheaper and Faster

Information can be *sent through* the Internet for *zero cost*; but *access to the Internet* through your Internet Service Provider (**ISP**) *is not free*. For many small businesses a standard dial-up connection over a telephone line is suitable for gaining computer access to the Internet. Dial-up call charges are usually the same as for local call rates. However, if you are a heavy user of the Internet, then a monthly subscription charge (typically £13.99/month) for anytime usage will be cheaper, as it covers the cost of all Internet access calls. Businesses that require multiple users to have access to the Internet simultaneously, or other large bandwidth requirements, such as video conferencing, may choose to have ISDN, ADSL, or leased data lines. Either way, *sending a message through the Internet usually costs a fraction of a penny* far cheaper, and faster, than fax or Royal Mail.

Communication Benefits of email

As you know, an email message can be addressed to one or many people, located anywhere in the world. It can also have attachments, such as documents, pictures, etc. When you send a message, you only pay for the Internet access. As soon as the message has arrived at your ISP, it will be sent for zero cost to all the people it has been addressed to. Moreover, your message is likely to arrive at its destination, even the other side of the world, in a matter of seconds or minutes, depending on the size of the email and its attachments. Think of the possibilities for saving time and money with emails...

- **Close sales faster.** Respond to prospect and customer enquiries in minutes rather than days, presenting an image of professionalism and efficiency.
- **Work faster as a team on product development, proposals or R&D projects.** Large reports, CAD/CAM files, accounting data, etc., can be sent to multiple people and received immediately at nominal cost. No postage, printing, and packaging costs, to be paid and, often, same minute delivery!
- **Approve and proof work quickly.** A quotation, purchase order, letter, design drawings, brochure, or advert colour proof, etc., can be emailed to you as an attachment for your approval. Using email in this way can dramatically speed-up the turn-around of work between you and your business contacts.
- **Buy and sell faster.** Requirements, brochures, quotations, purchase orders, delivery schedules, etc., can be emailed within seconds to your suppliers and customers all over the world. The whole process of buying and selling can be made much more efficient and responsive using emails.
- **Update employees instantly with new policies or procedures.** Email works well for communicating with colleagues who are off-site, out of the country, or tele-working. Lasair Ltd, based in the Hebrides, uses

over 30 skilled people, who all work from their homes. The company has daily contact with their people by using email and the Internet.

- **Take advantage of time differences.** As eCommerce communications are so fast and low cost, new business relationships have been established, where work is exchanged between time zones at the end of one day, which, on the other side of the world, is the beginning of either the same or next day. Have looked at how the graphic design agency Blah d Blah in Bangor use the Internet to put this into practice.

Send e-Newsletters to customers and save time, postage and packaging. Update

your customers and suppliers immediately with news and offers by email. Also, reinforce brand awareness and nurture customer loyalty. Remember to include links to your Web site and request readers to forward the newsletter to others who might be interested. don't forget to give them the option to un-subscribe.

Take a look at EEMA's *16 Steps to Effective email*, and *The Nine No's of email*; there are some useful guidelines on how to communicate effectively with email.

E-Commerce international growth Impact on Communications

Interactivity

Having a Web site is an excellent way of providing information on your business to all your business contacts. The content of your Web site can be as imaginative and rich in content as you want, but time and effort does need to be spent on deciding how best to present it (see

Developing a Web Site In-House). Even at its most basic level, a Web site with a few links is interactive. It is this immediate feedback of user interaction on the Web site that makes it such a powerful communication method.

How Can You Communicate On Your Web Site?

Here are some ideas for you to think about:

- **Provide information.** Most business Web sites offer an extensive profile on their activities (products, services, support, prices, and news), so that prospects, customers, shareholders, job seekers, journalists, and employees, can easily find what they want. Some sites have restricted access to certain information (Extranets), such as internal procedures, policies, a document store, or customer support areas.
- Your Web site should be consistent with your other business and marketing communications, following a corporate style (using the same logo and colour scheme as on your printed business stationary), and have content that does not conflict with other printed matter, such as brochures and packaging.
- **Trading.** The idea of having an unmanned shop or trading facility that is open 24 hours a day, every day of the year, and is readily accessible to customers all over the world, is very appealing to many businesses. Information on products and services can be communicated to potential customers, using imaginative and interest-grabbing content, creating a desire to purchase on the Web site, or to contact the business for further information. Once your Web site is created, it can sell continuously and produce a highly profitable revenue stream.

- Many Web sites, after taking an order, automatically send the buyer email confirming the order details, an order number, contact details and estimated delivery times. Some businesses also send email out on despatch of the order. This is an effortless, cheap, and efficient way, of reassuring the buyer that the order has been placed and when it will be delivered.
- **Look bigger.** A well designed and presented Web site can project an image that you are a much larger business than you really are. This can help when trying to win business from larger organisations, and to establish credibility with new customers. There is no need to be shy on the Internet. Think big and act big!
- **Track response on the Internet.** A company marketing its products by direct mail used a campaign-specific email and Web site address, so that it could track the Internet response to their special promotional offer.
- **Boost sales and exports.** Coast and Country Holidays in Pembrokeshire invested £5,000 in setting up an eCommerce Web site. During the first year of trading on the Internet, they received nearly £300,000 of bookings from their Web site. Many businesses, like Farmyard Nurseries, are able to use their Web site to develop a global export market for their products and services.
- **Encourage customers to contact you.** Make sure the correct contact details for your business are on your Web site, and include your email address. Don't forget to put your Web site and email address on business stationery, brochures, packaging, etc.
- **Web Meetings (data conferencing).** A great way to have a virtual meeting is to load a document (spreadsheets, project plans, etc) on to a Web site, and enable it to be viewed and edited in real time through the Internet. A conference telephone call can then be set up, in the normal way, and a discussion can take place with everyone viewing a presentation simultaneously.
- **Use the Internet to improve business administration.** With a mobile phone connected to a portable computer, employees working off-site can access and up-date internal information, such as customer records, price lists, time sheets, schedules, and job reports. Providing remote Internet access for staff, makes it possible for the latest information to be at hand, for administrative tasks such as invoicing, employee whereabouts, and expense claims. Be warned, mobile data transfer rates are currently about a quarter of a standard dial-up connection.
- **Train on the Web.** The multi-media capabilities of Web sites make them ideal for creating a virtual learning environment for employees and customers. When training material is updated, the latest version is immediately available. On-line learning facilities enable trainees living all over the world to access courseware, when it is convenient to them and without having to travel to a training centre, which, in turn, saves time and expenses.

Other Ways of Communicating With eCommerce Replace the Fax Machine

If a multi-page document has to be faxed to many people, it can work out expensive on telephone bills, especially if a national or international call has to be made. The cost savings can be huge if email is used instead...and the message can be sent to multiple people for no extra charge. Instead of phoning and faxing, Coflexip Stena use email to keep in touch with their mobile engineers. They have saved around £100,000 and reduced their stationery costs by 25%.

Exchange and Share Data

- The Internet can be used to transfer large data files, such as **CAD/CAM, and** artwork files. In this way you can work with new customers and suppliers outside of your locality or country.
- Many businesses, such as Excel Assemblies, work much closer with their suppliers and customers, by sharing information on their production schedules, future purchasing requirements, and stock levels, through their Web site. Sharing of information in this way can improve operational efficiency, and reduce costs for all parties. Ultimately eCommerce can blur the boundaries between businesses into a seamless partnership, where each business does what it is best at, and has an intimate working relationship with the other, for mutual benefit.
- Other ways of communicating, include EDI (Electronic Data Interchange EDI), SMS (Short Message Service) and Videoconferencing. Getting the balance right between eCommerce and traditional forms of communication methods is something learnt by experience. However, once you start using eCommerce methods they are likely to become the preferred means of communication and a powerful business tool for all sorts of applications.

E-Commerce international growth - Impact on R & D Access the World's Information

Most SME's can benefit by using the Internet and WWW to undertake Research & Development (R & D) activities. This might be by researching new markets and products, or by collaborative development activities. Through the Internet it is now possible to access **information** (data enriched by context) from all over the world, with unprecedented ease and speed. As a communications channel, the Internet has also made it possible to seamlessly collaborate and share **knowledge** (the amalgamation of *know-how* and *know-why*), computational resources, and data (unqualified facts), with research groups across the globe.

Many academic and industry journals are now published on-line at Web sites, with powerful search, indexing, and cross-referencing systems, that link Abstracts and Articles with multiple Web sites. Research content is either freely accessible, or on a pay-to-view basis. Some sites offer older research, abstracts, reviews, or content listings, free of charge, but the latest complete article or report can only be viewed or downloaded by subscribers, or by making an on-line payment.

Research and Development (R & D) activities are also supported by other Web sites such as:

Forums to discuss specific research areas;

- **Web sites**, which have large volumes of content, giving Web site links to other information resources, suppliers and research contacts.
- **Conference promotion and management**, including: calls for papers, registration, paper submission, and proceedings publication. Although the traditional physical gathering of delegates is still the norm, virtual conferences through the Internet with live reading of papers and discussion, is being used.
- **Collaboration** as a central resource for internal publishing and sharing of data, information, and knowledge, amongst research groups.
- **E-Marketplaces** for the buying and selling of licenses for patents, trademarks, and copyrights.
- **Knowledge Dissemination** covering all areas of applying the knowledge gained through R&D, such as:
 - **Virtual learning environments** for teaching;
 - **Expert systems** or rule-based applications that help visitors to resolve issues or problems on-line;
 - **Encyclopedia** or Dictionary-type information resources.

Strategic Consideration

FMCG

The market for consumer logistic services is well developed with most of the major manufacturers using E-commerce for both warehousing as well as transportation.

A part of Indian Manufacturing industry also prefers to operate their own warehouses but opt for outsourcing transportation activities.

The current trade in FMCG sector is to penetrate rural Indian markets for which logistics and distribution are about to play a vital role. Logistic activities both transportation as well as warehousing has a bright future in this sector.

But at the same time feeding current number of 6 million retailers on real time basis is still a challenge.

PAINTS

Industry of paints in India looks forward for brighter future because of ongoing infrastructural developments and growing sales in automobiles and white goods industry.

But the concepts like tinting machines implemented by Asian Paints seems to be a threat to a logistics organizations, since, it eliminates the requirements of warehousing and inventory management. But an industry with the higher number of SKUs and looking at deeper penetration in India is still a good market for 3 PL companies in conjunction with e-commerce.

The main focus will be on inventory management, since, you have to feed retailers in millions with SKUs in thousands.

PHARMACEUTICALS

India is well known for its reverse engineering product developments in pharmaceutical sector and thus feeds poor nations with cheaper medicines but after 2005 patent laws, the Indian companies were forced to concentrate on R & D, manufacturing and product developments

Here the logistics in conjunction with E-commerce will be playing a major role in transportation and warehousing because of restrictions of temperature and safety are highly involved in this particular sector.

So the 3 PL companies who are willing to focus pharma industry as a future business opportunities must master the special requirements for storing and handling of chemicals and pharmaceuticals. Also a trained human resource will be an edge over the other 3 PL competitors.

Even though the market seems to be growing and lot of opportunities in sight but at the same time the restrictions from the government in the form of various certifications and registrations will be hurdles in the way of 3 PL industries taking pace in this sector.

AUTOMOBILE

This sector is the fastest growing Indian manufacturing sector. Many OEM and ancillary companies of India are setting 'Made in India' brand throughout the world. As a result giant automotive manufacturers started sourcing from India or have made India as their manufacturing hub for Asian regions eg. SKODA, Aurangabad plant.

This sector works on JIT principles with main manufacturing plants surrounded by many ancillary units feeding on real time basis. Here the roles of logistics service providers are very critical since the inventories are in the terms of hourly basis.

So a 3 PL company by implementing E-Commerce can play a role of feeder to OEM manufacturers from surrounded ancillary units and even a custom bonded warehouse is a need in this sector because lots of manufacturers waste their productive land for storage of completely build units.

Automobiles need the special trucks designed for only car transportations. Some companies like TVS transporters are specialized in this niche transportation segment which can be looked as a good alliance partners.

India is also exporting considerable volume of different kind of vehicles ranging from TATA Indica to Mahindra tractors, so an E-commerce facility with freight forwarding and custom clearance division will prove to be an added advantage

CONSUMER DURABLES

Very few manufacturing units in this sector are situated in India. Most of the goods are being imported from countries like Thailand, China and Singapore in the form of Completely Build Unit in ready to sale condition.

Custom clearance is very vital and company prefers an internationally recognized freight forwarders and customs clearance agents. Warehousing and distribution is a critical factor and this is the sector where 3 PL companies are getting more opportunities in India but these MNCs find the current set ups of existing Ecommerce facility in India at a very premature level, so they are very much ready to shift to another systematic and cost effective 3 PL service provider if comes into the picture.

Points:

Transportation and warehousing form vital areas of the supply chain where 3PLs in concurrence to E-commerce are emerging rapidly.

In India, two types of locations benefits may be considered important from the supply chain point of view. One, a network of locations (basically independent space providers linked by commercial agreements or C&Fas) and two, the hub and spoke companies who are in the business of supply chain management.

Carrying and forwarding agents (C&FA5) form an essential part of every business and are used by practically every industry to service the vast land mass of India.

These can be called the earliest, and in many ways, one of the most efficient 3PLs in the business of warehousing, transport management and information.

A clearing or carrying and forwarding agent operate in a similar manner to that of logistics provider, only warehousing plays a larger role here. FMCG, paints and durables industries use C&Fas mainly because they offer competent services in breaking bulk and ensuring supply to the stockiest down the line. In effect, the C&FAs is an intermediary between the company and the stockiest. He clears the good from the factory to the stockiest and holds the good at his warehouse. This is mainly prevalent in the high SKUs industries like FMCG, foods, paints and

consumer durables where the companies do not want to hold inventory because of the volumes of the goods produced at their end. C&FAs offer all the services that a logistics provider offers except the facility to track and trace and fleet management. Most senior logistics office that we spoke to agreed that their C&F agent provided them all the services that a logistics provider could offer and that the difference was just a change in terminology.

C&FAs have worked very well for many years in India, filling the gap between vast dispersed markets and localized manufacturing. Indian industry, in fact, feels no real need to get into 3PLs for warehousing. Usually, C&FAs are local to the area and are not hampered by any corporate plans or economies of scale outside their own region, unlike a 3PL in conjunction with E-Commerce who will need to consider break-evens, locations, revenue and geographical spread.

Expert's Comments: 3 PL and E-Commerce

3 PL should create confidence in their customer by considerable investment in business, they hire services from other service providers instead of this they should go for collaborations and that too with good companies like Blue Dart, etc who are number br 2 in their respective sector, if you hire services of number 4-5 in that sector Quality and Overall Efficiency goes down. More importantly, a 3 PL service provider should understand the company's business first, then should create a flexible environment for their customer and should allow two way interactions. Particularly, in the business of Pharmaceuticals, 3 PL service provider must be made is mind to face the hassles in Licensing, Drug Regulation Acts, Authorized Signatory, etc.

3 PL players must understand that they provide Place utility, out of 4 P's of the business utilities, so they should consider it as prime focus to provide the Place Utility to their customers. As far as pricing is concerned, they should consider an overall Profitability in the business instead of trying to generate profit at each link of the chain. In literal sense, 3 PL must act as a Shadow of their customer without any self policies, even with flexible IT systems. (E-commerce)

Mr K Ramkrishnan

GM (SCM)

Johnson and Johnson

Companies need just two things from a 3PL service provider, first is Service in the form of Delivery and reliability and lastly the Overall cost cutting in business by developing E-commerce.

Mr Indranil Mujumdar

Head Logistics

CEAT Ltd.

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